

Epilogue: Invisible Circles

2.19. Death is my cradle (or three brats for a moribund)

Until the appearance of the point of view of topos, towards the end of the fifties, the evolution of the notion space appears to me as an evolution essentially "continuous". It seems to continue smoothly neither jumps, from the Euclidean theorization of the space that surrounds us, and the geometry bequeathed by the Greeks, focusing on the study of certain "figures" (straight lines, planes, circles, triangles, etc.) living in this area. pace. Certainly, profound changes have occurred in the way the mathematician or the "philosopher of nature" conceived space⁶⁴. But these changes seem all in the nature of a "continuity" essential - they have never placed the mathematician, attached (like everyone else) to mental images familiar, before a sudden **change of scenery**. It was like the changes, deep maybe but gressive, which are made over the years in a being that we would have known already child, and of which we would have followed

evolution from its first steps to adulthood and full maturity. Imperative changes in certain long periods of flat calm, and tumultuous perhaps in others. But even in periods of growth or ripening the most intense, and even as we would have lost it seen for months, even years, at no time could there be any doubt, the

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hesitation: it@him again, be a well-known and familiar, that we find, it was with p. P55 traits changed.

I think I can say, moreover, that towards the middle of this century, this familiar being had already aged much - as a man who would have finally exhausted and worn out, overwhelmed by an influx of new tasks to which he was not prepared. Maybe he was already dead from his beautiful death, without anyone caring to take note of it and to make the observation. "Everyone" was still doing well in the house from one living, that it was almost as if he was still alive and well.

Now, however, judge of the unfortunate effect, for the regulars of the house, when instead of the venerable old man frozen, straight and stiff in his chair, we see a sudden swinging a vigorous kid, no higher than three apples, and who claims casually, without laughter and as a matter of course, that Mr. Espace (and you can even now drop the "Sir" at ease ...) this is **it!** If he still looked at less to have family traits, a natural child perhaps who knows. . . But not at all ! At a glance, nothing reminiscent of the old Father Space, whom we had so well known (or thought we knew ...), and of whom we were of course, in

in any case (and that was the least of the things ...) he was eternal. . .

That@the famous "change the concept of space." **That@**what I had to "see" as something obvious, from the beginning of the sixties at least, without ever having had the opportunity to formulate it before the very moment I@ writing these lines. And I suddenly see with new clarity, by the sole virtue of this

64 My initial intention in writing the epilogue, was to include a very brief sketch of some of these "changes deep", and to bring out this" essential continuity "that I see in it, I renounced it so as not to unduly Walk, already much longer than expected! I think I come back to it in the Historical Commentaries in Volume 4 "Reflections", this time for a mathematician reader (which completely changes the task of exposure).

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2. Walk through a work where the Child and the Mother

pictorial evocation and the cloud of association that it immediately arouses: the traditional notion of "space", everything as the closely related one of "variety" (of all kinds, and in particular that of "algebraic variety"), had taken, by the time I came around, such a stroke of oldness already, that it was just like if they were dead. . . 65. And I

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could say that it is with the appearance one after the other from the point of view of p. P56

schemes (and its offspring⁶⁶, plus ten thousand pages of foundations in the key) and then that of topos, a crisis-which-does-not-say-his-name was finally resolved.

In the image of now, it is not a kid, however, that we should speak, as a product of a sudden, but two. Two kids, moreover, who have between them an "air of family" irrefutable, even if they do not look like the old man. And again, if you look closely, you could say that the toddler Schemes would act as a "link of kinship" between the late Father Space (aka Varieties-in-All-Kinds) and the toddler Topos⁶⁷.

2.20. Look at the neighbors opposite

The situation seems to me very similar to that which appeared at the beginning of this century, with the appearance of the relativity theory of Einstein. There was a conceptual cul-de-sac, even more flagrant, that materialized

sudden **contradiction**, which seemed irresolvable. As of right, the new idea that was going to put order in chaos was an idea of a childlike simplicity. The remarkable thing (and consistent with a most repetitive scenario. . .) is that among all those brilliant, distinguished, prestigious people who were on the teeth suddenly, to try to "save the furniture", nobody thought about it, to this idea. It had to be an unknown young man, fresh out (if it is) from the benches of the student lecture halls, which comes from (perhaps a bit embarrassed by his own audacity ...) to explain to his illustrious elders what to do to "save the phenomena": there was more to separate the space of 68 times! Technically everything was together so for that

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this idea hatches and is welcomed. And it is to the honor of the elders of Einstein, that they knew in p. P57

effect to welcome the new idea, without too much mortification. This is a sign that it was still a great time. . . From a mathematical point of view, Einstein's new idea was commonplace. From the point of view of our design **Physical space** cons, it was a profound change, and a "change of scenery" suddenly. The first

65 This statement (which seem conclusive to some) is to be taken with a "grain of salt". It is neither more nor less valid that the one (which I take back to my account below) that the "Newtonian model" of mechanics (terrestrial or celestial) was "moribund" at the beginning of this century, when Einstein came to the rescue. It's a fact that still today, in most the "current" situations in physics, the Newtonian model is perfectly adequate, and it would be madness (view the margin error admitted in the measurements made) to go for relativistic models. Similarly, in many situations in the old familiar notions of "space" and "variety" remain perfectly adequate, without nilpotent elements, topos or "moderate structures". But in both cases, for a growing number of contexts involved in cutting-edge research, the old conceptual frameworks have become unable to express the same situations the most "common".

66 (To the mathematician) In this "offspring", I account in particular the formal patterns, "multiplicities" in all genres (and in particular, the schematic or formal multiplicities), finally the so-called "rigid-analytic" spaces (introduced by Tate, following a "master of work" provided by me, inspired by the new concept of topos, at the same time as that of formal scheme). This list is by no means exhaustive. . .

67 There is a need elsewhere, these two toddlers, to add a third youngest, appeared in less clement weather: it's the marmot Moderate space. As I pointed out elsewhere, he was not entitled to a birth certificate, and it is in the total illegality that I have nevertheless included among the twelve "master-themes" that I had the honor to introduce in mathematical.

68 It's a little short, of course, as a description of the idea of Einstein. At the technical level, it was necessary to highlight structure put on the new space-time (it was however already "in the air", with the theory of Maxwell and the ideas of Lorenz). The not essential here was not technical, but "**philosophical**": to realize that the concept of simultaneity for distant events had no experimental reality. That's it, the "childish finding", the "but the Emperor is naked!", which made us cross this famous imperious and invisible circle which limits a Universe".

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2.20. Look at the neighbors opposite

mutation of the genre, since the mathematical model of the physical space released by Euclid there was 2400 years, and taken as such for the needs of mechanics by all physicists and astronomers since antiquity (including Newton), to describe terrestrial and stellar mechanical phenomena.

This initial idea of Einstein was then much further developed, incarnating in a mathematical model more subtle, richer and more flexible, with the help of the rich arsenal of mathematical concepts already existing 69. With the "theory of general relativity," the idea broadens into a wide world **view** physical, embracing in one look the subatomic world of the infinitely small, the solar system, the Milky Way and distant galaxies, and the path of electromagnetic waves in a space-time curved at each point by the material therein 70. This is the second and last time in history of cosmology and physics (following the first great synthesis of Newton three centuries ago), a vast unifying vision, in the language of a mathematical model, of all physical phenomena in the Universe.

This Einstein view of the physical universe has, in fact, been overwhelmed by events.

"The set of physical phenomena" to be reported has had time to expand, since beginnings of the century! There appeared a multitude of physical theories, to account for each,

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more p. P58

or less success, of a limited package of facts, in the immense shambles of all the "observed facts". And we are still waiting for the daring boy, who will find playing the new key (if there is one ...), the "model-cake "dreamed, who is willing to" walk "to save all the phenomena at once... 71

69 This is especially the concept of "Riemann variety", and tensor calculus on such a variety.

70 One of the most striking features that distinguishes this model of Euclidean model (or Newtonian) space and time, and also the first model of Einstein ("Relativity") is that the **global topological form** of spacetime remains indeterminate, instead of being imperatively prescribed by the very nature of the model. The question of what is this

global form, seems to me (as a mathematician) one of the most fascinating in cosmology.

71 is called "unitary theory" such hypothetical theory would happen to "unify" and reconciling the many theories some of which have been discussed. I feel that the fundamental thinking that is waiting to be undertaken will have to be placed on two different levels.

◦ 1) Reflection of Nature "philosophical" about the very notion of "mathematical model" for a portion of reality. Since the success of Newtonian theory, it has become an unspoken axiom of physics that **there is** a mathematical model (or even a single model, or "**the**" model) to express the physical reality perfectly, without "detachment" or burr. This consensus, which has been law for more than two centuries, is like a sort of fossil remnant of the living vision of a Pythagoras that "All is number". Perhaps this is the new "invisible circle", which replaced the old circles metaphysics to limit the Universe of the physicist (whereas the race of the "philosophers of nature" seems definitively extinguished, supplanted hand-by-hand by computers. . .). If we want to stop there for just a moment, he It is quite clear, however, that the validity of this consensus is not obvious. There are even very serious philosophical reasons, which leads to doubting it a priori, or at least to predicting its validity with very strict limits. This would be the moment or never submit this axiom to close criticism, and perhaps even to "demonstrate", beyond all possible doubt, that it is **unfounded**: there is no single rigorous mathematical model reflecting all phenomena so-called "physical" listed so far.

Once satisfactorily identified the very notion of "mathematical model", and that of the "validity" of such a model (in the limit of such "margins of error" admitted in the measurements made), the question of a "unitary theory" or at least that of an "optimum model" (in a sense to be specified) will finally be clearly posed. At the same time, we will undoubtedly a clearer idea also of the degree of arbitrariness which is attached (by necessity, perhaps) to the choice of such a model.

◦ 2) It is **after** such a reflection only, it seems to me that the "technical" issue to reach an explicit model, more satisfactory than its predecessors, makes all sense. It would be the moment then, perhaps, to emerge from a second axiom of the physicist, going back to antiquity, and deeply rooted in our way of perceiving space itself: that of the **continuous nature** of space and time (or space-time), the "place" so that the "phenomena take place physical".

It must have been fifteen or twenty years ago, flipping through the modest volume constituting the complete work of Riemann, I had

was struck by a remark from him "by the way". He pointed out that the ultimate structure of space might well be "discrete", and that the "continuous" representations that we make of them constitute perhaps a simplification (excessive perhaps, in the long run ...) of a more complex reality; that for the human mind, "the continuum" was easier to grasp than "the discontinuous", and that it serves us, therefore, as an "approximation" to apprehend the discontinuous. This is a remark of a surprising penetration into the mouth of a mathematician, at a time when the Euclidean model of physical space

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The comparison between my contribution to the mathematics of my time, and that of Einstein to physics, p. P59

was imposed on me for two reasons: one, the other work is accomplished thanks to a **mutation conception we have of the "space"** (in the mathematical sense in one case, in the physical sense the other) ; and one and the other takes the form of a **unifying vision**, embracing a wide variety of phenomena and situations that until then appeared as separate from each other. I see a **kinship obvious mind** between his work and mine 72.

This relationship seems to me in no way contradicted by a difference of "**substance**" obvious. As I have already implied earlier, the Einsteinian mutation concerns the notion of physical space, whereas Einstein draws on the arsenal of already known mathematical concepts, without ever needing to expand it, or even to upset. His contribution was to identify, among the known mathematical structures of his time, those that were best able to 73 serve as "models" in the world of physical phenomena, rather place of the moribund model bequeathed by its predecessors. In this sense, his work has been that of a **physicist**, and beyond that of a "**natural philosopher**" in the sense understood by Newton and his

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contemporaries.

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This "philosophical" dimension is absent from my mathematical work, where I have never been ask me about the possible relations between the "ideal" conceptual constructions, taking place in the universe of mathematical things, and the phenomena that take place in the physical universe (same, lived events taking place in the psyche). My work was that of a **mathematician**, is deliberately diverting from the question of "applications" (to other sciences), or "motivations" and psychic roots of my work. Of a mathematician, in addition, carried by his very particular genius to expand the arsenal of notions at the very base of his art. That how I was brought without even to see and play, to upset the most fundamental notion of all for the surveyor:

space (and the "variety"), that is our conception of **place** even where there are geometric beings.

The new notion of space (as a kind of "generalized space" but where the points that are supposed to form "space" have more or less disappeared) in no way resembles the notion by Einstein in physics (by no means confusing, for the mathematician). The comparison is needed against with **quantum mechanics** discovered by **Schrödinger** ⁷⁴. In this new mechanics, the "point" "traditional" material disappears, to be replaced by a kind of "probabilistic cloud", more or less dense from one region of space to another, depending on the "probability" that the point is in that had never been questioned before; in the strictly logical sense, it is rather the discontinuity which has traditionally served as a mode of technical approach to the continuum.

The developments in mathematics of the last decades have also shown a much more intimate symbiosis between continuous and discontinuous structures, which was not imagined in the first half of this century. Still, find a "satisfactory" model (or, if necessary, a set of such models, "connecting" as satisfactorily as possible ...), whether it is "continuous", "discreet" or "mixed" in nature - such work will surely bring into play a great deal of conceptual imagination, and a flair consumed to apprehend and update new-type mathematical structures. This kind of imagination or "flair" seems to me rare, not only among physicists (where Einstein and Schrödinger seem to have been among the few exceptions), but even among mathematicians (and here I speak with full knowledge of cause).

To summarize, I foresee that the expected renewal (if it still has to come ...) will rather come from a mathematician in the soul, well informed of the great problems of physics, as of a physicist. But above all, it will require a man with "the philosophy to "grasp the crux of the problem." This is by no means technical in nature, but a problem fundamental of "philosophy of nature".

⁷² I do not pretend to be familiar with the work of Einstein. In fact, I have not read any of his works, and do not know his ideas only by hearsay and very roughly. Yet I feel I discern "the forest", although I never had to do the effort to scan any of his trees. . .

⁷³ For comments on the term "moribund", see previous footnote page (note page 55).

⁷⁴ I understand (by echoes that came back to me from all sides) it is generally considered that there was in this century three "revolutions" or great upheavals in physics: Einstein©theory, the discovery of radio activity by the Curia, and the introduction of quantum mechanics by Schrödinger.

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2.21. "The unique" - or the gift of loneliness

region. We feel, in this new perspective, a "mutation" even deeper in our ways of to conceive of mechanical phenomena, as in that embodied by Einstein©model - a mutation which does not consist in simply replacing a rather narrow mathematical model with the entournures, by a other similar but trimmed wider or better adjusted. This time, the new model looks so little like good old traditional models, that even the great mathematician specialist of mechanics had to feel suddenly distressed, even lost (or outraged ...). Moving from Newton©mechanics to Einstein©mechanics must be a little, for the mathematician, as to go from the good old Provencal dialect to the latest Parisian slang. On the other hand, moving to quantum mechanics, I imagine, is going from French to Chinese. And these "probabilistic clouds", replacing the reassuring material particles of yesteryear, remind me of the elusive "open neighborhoods" which

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populate the topos, such evanescent ghosts to surround p. P61

Imaginary "points", to which still hangs against all and against all imagination recalcitrant. . .

2.21. "The unique" - or the gift of loneliness

This brief excursion to the "neighbors opposite", the physicists, can serve as a reference point for a reader who (like most people) does not know anything about mathematicians, but surely heard talk of Einstein and his famous "fourth dimension", or even quantum mechanics.

After all, even if it was not intended by the inventors that their discoveries would materialize in Hiroshima, and later in both military as well as (so-called) "peaceful" atomic bidding, the fact is that discovery in physics has a tangible and almost immediate impact on the world of men in general. The impact of mathematical discovery, and especially in so-called "pure" mathematics (ie, without motivation in view of "applications") is less direct, and certainly more difficult to define. I did not know about example, that my contributions to mathematics have "served" anything, to build the least gear let©say. I have no merit that it is so, for sure, but that does not prevent that it reassures me. from that there are applications, we can be sure that it is the military (and after them, the police) who are the first to seize it - and in the case of industry (even the so-called "peaceful" industry), it is not always so better. . .

For my own guidance, or for that of a mathematician reader, it would be better to try to situate my work with "landmarks" in the history of mathematics itself, rather than to look for analogies elsewhere. I thought about it these last days, within the limits of my knowledge vague history in question ⁷⁵. During the "Walk" already, I had the opportunity to discuss a "line" of mathematicians, of a temperament in which I recognize myself: Galois, Riemann, Hilbert. If I was

better aware of the history of my art, there are chances that I would find

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extend more this line p. P62

far into the past, or perhaps to insert some other names that I know only by hearsay.

The thing that struck me was that I do not remember knowing, if only by allusion to

friends or colleagues better versed in history than me, a mathematician besides me who brought a

multiplicity of innovative ideas, not more or less disjointed from each other, but as parts of a

a vast unifying vision (as was the case for Newton and Einstein in physics and cosmology,

75 Since I was a kid now, I never get too hung up on the story (or geography matter). (In the fifth part of

Harvests and Sowing (written only in part), I have the opportunity "by the way" to detect what seems to me the deepest reason

of this partial "block" against history - a block that is being absorbed, I believe, in recent years.)

The mathematical teaching received by my elders, in the "bourbaki circle", was not to fix things

- occasional historical references have been more than rare.

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and for Darwin and Pasteur in biology). I only knew of two "moments" in history

of mathematics, where a new vision of vast scope was born. One of these moments is that of the

birth of mathematics, as a science in the sense we understand it today, 2500 years ago,

in ancient Greece. The other is, above all, that of the birth of infinitesimal and integral calculus, at the

seventh century, period marked by the names of Newton, Leibnitz, Descartes and others. As far as I

know, the vision born in one or the other moment was not the work of one, but the collective work of a

time.

Of course, between the time of Pythagoras and Euclid and the beginning of the seventeenth, mathematics had

had the time to change its face, and likewise between that of the "Calculus of the infinitesimals" created by the

mathematicians of the seventeenth century, and the middle of the present nineteenth. But as far as I know,

the profound changes that occurred during these two periods, one of over two thousand years and

the other of three centuries, never materialized or condensed into a new vision expressed in

76 a given work in a similar way to what occurred in physics and cosmology with large

synthesis; of Newton, then of Einstein, in two crucial moments of their history.

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It would seem that as a servant of a vast unifying vision born in me, I am "unique in

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my kind "in the history of mathematics from the beginning to the present day, sorry to look like

to sing more than it seems allowed! To my own relief, however, I believe I discern a kind of

Brother potential (and providential!). I already had the occasion to mention it, as the first in the lineage

my "temperament brothers": it is **Evariste Galois**. In his short life and meteoric 77, I believe discern

the beginning of a great vision - precisely that of the "nuptials of number and greatness", in a vision

geometric new. I mention elsewhere in Crops and Seeds 78 how it two years ago, appeared in

me this sudden intuition: that in the mathematical work that at that moment exerted on me the fascination

the most powerful, I was "taking over the legacy of Galois". This intuition, rarely mentioned since,

yet had time to mature in silence. The retrospective reflection on my work that I pursue since

three weeks will surely have contributed to it. The most direct filiation I think I recognize now

with a mathematician of the past, is that which connects me to Evariste Galois. Rightly or wrongly, it seems to me

that vision that I developed during fifteen years of my life, and which continued to mature in

me and get rich during the sixteen years since I left the mathematical scene - that this

76 Hours after writing this, I am struck that I have not thought by the vast synthesis of mathematical contem-

which the attempt is made to present Mr. Bourbaki©(collective) treaty. (There will still be plenty of questions about the

Bourbaki group

in the first part of Harvests and Seeds.) This seems to me to have two reasons.

On the one hand, this synthesis is limited to a sort of "putting in order" of a vast set of ideas and results already known,

without bringing any innovative idea of its growth. If there is a new idea, it would be that of a precise mathematical definition

of the

concept of "structure", which has been a valuable thread throughout the entire treaty. But this idea seems to me to be

assimilated

rather to that of an intelligent and imaginative lexicographer, than to an element of renewal of a language, giving an

apprehension

renewed reality (here, that of mathematical things).

On the other hand, since the 1950s, the idea of structure has been overtaken by events, with the sudden influx of

"categorical" methods in some of the most dynamic parts of mathematics, such as topology or geometry

algebraic. (Thus, the notion of "topos" refuses to enter the "bourbakic bag" of structures, decidedly

nures!) In deciding, with full knowledge of the facts, certainly, not to engage in this "galley", Bourbaki has thereby

renounced its original ambition, which was to provide the foundation and the basic language for the whole of mathematics

Contemporary.

He has, on the other hand, fixed a language and, at the same time, a certain style of writing and approaching mathematics.

This style

was originally the (very partial) reflection of a certain spirit, living and direct heritage of Hilbert. During the fifties and sixty, this style has come to dominate - for the better and (especially) for the worse. For twenty years, he ended up to become a rigid "canon" of a "rigor" of pure facade, whose spirit that once animated it seems disappeared without return.

77 Evariste Galois (1811-1832) died in a duel at the age of twenty-one years. There are, I believe, several biographies of him. I read as a young man a fictionalized biography, written by the physicist Infeld, who had struck me a lot at the time.

78 See "The legacy of Galois" (ReS I, Section 7).

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2.21. "The unique" - or the gift of loneliness

vision is also one Galois could not help but develop ⁷⁹ if he had been in

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the neighborhood at p. P64

my place, and without that early death comes abruptly cut short a magnificent momentum.

There is another reason, surely, that helps to give me that feeling of "essential relationship"

- a relationship that can not be reduced to only "mathematical temperament" or to significant aspects of artwork. Between his life and mine, I also feel a kinship destinies. Certainly Galois died stupidly, at the age of twenty-one years, while I myself, on my seventy years, and determined to make old bones.

This, however, prevents that Evariste Galois remained in his lifetime, like me a century and a half

Later, a "**marginal**" in the formal mathematical world. For Galois, it might seem a

superficial glance that this marginality was "accidental", he simply did not have time

even "win" by his innovative ideas and his work. In my case, my marginality, while

the first three years of my life mathematician, was due to my ignorance (perhaps deliberate...) of

the very existence of a world of mathematicians, which I would have to confront me; and since leaving

mathematical scene, there are sixteen, it is the consequence of a deliberate choice. It is this choice, surely,

which provoked retaliatory a "collective will without flaws" to erase all traces of mathematics

my name, and with him the vision as I made myself servant.

But beyond these accidental differences, I believe discern this "marginality" common cause,

I essential meaning. This cause, I do not see it in historical circumstances, nor in particularism

authorities of "temperament" and "character" (which are probably as different from him to me they can

being of a person to another), and even less true in "gifts" (obviously prodigious home

Galois, and comparatively modest home). If there is one "essential relationship", I see a level

more humble, more elemental.

I felt such kinship in rare occasions in my life. It is also that I feel

"near" another mathematician again, and that was my eldest: **Claude Chevalley** ⁸⁰. The link I mean

is that a certain "naive" or "innocence", which I have had occasion

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to speak. It is expressed by p. P65

a propensity (often not appreciated by the surroundings) to look at things with his own eyes, rather than

Through patented glasses, courtesy of some more or less large group of people, invested

authority for one reason or another.

This "propensity" or this interior attitude, is not the privilege of a mature, but that of

childhood. It is a gift received at birth, along with life - a humble and awesome gift. A donation

often buried deep, that some have retained so slightly, or maybe find. . .

One can also call **the solitude of donation** .

⁷⁹ I am convinced also that Galois would have gone much further than I have been. On the one hand because of his gifts entirely

exceptional (I have not received shares, as for me). On the other hand because it is likely that he would not like

me, allowed to distract most of his energy for endless painstaking formatting tasks as and

extent, this is already more or less for granted. . .

⁸⁰ I speak of Claude Chevalley here and there in Crops and Seeds, especially in the "Meet Claude section

Chevalley - or freedom and good feelings" (ReS I, Section 11), and the note "Farewell to Claude Chevalley" (ReS III footnote 100).

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3. A N LETTER

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May 1985

3.1. The letter thousand pages

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The text that I make you reach here, typed and printed in a limited number of copies by the care of my p. L1 university, is nevertheless neither a reprint nor a preprint. His name, Crops and Seeds, the announcement well clearly enough. I send it to you as I would send a long letter - a letter all that was personal, more. If I send it to you, instead of just me that you care knowledge one day (if you@ curious) in some volume in bookstores (if any publisher foolish enough to run the adventure...), it is because I address myself to you more than others. More than once in writing it I thought of you - I must say that it makes more than a year that I write this letter, putting me whole. It is a gift that I worry, and I took carefully writing to give what I had (at any moment) better to offer. I do not know if the gift will be hosted - your answer (or your non-response...) I will know. . .

At the same time as you, I am sending Crops and Seeds to all my colleagues, friends and (ex-) students in the mathematical world, which I have been closely related at any time, or contained in my thinking one way or another, namely, or not. There are chances that you are figures, and if you read with
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3. U DO LETTER

your heart and not only with the eyes and head, surely you will recognize you even when you are not named. I am also sending Crops and Seeds few other friends yet, scientific or not.

This "letter of introduction" that you are now reading, which you announced you and present a "letter of thousand pages" (to start...), will serve also to Foreword. This is not written yet when of this writing. Crops and Seeds is also in five games (not counting an introduction "Drawers"). I send you here the parts I (Fatuité and Renewal), II (The Burial (1) - or the dress of Emperor of China), and IV (The Burial (3) - or the Four Operations) 1. They are those which it seemed they related to you specifically. Part III (L Burial (2) - or the Key of Yin and Yang) is probably the most personal part of my testimony, and that at the same time, even more than
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others, seems to me to have a value "universal", beyond the specific circumstances surrounding its
p. L2

birth. I refer to this part here and there in Part IV (The Four Operations), which may be yet read independently and even (largely) independent of the three preceding parts 2 (*).

If reading what I sent you here encourages you to answer (as is my wish), and if it gives you also want to read the missing part, let me know. I am happy for you to send it to bit your answer makes me feel that your interest beyond that of a superficial curiosity.

3.2. Birth of Crops and Seeds (retrospective - Flash)

In this pre-letter, I would like to tell you a few pages (if possible) of what it is about in Crops and Seeds - tell you more detailed manner than said the only subtitle: "Reflections and testimony of a past mathematician" (mine past, you shall have guessed ...). There are many things in Crops and Seeds and each other will no doubt see many different things:

a **trip** to the discovery of a past; a **meditation** on the existence; a **picture** of **manners** of a medium and a time (or sliding table insidious and relentless from one period to another...); a **survey** (Almost police at times, and other bordering the cloak and dagger novel in the shallows mathematical megalopolis. . .); extensive **mathematical wandering** (which will sow more than one...); a treaty applied psychoanalysis practice (or, alternatively, a book of "**psychoanalysis fiction**"); one of panegyric the **knowledge of itself**; "**My confession**"; a **newspaper** close; a psychology of **discovery** and **creation**; an **indictment** (ruthless, as it should be...) or a **settling of accounts** in "the beautiful mathematical world "(and without gifts...). What is certain is that at no time I did bored by writing, while I learned and saw all the colors. If you leave your important tasks time to read,

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I doubt you@ bored reading it. Unless force you, who knows. . .

p. L3

Obviously, it is not directed only to mathematicians. It is also true that at times it is open mathematicians more than the others. In this pre-letter to the "letter Crops and Seeds" I would summarize and highlight especially precisely what you may concern especially as mathematical I I set aside the colleagues who are in my thoughts in one way or another, but I do not know personally. I will only send them "The Four Operations" (which relates more particularly), along with the "booklet O "consisting of the letter, and in the Introduction to Crops and Seeds (more detailed table of contents of all four first portions).

2 (*) In general, you can see that each "section" (in Fatuité and Renewal) or each "note" (in a any of the following three parts of crops and Seeds) has its unit and its own autonomy. It can be read independent pendently of the rest, as we can find interest and pleasure in watching a hand, a foot, a finger or toe or Another large or small portion of the entire body, without forgetting that this is a part of all, and that is what all only (which remains in the unspoken) which gives it meaning.

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3.2. Birth of Crops and Seeds (retrospective - Flash)

ticien. The more natural to do that will tell you just how I came, leading to another, to write one after four or five "pavement" which discussed.

As you know, I left "the great world" math in 1970, following a capital story military in my home institution (the IHES) After years of activism and anti-militarist eco style "cultural revolution", which you@ probably had some echo here and there, I disappear practically traffic, lost in God provincial university knows where. Rumor that I pass my time to keep sheep and drill wells. The truth is that apart from many other occupations, I would bravely, like everyone else, to my classes at college (that was my original little livelihood, and it still is today). It even happened to me here and there, for a few days or weeks or few months to redo math zinc strand - I have boxes full with my scribbles, I have to be the only one to decipher. But it was on very different things, at first glance at least, this I had done in time. Between 1955 and 1970 my favorite theme was cohomology, and more Specifically, the cohomology of varieties of all kinds (algebraic, in particular). I considered having done enough in that direction so that others are doing without me, and for that matter of the math, it was time to drive change. . .

In 1976 appeared in my life a new passion as strong as had once been my passion mathematical tick, and also closely related to it. It is the passion for what I called "meditation" (since must be names to things). This name, as would any other name here, can not fail to arouse the innumerable misunderstandings. As in mathematics, this is a work of discovery. I speak to about it here and there in Crops and Seeds. Still, that apparently there was enough take care for the rest of my days. And more than once, in fact, I have grown that mathematics was the past and now, I was not going to take care that more serious things - I was going to "meditate".

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Yet I ended up going to the obvious (there are four) that mathematical passion was not p. L4 off either. And even without knowing how and to my own surprise, I who (for nearly fifteen years) was no longer thinking publish a line of my life math, I saw myself suddenly embarked on writing a math book that obviously did not finish and that was to have volumes and volumes; and As I was there, I was going to swing that I thought I had to say math in a series (infinite?) books to be called "Reflections Mathematics" and speak no more.

That was two years ago, the spring of 1983. I was then already too busy to write (Volume 1) "At the Fields of Pursuit ", which also had to be Volume 1 of" Reflections "(mathematics) to ask me questions about what happened to me. Nine months later, as it should be, this first volume was completed as saying there were only introduced to write, read it all, annotations - and the impression. . .

The volume in question is still not finished by now - he has not moved a muscle since a

year and a half. The introduction was left writing has surpassed twelve hundred pages (typed) when this is over real thing there will be fourteen hundred well. You will have guessed that said "introduction" is other than Crops and Seeds. At last, it is supposed to form the volumes 1 and 2 plus portion of the volume 3 of the famous "series" provided. This suddenly changed its name and be called "Reflections" (For short, not necessarily mathematical). The rest of the volume 3 will consist primarily of mathematical texts, now burning more to me than the fields of proceedings. It can wait next year for annotations, indexes, plus, of course, an introduction. . .
End of the first act!

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3. U DO LETTER

3.3. The death of the boss - sites abandoned

It is time, I feel, to give some explanations why I left so abruptly in a world which, apparently, I had felt at home for more than twenty years of my life; why I had the idea strange "return" (as a ghost...) when we had well passed me during these fifteen years; and why finally an introduction to mathematical work of six or seven hundred pages reached by to twelve (or fourteen) cents. And here, too, going into the thick of it, I probably annoy you (Sorry!), Or even be angry. For no doubt that, like me once, you love to see "rose" the middle which you belong, where you have your place, your name and everything. I know what it is. . . And there going to squeak a little. . .

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I speak here and there in Crops and Seeds of episode I left without much dwell. This "start"

p. L5

it appears rather as an important watershed in my life mathematician - is compared to "point" that constantly lie the events of my life mathematician as "before" and "after". It took a **clash** of great strength to tear myself away from an environment where I was strongly rooted, and a "trajectory" sharply drawn. That shock came through confrontation, in an environment in which I was strongly identified in some form of corruption on which hitherto I had chosen to close their eyes (refraining simply not to participate). Looking back, I realize that beyond the event, there was Yet a deeper forces at work in me. It was an intense **need for inner renewal** .

Such a renewal could be accomplished and continue in the warm atmosphere of scientific incubator a luxury institution. Behind me twenty years of intense creativity and mathematical investment mathematical disproportionate - and at the same time also, twenty years of spiritual stagnation in "isolation". . . Without realizing it, I was choking - it the sea air that I needed! My departure" providential marked the sudden end of a long stagnation, and a first step towards a balancing of deep forces in my being folded and screwed into a state of intense imbalance, frozen ... The start was, truly a **new beginning** - the first step on a new journey. . .

As I said, my mathematical passion was not extinct so far, it has found expression in reflections that have remained sporadic in ways quite different from those that I had plotted "before". As for **the work** that I left behind me, the "before", as that published in black and white that the more important perhaps, who had not yet found the way of writing or published text - it could well seem, and it seemed to me, in fact, she had separated from me. Before last year, with Crops and Seeds, the idea had never occurred to me to "ask" so slightly on the scattered echoes me that come back here and there. I knew that everything I had done in math, particularly in my period

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"geometric" from 1955 to 1970, were things that **had to** be made - and the things that I

p. L6

views and interviews, were things that **had to** occur, it **was necessary to** pull the open. And also, that the work I had done, and that I had made do was work well done, work where I was put me whole. I had put all my strength and all my love, and (so it seemed to me) it was now self - a lively and vigorous thing - who did not need that I materne. From that side, I left the spirit perfectly quiet. I had no doubt that these written and unwritten things I left, I let in good hands, who would know that they ensure déployent, they grow and multiply according to their own nature alive and strong things.

In these five years of intense mathematical work, had hatched, matured and grew in me a broad **vision**

This is the unqualified cooperation, "establishment" in mind, of all scientists of all countries with military aircraft, as a convenient source of funding, prestige and power. This question is barely touched in Incidentally, once or twice in Crops and Seeds, for example in the note "Respect" the April 2 (n ° 179 pages 1221-1223).

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3.3. The death of the boss - sites abandoned

unifying, incarnating himself in a few **key ideas** simple. The vision was that of a "geometry arithmetical métique" synthesis of topology, geometry (algebraic and analytic), and arithmetic, which I found a first embryo in the Weil conjectures. It was she who was my main source of inspiration in these years, which to me are those especially where I cleared the main ideas of this geometry new, and where I fashioned some of these key tools. This vision and these key ideas are Devel- bare to me like second nature. (And having ceased all contact with them for nearly fifteen years, I now see that this "second nature" is still alive in me!) They were for me so simple, and so obvious, it was obvious that "everyone" had assimilated and endorses gradually as the same time as me. It is only recently, in the last months, that I realized that neither the vision nor the few "key ideas" that had been my constant guide, only found spelled out in any published text, except at most between the lines. Above all, this vision I had grown communicate, and these key ideas which are, still today, twenty years after reaching full maturity, ignored by all. It@me, the worker, and the servant of those things I had the privilege to discover who am also the only one in which they are still alive. Such a tool and another that I had shaped, is used here and there to "break" a problem deemed difficult, as it would force a safe. apparently solid tool. But I know him another "force" although that of a crowbar. It is part of a Whole, as a member

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is part of the body - p. L7

an All which it is derived, which gives it meaning and from which it draws strength and life. You can use a bone (if large) to fracture a skull, it@a done thing. But that is not his real function, its reason for being. And I see these scattered tools seized some and the others, like bones, carefully skinned and cleaned, they would have torn from a body - a living body they would pretend to ignore. . . What I am saying in terms carefully considered, after much thought, had to be seen by me little pretty and diffusely, over the years, at the unformulated who still seeks to take shape in thought and conscious images, and the clearly articulated speech, I had decided that this past, basically, only concerned me. The echoes that reached me from time, while they were filtered, were yet eloquent, provided me to dwell a little. I grew myself a worker among others, bustling about five or six "yards" 4 in full swing - a more experienced worker might, the elder who formerly had worked only in those places, for many years, before there comes a relief welcome ; the eldest, either, but at bottom no different from others. And now, the same party, it was like a Masonry company that would bankrupt, following the unexpected death of the boss: overnight, in other words, the yards were deserted. The "workers" have left, each carrying under his arm the pocket odds he thought he use his home. The body was gone, and there was no reason now he continues to work to tire. . .

This is, again, a formulation which is decanted for reflection and investigation is continuing on more a year. But surely it was a thing perceived "somewhere" already in the first years after my departure. Putting aside the work of Deligne on the absolute values of the eigenvalues of Frobenius (the "Prestige issue" as I understood lately. . .) - when I happened from time to time to meet one of my old relatives, with whom I had worked on the same sites, and I asked him and so. . . ? ", It was always the same eloquent gesture, arms in the air

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as if to ask pardon. . . Visibly p. L8

ment, all were busy with more important things than those who held my heart - and obviously, Also, while all were busy with busy and airs, not much was being done. The essential

4 I speak about these "sites" deserted, and finally passes the review, the following notes "The sorry yards" (n ° s 176 @ 178), of it three months ago. A year before, and before the discovery of the burial, there was already talk in the first note which I resume contact with my work and the fate that was his, in the note "My orphans" (n ° 46).

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had disappeared - a **unit** that gave meaning to the subtasks, and **heat** also, I think. He stayed a scattering of spare tasks of a whole, each in his corner brooding his little nest egg, or making grow somehow.

Even as I wanted to defend myself, it pained me to glimpse sure that everything stopped short; not to hear or patterns, or topos or six operations or coefficients Rham or those of Hodge, neither the "mysterious functor" that would link them in the same range, around De Rham coefficients, the coefficients l-adic for all primes, or crystals (if not to learn that they are still the same) or "standard conjectures" and others I had clear and that, obviously, represent crucial issues. Even the extensive work foundations

started with Algebraic Geometry elements (with the tireless support of Dieudonné), he would almost enough to continue the momentum already achieved, was left behind: everyone content to settle in the walls and in furniture that another had patiently assembled, installed and bricks. The workers party, it would occur to anyone to roll up his sleeves and turn to hand trowel to construct many buildings that remained to build the **houses**, good to live for oneself and for all. . .

I could not help but still, again, to chain with fully conscious images, which are clear and are reassembled by virtue of a process of reflection. But there is no doubt to me that these pictures-there must already be present in one form or another, in the deep layers of my being. I had already felt the insidious reality of a **burial** of my work along with my person, who came to me suddenly, with irrefutable strength and with that same name, "The Burial", April 19 last year. On the conscious level, against, I would hardly thought offend me nor to grieve. After all, "close" once or not, it only looked at the person, what he chose to take his time. If what had seemed to motivate or inspire once only inspired him more, that was his business, not mine. If the same thing seemed to happen, with a perfect set, all my ex-students without exception, it was still there the case of each of them separately and

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I had other fish to fry than to seek

p. L9

what sense it could have, and that all! As for the things I had left, and to which a link deep and ignored continued to connect - even though they were obviously abandoned on sorry these sites, I knew very well, they were not of those who fear "injury time" or fluctuations modes. If they were yet entered the common heritage (as he had me Yet once seemed), it may fail to take root sooner or later, in ten years or a hundred, mattered little to the bottom. . .

3.4. A burial wind. . .

Yet it pleased me throughout these years of evading the diffuse perception of a large burial scale, it did not fail to remember stubbornly to my good memory, in other faces and less innocuous than that of a mere disaffection for work. I learned little by little, I would strongly say how, several concepts that were part of the forgotten vision, were not only fallen into disuse, but became, in a beautiful world, subject to scorn condescending. This has been the case, in particular, the crucial unifying concept of topos, in the heart of the new geometry - the same one that provides common geometric intuition topology, algebraic geometry and arithmetic - it also allowed me to identify both the cohomological tool spreads and -adic that the main ideas (more or less forgotten since, it is true...) of the crystalline cohomology. As a matter of fact,

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3.4. A burial wind. . .

it was my same name, over the years, which insidiously mysteriously became subject of derision - as a synonym of muddy bombinages to infinity (such as those on the famous "topos", precisely, and these "Reasons" which he drew down your ears and that nobody had ever seen. . .), Hair cutting four thousand pages in length, and bloated and gigantic chatter about that, anyway, everyone already knew forever and without having waited ... A little about these tones there, but muted, by innuendo, with all the delicacy that is required "among people of high flying and exquisite company".

During the discussion continued in Crops and Seeds, I think I hit the nail on the forces deep at work in each other behind these songs of derision and condescension to a work whose scope, life and breath, escape them. I also discovered (besides the features my special person that marked my work and my destiny) secret " **catalyst** " that prompted

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these forces to manifest in this form the casual contempt before the eloquent signs of creativity p. L10 intact; Grand Officiant for Funerals, in short, in this Burial muffled by derision and contempt. strange thing is that, of all that was closest to me - as the only who has assimilated a day and endorsed a vision, full of life and strength intense. But I am anticipating. . . In truth, these "discreet derision flashes" returning here and there, did not reach me off measured. They remained somewhat anonymous until a three or four more years. I saw certainly a sign of the sobering times, but do not put me in because really, and aroused in I fear nor worry. One thing against that touched me more directly, were the signs of taking distance from myself, from here and there from many of my old friends in the mathematical world, friends which (notwithstanding my departure from a world that was common to us) I continued to feel connected by bonds of sympathy, in addition to those created by a shared passion and a some common past. Again, if every time I have been pained, I am myself yet hardly stopped, and the thought never occurred to me (as far as I remember) to make a comparison between these three

series of signs: the abandoned sites (and the forgotten vision), the "mockery of wind", and taking away the number of those who were friends. I wrote to each of them, and I have not received a response from any. This was not uncommon elsewhere, now that the letters I wrote to old friends or students on things who held my heart, remain unanswered. New times, new habits - what could I do? I have confined myself to refrain from writing them yet. And yet (if you are one of those) this letter that I am writing, it will be the exception - a word that is offered to you again - to you to see if you welcome this time, or farms you there again. . .

The first signs of a shift away from some old friends over my person back, if I am not mistaken, in 1976. It was also the year where it began to appear another "series" signs still, he remains to speak, before returning to Crops and Seeds. Rather, the latter two signs series appeared together then. Right now as I write, it appears to me that they are in fact inseparable, these are basically two aspects or "faces" several of the same reality, barging in that year lived in my own field. For the area I was going to speak now, there is a "plea" systematic,

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discreet and unanswerable reserved by p. L11

Consensus flawless " 5 to some students-and-assimilated to a **close** in 1970 who, through their work, their style 5 This "consensus flawless" is mentioned sporadically here and there in Fatuité and Renewal, and eventually became the subject of a detailed testimony and reflection in the next section, The Burial (1), with the "Procession X" or "The Van Funeral "trained" note coffins "(n o s 93-96) and the note" The Gravedigger - or the whole Congregation "This closes. this part of Crops and Seeds, and is also a first result of this "second wind" of reflection.

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work and inspiration, clearly bore the mark of my influence. It is perhaps this occasion also that, for the first time I have seen this "discreet derision breath" who, through them, was a certain style and a certain **approach** of mathematics - a style and vision that (according to a consensus was apparently already become so universal in the mathematical establishment) **had not Instead of being .**

Again, it was clearly perceived at the unconscious level thing. She finished well in the same year yet to win in my conscious attention, even after an absurd scenario (illustrating the impossibility to publish a visibly brilliant thesis) was repeated five times in a row, with the burlesque obstinacy a circus gag. Thinking back now, I realize that a certain reality "made me sign" then with kindly insistence, while I pretended to turn a deaf ear, "Hey, look at gawk, watch a little what happens there right under your nose, it concerns you, but yes. . . ! ". I am shaking a little, I watched (the space of a moment), half dazed and distracted half: "Oh yes, well, a bit strange, although it seems wants someone there, something that@hard to pass decidedly, and with a set as perfect yet, it@even hard to believe my word. "

It was even to the point somewhat believable, I am eager to forget and the gag, and the circus. It is true I had plenty of other interesting occupations. That did not stop the circus to remember my good memories in the years yet - either in shades gag now, but in those a secret delight in humiliating, or that of the fist hard blow in mouth full; it is close to that distinguished between people and the punch here takes most distinguished forms also, necessarily, but equally effective, left to the creativity of distinguished people in question. . .

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The episode I felt like "a punch in mouth full" (another) is in October

p. L12

1981 6 . This time, and for the first time since reached me insistent signs of a mind nou-veal, I was suffering - more highly probably that if it was me it had hit, rather than another cash, I had an affection. It was a little figure of student, and it was more of a mathematician remarkably talented, and who had to make beautiful things - but this is a detail, after all. It was not a detail, by cons is that three of my students "before" then were directly fixed to a deed by the person concerned (and not without reason) as a humiliation and an affront. Two other of my former students had already had the opportunity to treat condescendingly in plush sending people walk a traîne-Learned 7 . Another student was also still suit three years later (and in style "kick fist in the mouth "again.) - but that I did not know yet of course What interpellait me then was more than enough. It was as if my past mathematician, never looked suddenly taunting me one, hideous grin by the person in five among those who were my students become important characters, powerful and disdainful. . .

It was then when ever ask, to probe the meaning of what interpellait me with a sudden such violence. But somewhere in me it was decided (but never the thing has got to be told...) That what happened "before" did not concern me at the bottom, there was no place me to dwell; if it seemed

Now call me in a voice I did not recognize too well - the time of contempt - there had decidedly maldonne. And yet, I was tied with anguish for days and possibly weeks, not only take note. (This is the last year alone by writing Crops and Seeds me returns on this episode, I ended up taking knowledge of this anxiety had been taken under qu@pparue control immediately.) Instead of making the finding and to sound the way I am restless, I have written to 6 This episode is recounted in the note "Coffin 3 - or jacobians too much on" (n ° 95), including 404-406 pages. 7 This is discussed in passing in the note cited in the previous footnote page. 80

3.5. The trip

right and left, "the letters that were necessary." Interested parties even bother to answer me, of letters evasive and it goes without saying that entered does nothing in the background. The waves have calmed down and everything is

back in order. I hardly had to think again before last year. This time, however, he remained as injury, or

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as a painful splinter, rather, that avoids touching; a thorn that **keeps** p. L13 this injury just waiting to close. . .

It was there, surely the most painful experience and the most painful I@e experienced in my life mathematician - when I was able to see (not yet consent to really **take notice** what my eyes were seeing) "as student or former companion that I liked, taking pleasure in crushing discreetly ment as another that I love and in whom he recognizes me. "She then marked more strongly, surely, that Yet the crazy enough discoveries I made last year, and (to a superficial glance) can everything else seem incredible. . . It is true that this experience had resonate more others in the same tones but less violent, and instantly had a little "past to the ace."

This makes me remember, too, that that year 1981 was also one of a drastic turning point in my relationship alone among the former students with whom I am kept in regular contact after my departure hand, and also that for fifteen years had been one of "privileged partner" for me, the mathematical level. This is the year where indeed "signs of disdain assignment" that were apparent rus for some years now s "are suddenly so brutal facts" so I stopped all communication mathematics with him. It was a few months before the episode-kick-punch sometimes. In hindsight the coincidence seems startling, but I do not think I did then any rapprochement. It was stored in of "traps" separated; lockers, which someone, moreover, said they do not really firing at accordingly - the cause was heard!

And that reminds me, too, that in June of that year 1981 yet, had already held a bright **Symposium** , memorable in more ways than one - a conference that will have deserved to make history (or in what remains ...) under the indelible name "Symposium Pervert". I met him (or rather, he tumbled over!) May 2 last year, two weeks after the discovery (April 19) of the Enter-surely in the flesh - and I realized immediately that I had come across " **the Apotheosis** ." The apotheosis a funeral, certainly, but also, an **apothecosis** of the **contempt** of which, for over two thousand years our science there was tacit and immutable foundation of ethics of the mathematician: namely, that rule elementary, not to present as his own ideas and results taken another. And taking note the moment

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This remarkable coincidence in time between two events that seem to na- p. L14 ture and reach very different, I am seized of view be here the deep and clear link between the **respect** of the **person** , and the basic ethical rules of an art or a science, that make his other exercise but a "rat race" and all those who are known to excel and give them tone, something other than a "mafia" unscrupulous. But again I anticipate. . .

3.5. The trip

I think I@e pretty much toured there, the context in which is placed my "back to math" and led to another, writing and Crops Seeds. This is the end of March last year, in the latest Section Fatuité and Renewal ("The weight of the past" (n ° 50)), I finally think to wonder about the reasons and the meaning of this unexpected return. In terms of "reasons", the highest of all surely was the impression, diffuse and compelling at the same time, these strong and vigorous things I had grown

8 It is about this episode in the note "Two turning points" (n ° 66).

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3. U DO LETTER

formerly assigned between loving hands - it@in a tomb cut the benefits of wind, rain and

the sun they have languished during the fifteen years I had lost sight of " 9 . I can understand, little little and with never before today I had thought to tell me, that it would be none other than me who would finally jump these rotten planks, holding prisoners living things do, not to rot in closed coffins, but to thrive outdoors. And these tunes compunction false and insidious mockery around these coffins padded and bloated (like the late deceased, no doubt ...) have had also "eventually awaken in me a combative fiber that was somewhat dormant in the last decade "and the desire to get into the fray... 10 .

Thus, there are two years than was originally planned as a quick survey of a few days or weeks to break everything, from one of these "sites" left behind, became a great mathematical soap in N volumes, inserting in the popular new series "Reflections" ("Mathematics", waiting to prune this unnecessary qualifier). The moment also where I knew I was writing a math book for publication, I also knew I would join, and more introduction of a "mathematical" more or less in line with the practices, another "introductory"

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more
p. L15

more personal. I felt it was important that I explain my "return", which was way back in **the middle** , but the "back" only to intense mathematical investment and publication of mathematical texts from my pen, indefinitely. Also, I wanted to explain about the spirit in which I am now writing maths, very different in some respects from the spirit of my writings before I left - mind "diary" of a journey of discovery. Besides there were other things I had on the heart, related to them of course, but I felt more still essential. It was understood to me that I was going to take my time to say what I had to say. These things, still diffuse, were inseparable for me that went sense to have these volumes I was about to write, and "Reflections" in which they would fit. There was no question of the slip away in a hurry, as apologizing to abuse the precious time of a busy reader. If there were things in "In the Fields of Pursuit" he was good for him and for all, it takes knowledge, They were precisely those that I reserved to say in this introduction. If twenty or thirty pages there should be enough to say, I would put forty or fifty, that©no problem - besides I obligeais person to read me. . .

Thus was born Crops and Seeds. I wrote the first pages of the planned introduction in the month June 1983 to a low point in writing the first volume of The Fields of Pursuit. Then I have given that in February last year, when my volume was virtually complete for several months 11 . I reckoned that this introduction would be an opportunity to enlighten me on two or three things that remained a tad blurry in my mind. But I had no suspicion that it was going to be, as the volume I had just written a **journey of discovery** ; a journey into a different world even richer and of larger dimensions than the one I was going to explore in the volume and written in those were to follow. It©the days, weeks and months, without much to me to realize what was happening, that continued this new journey, the discovery of a past (stubbornly eluded for over three decades. . .) And myself and links that connect me to the past; at

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Discovery also some of
p. L16

those who were close to me in the mathematical world, and I have so little known; and finally even in the 9 Quote from the note "The melody in the tomb - or sufficiency" (n ° 167), page 826.

10 See "The weight of the past" (Section n ° 50), especially p. 137. (**).

11 In the tempsj@vais had a good month to think about "structural surface" for a pseudo-straight system, obtained in terms the set of all possible "relative positions" of a pseudo-right with respect to such a system. I also wrote "The Outline of a Program" which will be included in Volume 3 of Reflections.

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3.6. The shadow side - or creation and contempt

stride and, moreover, a journey of mathematical discovery, while for the first time in fifteen Twenty years or 12 , I was taking leisure return to some of the questions I had left, burning at the time I left. I can say, in short, these are **three** voyages of discovery, closely intertwined, that I continue in the pages of Crops and Seeds. And none of the three is completed with the end point, the page twelve hundred and some. The echoes, already, that will collect my testimony (till and including the echo by silence. . .) Will be part of the "suite" of travel. As for his eventual journey surely is one of them that are never completed - even if it is the day of our death. . .

And here I am finally back to the starting point: tell you in advance, if possible, "of what it is about" in Crops and Seeds. But it is also true that without having even tried, the previous pages you already have said more or less. It will be more interesting, perhaps, to keep going and **telling** , rather than "announce".

June 1985

3.6. The shadow side - or creation and contempt

The preceding pages were written in favor of a short "hollow point" last month. In the meantime, I finally finished putting the final touches to the "Four Operations" (the fourth part of Crops and Seeds) - it still remains for me to end this letter or "pre-letter" (which she also pretended to take prohibitive dimensions. . .) So that everything is finally ready for the strike and for duplication. I could not believe Moreover, in force for almost a year and a half I am "about to finish" those famous notes! In putting myself in this "introduction" of a bit unusual nature for mathematical work in the month of in February last year (and already the year before, in June), there was (I think) three kinds of things especially on which I had so wanted to express myself. First, I wanted to explain my intentions returning to a mathematical activity, and the spirit in which I had written the first volume of "A Continuation of the Champs "(I had just finished state), and the spirit

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also where I intended p. L17

continue a journey of exploration and wider mathematical discovery yet, with "Reflections".

It would be more for me now to introduce meticulous and foundations to the nines for some new mathematical universe in labor. It would be "log books" instead, where the work is continue from day to day, without anything to hide and as it goes **really**, with its failures and its forages, its insistent flashbacks and also his sudden leaps forward - work drawn forward irresistibly day after day (and notwithstanding the countless incidents and contingencies), as by an invisible thread - by some elusive vision, tenacious and safe. A working groping often, especially in these "sensitive time" where outcrops, barely perceptible, some intuition still nameless and faceless; or from some new travel, the call and the pursuit of some first ideas and intuitions often elusive and reluctant to let enter into the mesh of language, whereas it is precisely the right language to enter with delicacy that often is lacking. This is such a language, before anything else, it is then to to condense out of apparent nothingness impalpable mist. This is still only approached before only to be glimpsed, much less "seen" and touched the finger gradually settles the imponderable is emerges from his coat and gray mists to take shape and flesh and weight. . .

It is that part of the work, poor appearance if not (many times) half-assed, which is

12 In the fifties and sixties, I had often suppressed my urge to throw myself to the pursuit of such juicy issues and burning, cornered as I was by endless foundations spots, nobody would have known or wanted to continue my place, and person after my departure had not the heart to continue. . .

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also the most difficult part and the most important - where it truly, something new is its appearance, the effect of intense attention, a concern, a respect for this fragile thing, infinitely delicate, about to be born. This is the creative part of all - that of the design and a slow gestation in the warm darkness of the feeder matrix, from the invisible dual gamete original, becoming shapeless embryos and turning over days and months, by an obscure work intense, invisible and apparently in a new being in the flesh.

This is also the "dark", the "yin" or " **female** " work of discovery. The complementary aspects mentary, the "clarity" or "yang" or " **male** " is akin rather to work with hammers or mass on a sharp chisel or a corner of good tempered steel. (Tools already ready for use, and efficiency that has already proven ...) The one and the other aspect is its purpose and function,

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inseparable symbiosis with each other - or rather, these are **the wife** and **the husband** of the couple insepara- p. L18

luble the two original cosmic forces, whose embrace constantly renewed constantly resurrected obscure labors creators of the conception, gestation and birth - the birth of **the child**, of the new thing.

The second thing I felt the need to express myself in my famous "introduction" personal tional and "philosophical" in a mathematical text was about the nature of creative work precisely I had been already has, for years, that nature was generally ignored, obscured by shots to all comers and repressions and ancestral fears. How much it is so, I found out after only gradually over days and months, while during the reflection and the "investigation" continued in Crops and Seeds. This is from the "kick" of this reflection, Over the next few pages dated June 1983 I was first struck by the scope of this fact seemingly innocuous, yet stunning, provided only that it stops so slightly: this part "creator of all" which I have mentioned in the work of discovery, **practically shines nowhere** in the texts or speeches that are supposed to present such work (or at least its most fruit tangible); be it textbooks and other educational texts or articles and original papers, or and oral presentations during the seminars etc. There is, for thousands of years it would seem, from the beginning

even mathematics and other arts and sciences, a kind of "conspiracy of silence" around these "**Unspeakable toil**" that will herald the emergence of any new idea, big or small, from renew our knowledge of a portion of this world, in perpetual creation, where we live. In short, it seems that the repression of the knowledge of this aspect or that stage, the all crucial in any work of discovery (and in creative work in general); is so effective point so much internalized by those who even know yet such work first hand, often would swear that even they have eradicated all traces of their conscious memory. A bit like a puritanical society to the death, a woman would have wiped her memory, in relation to each of these children she makes a point of nose and wipe, the time of the embrace (suffered against the heart) which made him conceive the long months of pregnancy (experienced as an impropriety), and the long hours delivery (endured as an unsavory ordeal, finally followed by an issue).

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This comparison may seem exaggerated, and she may be indeed, if I apply what I p. L19

today reminded of the spirit that I have experienced in the mathematical middle of which I was myself part there are still twenty. But during my reflection in Crops and Seeds I came to realize, and vividly in these last few months especially (with writing "Four Operations"), there has been since leaving the mathematical scene astounding **degradation** in mind that today is law in circles I had known, and (to me it seems, to a large extent at least) in the world

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3.7. Respect and fortitude

mathematics in general ¹³. It is even possible, both in my particular mathematical personality by conditions surrounding my departure, that it acted as a catalyst in evolution that was already in the making ¹⁴ - a development that I did nothing then able to perceive (not more than any other colleagues and friends, with the exception perhaps of Claude Chevalley). The appearance of this degradation I am thinking especially here (which is just **an** appearance among many other ¹⁵) is the **tacit contempt** when it **derision** unequivocally against this (in mathematics, in this case) is not apparent not pure work of the hammer on the anvil or the chisel - the contempt of the most difficult creative processes (and

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often slightest appearance); all that is **inspiring**, **dream**, **vision** (so powerful and fertile p. L20 They are), and even (to the limit) of any idea, so clearly designed and formulated as it: all that is written and **published** in black and white, in the form of statements hardcore, répertoriabiles and listed, ripe for the "data banks" rushed into the inexhaustible memories of our mégaordinateurs. There has been (to use an expression of CL Siegel ¹⁶) a special "**flattening**", a "**shrink**" mathematical thinking, stripped of an essential dimension of all its "shadow side" of the catchment "female". It is true that an ancestral tradition, then pouring the work of discovery remained in a largely obscured, person (as saying) not **talking** ever - but the living contact with the sources deep dreams that feed the great visions and great designs, had never (to my knowledge) been lost. It seems that now we are already entered a **period of dessè-****mation**, where the source is, not certainly dried up, but she had the access is condemned by the verdict without Call General scorn and retaliation derision.

Here we are approaching the moment he appears, which will be eradicated in each not only the **memory** of all work close to the source, the work "feminine" (ridiculed as "muddy", "soft", "inconsistent" - or at the opposite end as "trivial", "enfantillages", "bombinage". . .), But where it will also be extirpated same work and its fruits: one in which are designed, to develop and originate concepts and new visions. This is also the time where the exercise of our art will be reduced to barren and empty exhibitions "weight and dumbbell "brain, the bidding prowess to" crack "the problems in the Contest (" difficulty proverbial ") - the time of an enlarged" surpermacho "feverish, sterile, taking over more than three creative renewal centuries.

3.7. Respect and fortitude

But again I digress, anticipating that the reflection taught me. I was on a double About clearly present in me since before the beginning of it: the purpose of a "declaration of in- ¹³ This deterioration will also not limited to only "mathematical world". There is also the across scientific life, and beyond even the latter, in the contemporary world globally. A primer finding and thinking in this direction is in the note "The muscle and guts" which opens the reflection on the yin and yang (note ^o 106). ¹⁴ It is the evolution discussed in note cited in the previous footnote b. p. Links between it and the Burial (my person and my work) are emerging and are discussed in the notes "The Funeral of Yin (yin yang bury (4))" "The providential circumstance - or Apotheose" "The disavowal (1) - or recall" "The disavowal (2) - or metamorphosis" (n ^o s 124, 151, 152, 153). Also the latest ratings (in RS IV) "Unnecessary details" (n ^o 171 (v), part (c) "Things that resemble nothing - or drying ") and " The Family Album "(n ^o 173, part c." The one among all - or acquiescence "). ¹⁵ The aspect that is most often the center of attention in Crops and Seeds, especially in the two parts

"Investigation" (RS II or "The Chinese Emperor's robe" and SR IV or "The Four Operations"), and he also, perhaps, me as "stunned" is the degradation of professional ethics, speaking by looting, a débinage and scheming without shamelessly practiced among some of the most prestigious and the most brilliant mathematicians of the time, and this (in a very largely) in full view of everyone. For some other more delicate aspects, and also directly related to that one, I refer to note cited above (n ° 173 part c.) "Things that look like nothing - or drying out."

16 This phrase is quoted and commented in the note just cited in the previous footnote b. p.

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trying ", and (closely related to it, as it just appeared) that to speak about: the nature creative work. Yet there were still about a third less clear at this surely conscious, but meeting a need

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deeper and more essential. He was aroused by these "arrests"

p. L21

sometimes disconcerting, managing my past mathematician by the voice of those who had been my students or my friends (or at least, many of them). In the epidermis, this need was expressed by a desire to "off my chest," said a few "unpleasant truths". But more deeply, surely, there was the need **to know** , finally, with a past that I had chosen previously to evade.

It is this need then, first of all, from what Crops and Seeds. This long reflection was my "answer" daily, this knowledge instinct in me, and constantly renewed without questioning that had me the outside world, the "mathematical world" I left without thought of return. Aside from all first pages of "Fatuité and Renewal", those which form the first two chapters ("Work and discovery "and" The Dream and the Dreamer "), and from the chapter that chains "Birth of fear "(p. 18), with a "testimony" which was not planned in the program, this is what needs to know my past and fully assume that (I think) was the main force used in the writing of Crops and Seeds.

The arrest that came from the world of mathematicians, and that came at me with a force all new in Crops and Seeds (especially during the "investigation" continued in parts II and IV) were taken immediately mask sufficiency, when it was the disdain ("gently dosed"), of derision or contempt, whether vis-à-vis me (sometimes) or (mostly) vis-à-vis those who dared to inspire me (without knowing, of course, of what awaited them) and were "classified" as having partly related to me by some tacit and relentless decree. And again I see here the link "obvious" and deep ", between the **respect** (or disrespect) to the person of another; one for the act of creation and for some of its most delicate and the most essential fruit; and finally, respect for the rules more obvious scientific ethics: those that are rooted in a basic respect for self and others and I can be tempted to call the "**rules of decency** " in the exercise of our art. These are all aspects, surely an elementary and essential "**respect of itself** ." If I try, in one pithy formula, to stock of what was taught Crops and Seeds about a world that was mine, a world which I identified myself for more than twenty years of my life, I would say:

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it is a world that has **lost** the

p. L22

compliance 17 .

This was a thing already strongly felt, if made, from the years prior. She made that will confirm and clarify, always unexpectedly, sometimes staggering, throughout Crops and Seeds. It is clearly apparent from the moment where already a kind of reflection "philosophical" and general suddenly becomes a personal testimony (in "The welcome stranger" (n ° 9, p. 18) opening Chapter cited "Birth of fear").

This perception, however not on the tone of bitter recrimination or bitter, but (by logic Internal writing and the different attitude that it raises) to that of a **question** : what was my own part in this deterioration, this loss of respect I see today? This is the in-main interrogation which passes through and carries the first part of Crop Seeds and, until she finally resolves into a clear determination and unequivocal 18 . Previously, this degradation was me 17 Again, this is a formulation that does not apply only to certain limited areas, where I had ample opportunity to see the something closely, but it seems to summarize some degradation throughout the world today. (Compare Note b. p. The page 19.) In the more limited framework of the balance sheet of an "investigation" continued in Crops and Seeds, this

formulation appears in the note of April 2, "Respect" (n ° 179).

18 In the sections "Sport mathematical" and "No more riding" (n ° s 40, 41).

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3.8. "My family" - or connivance

appeared as "fallen from heaven" suddenly, inexplicably, all the more outrageous, intolerable. the During the discussion, I discovered that she had continued insidiously, without anyone surely do the detected around him or itself, throughout the fifties and sixties, **including my own person** .

The finding of this humble fact obvious surely and without color, mark the first turning point crucial in the testimony, and immediate qualitative change ¹⁹ . This was a first essential I had to learn about my past mathematician and myself. This knowledge of a **share responsibility** incumbent on me in the general degradation (more or less following the acute knowledge moments of reflection) remained as a background note and a reminder, all in Crops and Seeds. It has been so, especially at times when my reflection

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took on the appearance of a survey on p. L23

disgraces and the iniquities of an era. Along with the desire to understand, to curiosity so that animates and carries forward any real work of discovery is this humble knowledge (again forgotten resurfacing the road and still, where least expected. . .) That preserved my testimony ever turn (I think) to the sterile recrimination about the ingratitude of the world, even the "reckoning" with some of those who were my students or friends (or both). This absence of complacency vis-à-vis myself also gave me that inner calm, or the fortitude, that have preserved myself traps vis-à-vis complacency of others, or even just as a false "discretion". All I thought have to say, at one time or another reflection, either on me or some of my colleagues, ex-students or friends, or a medium, or a time, I said, without ever having to hustle my reticence. For them, it was enough every time I examine them closely, so they vanish without trace.

3.8. "My family" - or connivance

It is not my intention in this letter to review all the "highlights" (or all "moments sensitive ") in writing Crops and Seeds, or in any of its stages ²⁰ . Suffice it to say that there was, in this work, four stages or four clearly marked "breaths" - as the breaths a breath, or like the waves in a wave train arose, I do not know how, these vast silent masses still and moving, without limits and without name, an unknown sea without background that is **me** or rather, a much broader and deeper than sea "me" whether and it feeds. These "winds" or the "waves" have materialized in the four parts of crops and Seeds written now. Each wave came without my having called nor in the least expected and at any moment I could not tell where she was going to carry me or when it would end. And when she had end and a new wave already had his suite for a while yet I still believed in me end of a roll (which would also be at the end of ends, the end of Crops and Seeds!), while I was yet already lifted and carried to another blast one and the same broad movement. It is only with hindsight that

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it is clear and that is unequivocally reveals a **structure** in what was experienced as p. L24 and act as a movement.

And surely, this movement did not end with my final point (just temporary!) To crops and Se-
¹⁹ The next day, the witness deepens into a meditation on myself and keep that special quality in weeks until the end of the "first breath" Crops and Seeds (with the "weight of the past", n ° 50).

²⁰ You can find a short retrospective-balance of all the first three parts of Crops and Seeds in both note groups "Evening fruit" (n ° s 179-182) and "Discovery of a past" (n ° 183-186).

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mesh, and will end either with the end point to this letter to you, which is one of the "time" of this movement. And it is not born in one day in June 1983 and February 1984, when I sat in front of my typewriter to write (or regain) a certain introduction to a mathematical structure. he was born (or rather, it is reborn...), day or meditation appeared in my life. . .

But again I digress, letting me wear (and go ...) by the images and associations born of now, instead of wisely stand over a "about" the expected. My purpose today was to continue with the story, so brief it may be, the "discovery of the burial" in the month of April, at a time when two weeks ago I thought I had finished Crops and Seeds - how are me tumbled over cascade, in the space of three or four weeks ago, one of the discoveries larger and more amazing than the other - so big and so crazy that even for months yet, I had the greatest evil "to believe the evidence of my healthy schools", to free myself of an insidious **disbelief** before the evidence ²¹ . This secret and tenacious incredulity has finally dissipate in the month of October

(Six months after the discovery of the "Burial in all its splendor"), following the visit of home My friend and former student (occult, it is true) Pierre Deligne 22 . For the first time, I saw myself then faced in Burial either through **texts** , talking to me (admittedly in eloquent terms!) of débinage, looting and killing of a work, and the burial (in the person absent master) of a certain style and a certain approach to mathematics - but in a way that both direct and tangible under familiar features and a familiar voice, the intonations affable and ingenuous. The burial was there before I finally "in the flesh", in these busy and insignificant traits that I recognized well now, but for the first time I looked with new eyes, new attention. Here then deploy in front of

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me that is, in my reflection in previous months, was revealed as the Great Leader

p. L25

my solemn Funerals, like "Priest chasuble" along the main architect and main "beneficiary" of an "operation" unprecedented occult heir of a work delivered to the derision and looting. . .

The meeting room for the debut of the "third wave" in Crops and Seeds, when I had to engage in the long meditation on the yin and yang, in pursuit of an elusive and tenacious Association ideas. At the time, this short episode leaves only a trace of an echo of a few lines, passing. He scores Yet an important moment, the fruits will become apparent until months later.

There was a second such moment of confrontation with "The Burial of flesh and bones." It was there ten days ago, and had just restart again, "last minute", an investigation that there was no end of leave unceasingly This time it was a simple phone call to Jean-Pierre Serre 23 . This conversation "with sticks broken "has confirmed strikingly and even beyond all expectation, that (a few days just before) I had to explain at length 24 , and my body almost reluctantly, about the role played by Serre in my burial and a "secret acquiescence" in him what was happening "right under his nose, "he does not mine to see anything or feel anything.

Again, just like the conversation was all that there is "cool" and friendly, and obviously these friendly provisions Serre to me are also all there was sincere and genuine. it

Nevertheless this time I really saw, or "touch" would I want to write, that "acquiescence"

I had to finally admit to me; "Secret" probably (as I wrote above) but above

21 I try to express this difficulty, for the story "The Emperor of China the dress" in the note of the same name (n ° 77 ©) and there back again in the note "The accomplishment - or the moment of truth" (n ° 163).

22 I make the story of this visit in the note that I just mentioned (in the previous footnote b. P.).

23 This is, in almost exactly a footnote citation "The Gravedigger - or the whole Congregation" (n ° 97, page 417).

24 In part c. ("The one among all - or acquiescence") of the same note (n ° 173).

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3.8. "My family" - or connivance

quick as I could then see no possibility of doubt. Acquiescence quick and unqualified that is buried what is to be buried, and that wherever this is desirable and what that any means, a real paternity (that Serre knows firsthand) and undesirable, to be replaced a dummy paternity and welcome. . . 25 .

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This was a striking confirmation of an intuition appeared p. L26

previous year already, when I wrote 26 :

"Seen in this light 27 , the main officiate Deligne it appear as that which would have shaped fashion like the deep forces that determine his life and deeds, but rather as **the instrument** all designated (in its role of "legitimate heir" 28) a **willingness collective** coherence without faults, focusing on the impossible task to clear my name and My personal style of contemporary mathematics. "

If Deligne occurred to me then as the "instrument" all designated (along with the first and principal "beneficiary") of a "collective will of an absolute coherence", Greenhouse strikes me now as **the incarnation** of that collective will, and as the **guarantor** of its acquiescence without reservation; a acquiescence to all the innumerable scams and shenanigans and even to the extensive "operations" of collective mystification and shameless appropriation, as long as they contribute to this "impossible task" vis-a-vis my modest and deceased, or vis-à-vis some other 29 who dared to réclamer me and make figure, against all odds, the "successor Grothendieck".

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It is a paradoxical and disconcerting aspects, among many others in the Funeral, that celui- p. L27

This is the work primarily, if not exclusively, of those who were my friends or my students, in a world I had never known my enemies. It is for this reason above all, I believe, and crops Seeds concerns you more than another, and that this letter I am writing you is intended as a **interpellation** in turn. Because if you are a mathematician, and if you are one of those who were my students, or who were my

friends, you are probably no stranger to the burial, whether by act or by collusion, and not least by tone vis-à-vis silence me about a thing which takes place before not your door. And if (for Extraordinary) you welcome my humble words and the testimony they bear thee, rather than stay inclosed behind your closed doors and send these unwelcome messengers, you will learn then perhaps it who was buried by all and with your participation (active or tacit acquiescence), not only the work of another, fruit and living testimony of love for mathematics streets; but at a level yet more secret than this funeral (which never says his name...) and deeper, it is a living part and essential to your own being, your original power of knowing, loving and creating, that you liked to bury by your own hands in the person of another.

25 This is, in almost exactly a footnote citation "The Gravedigger - or the whole Congregation" (n° 97, page 417).

26 This quote is from the same note (see note b. Previous p.), On the same page 417.

27 "In the light" this deliberate, he had just been speaking to eliminate at all costs "unwanted fatherhood" (or, "Intolerable" to use the expression used in the note cited).

28 This role of "heir" Deligne is a role both occult (while not published online Deligne can be suspected he may have learned something through my mouth), and at the same time clearly felt and accepted by all. This is one of Typical aspects of the double game of Deligne and his "style" particular, he knew playing masterfully on this ambiguity, and cash benefits of this heir tacit role while disavowing the late master and taking the direction of operations of wide-scale funeral.

29 I am thinking **Zoghman Mebkhout**, referred for the first time in the Introduction, 6 ("The Burial"), then in Note "My orphans" (n° 46) and notes (written later, after the discovery of the Burial) "Failure of a education (2) - or create and conceit "and" a sense of injustice and helplessness "(n° s 44 ©44)". I find the iniquitous retraction operation and ownership of the pioneering work of Mebkhout over the eleven notes forming the Cortère VII Burial, "The Conference - or beam Mebkhout and Perversité" (n° s 75-80). A survey and a more detailed story this (fourth and last) "operation" as the most extensive part of the survey "The four operations" under the name was necessary " **Apotheosis** " (Notes n° s 171 (i) 171).

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Of all my students, Deligne had occupied a place well apart, on which I lay at length During the reflection 30 . It was, by far, the "closer", as the only (student or not) to have assimilated intimately and endorsed 31 a broad vision that was born and raised in me a long time before we meet. And among all my friends share with me a passion for mathematics was Greenhouse, which was simultaneously made a bit of an elder, who was the closest (by far also) like that (especially) who for a decade had played in my work a unique role of "détonator" for some of my major investments, and for

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Most major key ideas that inspired

p. L28

my mathematical thinking in the fifties and sixties, until my departure. This very special relationship that both had in my person is not unrelated, of course, with the means exceptional one and the other, who assured them also exceptional influence over the mathematical ners of their generation, and those that followed. Apart from these common features, temperaments and ways to Serre and Deligne also seem as dissimilar as possible, the antipodes from each other in many ways.

Anyway, if there were mathematicians who, in one way or another, were "close" to my person and my work (and, what is more known for such), it is Serre and Deligne: one, an elder and a source of inspiration in my work during a crucial period of gestation of a vision; the other, the most gifted student of mine, for which I was my turn (and stayed, Burial or not...) the principal (and secret...) inspiration 32 . If a Burial was initiated in the aftermath of my departure (Now "death" in due form), and materialized in an endless procession of big "operations" and small to serve the same purpose, it could be done with the conjugate and closely bound contest the one and the other, the former elder and former student (see former "disciple"): one taking the discrete direction efficient operations, while sounding the rallying some of my students 33 , bad massacre **Father** (under the grotesque and ridiculous effigy of a bloated and bombinante **super nana**); and the other giving a "fire green "unqualified, unconditional and unlimited in pursuit of the (four) operations (for débinages, carnage, butchering and sharing of inexhaustible remains. . .).

3.9. Counting

As I have already hinted earlier, I had to overcome considerable internal resistance, or rather to be absorbed by a patient work, meticulous, tenacious, to achieve separate me from some familiar images, firmly established, with considerable inertia, which for decades had taken me (as in everyone, and to you too, surely) instead of direct perception and nuanced reality - namely, that of a mathematical world, which I continue to be joined

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a past and a work. One of the most deeply rooted of these images or preconceptions,

p. L29

is that it seems impossible from the outset that a scientist of international reputation, even a man who became a great mathematician can afford (if only in exceptional cases, and even less as an expensive

30 See above, on this, the group of the seventeen notes "My friend Peter" (n ° s 60-71) in SR II.

31 This "broad vision" that Deligne has indeed "intimately assimilated and endorses" had exerted a powerful fascination him, and continues to fascinate despite himself, while a driving force pushes the same time to destroy, to burst its fundamental unity and seize the scattered pieces. So his occult antagonism vis-à-vis a master denied and "deceased" is the expression of a division in his being, which profoundly affected his work after I left - work that remained far below quite prodigious means I had known him.

32 See on this subject the previous note b. p.

33 This is, precisely, the five other students who have chosen as the main theme (as Deligne) of the one cohomology of varieties.

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3.9. Counting

habit. . .) Small or large scams; or if it fails (for old habit again) to soak it hand himself, he can nevertheless welcome with open arms such operations "(defying all sense decency at times) "mounted by another, and where, for one reason or another, it is benefiting. This inertia of mind was such a home, it there less than two months, after a long reflection which had already continued for a whole year, I finally glimpse shyly Serre also that maybe it was something to do in this Burial - something that now appears to me as evidence, even apart from the eloquent conversation I had with him lately.

As with all members of the "middle Bourbaki" that greeted me kindly when I started, and especially in his case, it was for me a kind of "taboo" tacit around him.

He represented the epitome of a certain "elegance" - a style which in no way limited to the form but also includes a rigorous, scrupulous honesty.

Before I discovered the burial on April 19 last year, the idea would not come to me, even dream, one of those who had been my students is capable of dishonesty in the exercise of his profession, whether vis-à-vis myself or anyone else; and that is the most brilliant of them, that also had been closest to me, that such an assumption would have seemed to me the most absurd! Yet from the moment already my departure and throughout the following years and until today, I had ample opportunity to realize how his relationship with me was divided. More than once, too, I saw user (For the pleasure, would have said) power to discourage and humiliate, when the occasion was propitious. I was deeply affected each time (plus, no doubt, that I would not have me admit...). They were there well enough eloquent signs of a profound disruption, which (I had had ample opportunity to see) was by no means limited to his person, even in the more limited circle of those who had been my students. Such a disruption, the loss of respect for the person of another, no less blatant and less deep, as manifested by what is called a "professional dishonesty." Nevertheless the

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discovery of such dishonesty came to me as a complete surprise and a shock.

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In the weeks that followed this stunning revelation, followed by a "cascade" of other the same water, I also made gradually account that a scheming among some of my students ³⁴, had already begun in the years prior to my departure. This was particularly evident, precisely among the brightest of them - that, after my departure, which set the tone and (as I wrote sometimes) "took the discreet and efficient management of operations." Looking back nearly twenty years, scheming I will now appear as obvious, he "was palpable." If I then chose to overlook what happening, all in pursuit of the "white whale" in a world "where everything is order and beauty" (as he liked to imagine myself), I now find that I did not know then assume responsibility my responsibility, vis-à-vis students learning at my touch a job I love; a profession that is something else more than just knowledge, or the development of a "flair". By vis-à-vis complacency of bright students, he enjoyed it (automatically decree) to deal in "separate beings" and above suspicion, I contributed my part then ³⁵ to the outbreak of corruption (unprecedented, to me it seems) I see spread today in the world and among the beings who were dear to me.

Certainly, for their immense inertia, it took an intense and sustained work to separate myself from what was commonly called the "illusions" (not without some regret intonation...), and I would call rather

34 See previous footnote b. p.

35 This "contribution" - there appears notably in the note "Being apart" (n ° 67) and two notes in "The Ascension" and "L" ambiguity "(n ° s 63) and again (in a somewhat different light) at the end of the note "The eviction (n ° 169). Another type of "contribution" appears in "Fatuité and Renewal", with attitudes of complacency vis-à-vis young

mathematicians less brilliantly endowed. This awareness of responsibility in a general degradation culminates in "Sport mathematical" (n ° 40).

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made ideas; on myself, on a medium to which I had identified myself once, on people I loved and maybe I still love - me "separate" these ideas, or rather, **let me come off** . This was a job, yes, but never a struggle - a job that brought me, among many other things price, sad moments sometimes, but never a moment of regret or bitterness. Bitterness One way to avoid

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knowledge, to evade the message of an experience; to maintain a certain

p. L31

tenacious illusions about oneself at the expense of another "illusion" (negative, sort of) on the world and on others.

This is without bitterness or regret that I see coming off of me one by one, as much weight bulky or overwhelming, these ready-made ideas that had been me "dear", by old habit and because they were by the "forever". They had become, for sure, like second nature. But This "second nature" is not "me." In separate myself piece by piece is not a tear or even frustration, one that would have stripped things that for him the price. Counting" I speak just as the reward and the fruit of **labor** . His sign is immediate relief and beneficent, a **liberation** welcome.

3.10. Four waves in motion

As fair, this letter does not look anything like what I had planned for me putting. I was thinking mainly there to make a small "topo" on Burial: this happened in broad, tu will believe or not (I myself have struggled to believe...), but that it though, no doubt, even that that you like it or not, black on white publications such as book or periodical, such a date such a page, you have only watch - besides everything is unscrewed from the menu in Crops and Seeds; See "Four Operations" such notes - take it or leave it! And if you rather abstain to read me, of others will do well in your place. . .

Finally there was nothing of it - yet this letter is already at Cape thirty pages, while

I was planning five or six in all and for all. Without even I have it on purpose, these are the essential things

I was led to say, the pages, while this "bag" I had been so looking forward to empty (well there

Obviously for once, the first pages!) it is still not unpacked! It does not even tickle me

in the fingers, envy dissipated along the way. I understood that this was not the place. . .

Actually, Part IV of Crops and Seeds (and longest of all) with name "The Burial

(3) "or" The Four Operations "comes from a" note "originally scheduled as" a little history "precisely to summarize in outline what was revealed to me the investigation to surprise (and breezed) of the year last, continued in Part II ("The Burial (1)" or "The dress of the Emperor of China"). I was thinking there would be for a "note" of five or ten pages, not more. Eventually leading to another, it did start the investigation, there were nearly four hundred pages - nearly double

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the part I was supposed

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summarize or take stock! It is therefore still missing a little rundown in question, whereas in les six hundred pages of Crops and Seeds are devoted to the investigation of the Burial. It a little silly, That is true. But there will be time to add it to a third party in the Introduction (which is more than ten or twenty pages close), before entrusting my notes to a printer.

The five parts of Crops and Seeds (the last is not over yet, and never will be probably not before a few months) are alternating (three) vagues- "meditation" and (two) vagues- "investigation". There is like a reflection in miniature of my life for the last nine years, which consisted alternating, too, of "waves" that arose two passions that now dominate my life, passion meditation and mathematical passion. And truth be told, the two parties (or "waves") of crops and

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3.10. Four waves in motion

Seeds that I just described to name the cookie cutter "investigation" are those who are just arisen directly from my roots in my past mathematician, driven by mathematical passion

Me and the egotistic attachments that are rooted in it.

The first wave, "Fatuité and Renewal," is a first encounter with my past mathematically cian, leading to a meditation on my present, I just find the roots in the past.

Without this having been the least premeditated, of course, this part establishes the "basic tone" for the entire suite Crops and Seeds, it is like an inner preparation, providential and essential for as-summarize the discovery of the "Burial in all its splendor" which closely follows, in the second wave, "The Burial (1) - or the dress of the Emperor of China." More than an "investigation", indeed, is indeed the history of this discovery daily, its impact on my being, my efforts to deal to thereby tumbled over me without warning, to get to the place incredible in terms of my experience, what eventually became familiar to me, make it intelligible somehow. This movement leads to a first interim result in the note "The Gravedigger - or the whole Congregation" (n ° 97) first attempt to discern an explanation and meaning in something that, for years and so now more acute than ever, taking on the appearance of a formidable challenge to common sense! This same second movement also leads to an "illness episode" ³⁶ ,

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forcing me to p. L33

absolute rest and ending more than three months all intellectual activity. This was at a time I thought I was again about to be completed Crops and Seeds (in the last task "Stewardship" closely. . .). Resuming normal activity towards the end of September last year, and preparing me to finally put the finishing touches to my notes remained in distress, I always believed in having two or three terminal add notes, including one concerning the "health-incident" in which I had just passed. In fact, from week to week and month to month, it still a thousand pages that came - more than double what was already written - and this time, it is clear that I still have not finished ³⁷ ! In fact, this long interruption, during which I almost lost contact with a substance that was all there a hot (and hot!) at the time of exit, I practically forced to return to this substance with new eyes, if I would limit myself to "close" stupidly the last end of a "program" with whom I had lost touch a living.

Thus was born the third wave in the vast movement known Crops and Seeds - long "Wave-meditation" on the theme of yin and yang, the slopes "shadow" and "light" in the dynamics of things and in human existence. Following the desire for a deeper understanding of the underlying forces at work in the Funeral, this meditation yet acquired early autonomy and unity own, and doing right away to what is most universal, such as to what is most intimately staff. It was during this meditation I discovered this thing (obvious indeed little we the question) in my spontaneous approach to the discovery of things, be it in mathematics or elsewhere, the "basic tone" is "yin", "female"; and also, and above that, contrary to what is going on Most often, I remained faithful to this original nature in me ³⁸ , without the influence or to correct ³⁶ This episode is the subject of two notes "The incident - or the body and mind and" The trap - or facilitated and exhaustion "(n ° s 98, 99) opening the "Procession XI" named "The deceased (still not dead)."

³⁷ "Still not finished" - if only because it has yet to come part V, which is not complete at the time of writing these lines.

³⁸ This "faithful to my original nature" was by no means full elsewhere. For a long time it was limited to my work mathematics, while elsewhere, particularly in my relationships with others, I followed the general trend by developing and giving primacy to traits in me felt like "manly", and repressing the "feminine" traits. This is discussed so some length in the group notes "Story of a Life: a cycle in three movements" (n ° 107-110), which opens virtually the Key of Yin and Yang.

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conform to the dominant values in honor in the surrounding areas. This discovery appears to me

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first as a mere curiosity. It is only gradually that nevertheless revealed as a key

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essential for an understanding of the Burial. Moreover - and this is something that seems to me more reaching yet - I see now very clearly and without residue doubt this: if, with of no exceptional intellectual gifts, I have nevertheless constantly give my full measure my mathematical work, and produce a work and bring forth a broad vision, strong and fruitful, it is nothing but this loyalty I owe, in the absence of any concern to abide by the standards, whereby I surrender with total confidence in the original knowledge instinct, without prune or not to amputate in nothing that is its strength and its delicacy and undivided Nature. This is however not the creativity and its sources located in the center of attention in this meditation "The Burial (2) - or the Key of Yin and Yang", but rather "conflict", the lock status creativity, or dispersion of the creative energy by the clash in the psyche of antagonistic forces (mostly hidden). Aspects of **violence** , violence (apparently) "Free", "for fun" had puzzled me more than once in the Burial, and have resurrected a host of life situations Similar. The experience of this violence was in my life as the "hard core, irreducible to experi- Experience the conflict. "Never before have I myself faced with the tremendous mystery of existence and

the universality of violence in human life in general and mine in particular. It is that mystery that is at the center of attention throughout the second half (the slope "yin" or "decline") of the meditation on the yin and yang. It is during this part of meditation that gradually emerges a deeper vision of the meaning of the burial, and the forces that express it. This is also the part of Crops and Seeds has been most fruitful, it seems, at the knowledge of myself in putting me in touch with the issues and critical situations and making me feel just that character "nerve", which until last year still remained evaded.

Once at the end of this interminable "digression" on the yin and yang, I always stayed at little closely with my "two or three notes" to write again (plus one or two others, at most, one already had his name all found "The four operations." . . .), To be completed Crops and Seeds. We know the rest: these "few last notes" have come to the longest part of Crops and Seeds, nearly

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five hundred pages. This then is the "fourth wave" of the movement. It is also the p. L35

third and final part of the Burial, and I gave him the name "The Four Operations", which is notes also that of the group ("The four operations (on a relief)") which is the heart of this QUA trième breath of reflection. This, in Crops and Seeds, the "investigation" in the strictest sense of the term - with this grain of salt, however, that this investigation is not limited to pure "technical" appearance to appearance "Detective" in stock, but that thinking is moved foremost, as elsewhere in crops and Sowing, the desire to know and understand. The tone is more "muscular" certainly in the first part of the Burial, where I was still a little to rub my eyes and asked me if I was dreaming or what! This prevents the facts updated the pages often come to the point appointed to illustrate on the spot many things that were only touched upon in passing here and there, to be embodied in specific and vivid examples. It is in this part also the digressions mathematic play an important part, stimulated by a renewed contact (the survey necessities) with a substance that for fifteen years I had lost sight of. There is also, at the other end of the spectrum, stories from life misadventures My friend Zoghman Mebkhout (to which this part is dedicated), to hands of a "mafia" top flight and unscrupulous, he had no dreamed of embarking on the subject (certainly exciting, and apparently harmless) of the cohomology of varieties of all kinds. For a thread

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3.11. And movement structure

succinct driver through the intricate maze of notes, sub-notes, sub-notes. . . all that part "investigation", I refer you to the table of contents (notes 167 @ 176 7), and the first notes of the pack, "The detective - or life in pink" (No. ° . 167 @I, however, that this note, dated April 22, was then a little "overwhelmed" because, twists of twists, this survey I

believed then (almost) full-term, continued to zinc stranded for two more months.

The fourth blast was extended over four months in a row since mid-February until about the end of June. It is in this part of the discussion above, a "work room" meticulous and stubborn, that settled gradually over days and pages, a concrete, tangible contact with the reality of the Burial; I happen to me "familiar" with it, in fact, ever so slightly, notwithstanding the visceral reactions of refusal he had above-cited (and continues to arouse) in me, preventing a true plug-knowledge.

This long reflection takes his departure with a retrospective on the visit of Deligne (which was discussed already this

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letter), and it ends with reflection "last minute" about my relationship to Serre and on p. L36 the role of Serre in the Burial 39 . It was to have tacitly put Serre "harmless" in favor of this "Taboo" of which I have spoken, now seems the most serious flaw perhaps was left in my understanding of Burial, until last month yet - and it is this reflection "last minute" which suddenly seems to me the most important thing that I have made this "fourth breath" of Crops and Seeds for a less tenuous understanding, more substantial of the Burial and forces it express.

3.11. And movement structure

I think I finished a tour of the most important things I wanted to tell you about

Crops and Seeds, to make you already know "what it is" surely I have said more than enough to enable you to judge whether **you**, you consider that the letter of (over) a thousand pages that should follow "about you" or not - and as a result, if you go or not to continue your reading. In case it would be "yes", it seems useful even join some explanations (of a practical nature, in particular) about the **form** of crops and Sowing.

This form is a reflection and expression of a **mind**, I tried to "pass" in the pages foregoing. Compared to my previous publications, if a new quality which appears in Crops and Seeds, and also in "In the Fields of Pursuit" from which it came, this is probably the **spontaneity**.

Certainly, there are conductors son, and great questions, which give coherence and unity to all reflection. It nevertheless continues daily without "program" or "plan" prearranged, without the matter ever set me in advance "what was to be demonstrated". My purpose is not to demonstrate,

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but to **discover**, to penetrate further in an unknown substance to condense p. L37

which is still only approached suspicion, glimpsed. I can say without any exaggeration really, that

In this work, there is not a day or a night of reflection, which is held in the field

the "expected" in terms of ideas, images, associations that were present when I sat

39 In parts c, d, e, the note "Family Album" (n ° 173), the last is dated June 18 (there are exactly ten days).

There is a single note or notes portion of which the date is later (ie, "Five Theses for a massacre - or filial piety", n °

176 7, dated the following day June 19). You will notice that in this fourth part of Crops and Seeds or "party investigation"

Contrary to what happens to others, the notes often follow in a logical rather than chronological. So,

the last two notes of the Burial (forming the "De Profundis" final) are dated April 7, two and a half months before the

Note that I just mentioned. I note that even when outside the party "investigation" itself to the Burial (3)

(notes n ° s 167@176 7), forming the "fifth step" of the funeral ceremony (including the Key of Yin and Yang is the second)

the notes are followed in the order they were written, with rare exceptions.

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before the white sheet, to stubbornly pursue a "thread" tenacious, or to take another one

just appeared. Each time, which appears in thinking other than what I would have been able to predict,

had I ventured to try to describe in advance somehow what I thought I saw before me. The

Most often the reflection engages in entirely unexpected ways initially, to lead to

new landscapes, equally unexpected. But even though it would stick to a route more or less

provided, that reveals to me the trip as the hours differs as much from the image I was putting myself

on the way, a real landscape, with its cool shade and warm light games, delicate perspective

changing at the whim of not due hiker, and the innumerable sounds and these unnamed perfume worn by a

breeze danced herbs and sing the forests. . . - that such a living landscape, elusive, differs from

postcard, beautiful and successful, if "just" as it is.

It is the continued reflection of trafficking, during a day or a night, which is the undivided unity,

living and individual cell in some way; overall reflection (Crops and Seeds in

case). It is to each of these units (or the "notes" 40, forming

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melody. . .) That the body of a

p. L38

living organism is at each of its individual cells, of infinite variety, each fulfilling a

place and a function that belongs to her. Sometimes, however, even in a reflection of a continued

trafficking is perceived afterwards important hyphenation, who are distinguished several such units or messages,

therefore each receives its own name and thereby acquires an identity and own autonomy. In

other times by cons, thinking that was found cut short for one reason or another (chance

mostly), spontaneously prolongs the next day or two days later; or a reflection of continued

two or more consecutive days nevertheless appears, in retrospect, as if she had continued

in one shot; it seems that only the sleep need has forced us, against our will, to include

some hyphenation (somehow "physiological"), only marked by a lapidary date indication

40 Originally, writing Fatuité and Renewal, the name "note" was synonymous to me "annotation", playing the role

of a page of basic note. For typographical reasons of convenience, I preferred to reject these annotations at the end of the text

(Notes 1 to 44, pages 141 and 171). One reason for this was that some of these "notes" or "notes" extend

on one or more pages, and become longer as the text they are supposed to comment. As for "units"

undivided "first draft" of reflection, for lack of a better name I called then "sections" (less forbidding than

"Paragraphs!").

This, and the structure of the text, changing with the next section, which initially was called "The Burial", and

became "The Burial (1)" (or "The dress of the Emperor of China"). This thinking chained to the double-note "My

Orphans "and" Denial of inheritance - or the price of a contradiction" (Notes n ° s 46, 47, pages 177, 192), coming annotation

the ultimate "in" Crops and Seeds (or rather, of what would be his Part I or Fatuité and Renewal), "The

weight of a past" (n ° 50, p. 131). Subsequently, are added to it other annotations in the same section (notes n ° s 44 @nd

50) and others note annotations coming in to "My orphans," who in turn gave to birth new notes

annotantes; besides, this time genuine footnotes page, when provided annotations were (and remain, a

both black on white set) of modest dimensions. Thus, theoretically, all that part of Crops and Seeds (which was

then supposed to constitute the second and terminal part) appeared as a set of "notes" to the "section" "Weight of

past. "For the inertia acquired subdivision in" notes "(instead of" sections ") was still held in three parts

following, where I used together as a means of annotation for a "first draft" of reflection, as well footnote

page (when its size permits) that the subsequent note to which reference is made in the text.

Typographically, the "note" is distinguished from "section" (used in RS I as the basic unit of the "first throw" of the reflection) by a sign such as (1), (2), etc. (including the note number in brackets and "floating" in a widespread use for references to annotations), placed either at the beginning of the note, either as a reference to the place appropriate text which refers to it. The sections are designated by Arabic numerals 1 to 50 (excluding off-putting Exponents and, as I was brought in to use for notes, by the imperatives of a practical nature). That said, we can say that there is no essential difference between the function of the "sections" in the first part of Crops and Seeds and the "notes" in subsequent parts. The comments I make about this function in this part my letter ("Spontaneity and structure") applies to both "sections" of SR I, even though I use the common name "Notes."

For further details and conventions, especially regarding reading the contents of the Burial (1), I refer to the Introduction, 7 (Scheduling The Funeral), in particular pages xiv - xv.

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(Or even several) between such consecutive paragraphs of the "note" planned, which then distinguished as Such a unique name.

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Thus, each note of Crops and Seeds has its own individuality, a face and a function p. L39 distinguish it from any other. For each, I tried to express his own particularity by its **name**, supposed return or recall the essential, or at least something essential, what she "has to say." Each, I truly admit, before anything else, by name, and it is by this name as I call it, Each time thereafter I need assistance.

Often the name was presented to me spontaneously, even before I ever thought. It is his appearance unexpected that tells me, then, that this note then that I am still writing is about to be completed - she said what she had to say, the time to complete the paragraph I'm writing ... Often, the name appears just as spontaneously, by reading the notes from the day before or the day before, before continuing my thinking. Sometimes it changes somewhat in the days or weeks the onset of the new arrival note where it is enriched with a second name which I had not thought first. Many notes have a double name, expressing two different lights, sometimes Further, its message. The first double-names that will be presented to me from the beginning of "Fatuité and Renewal" is "Meeting with Claude Chevalley - or freedom and good feelings" (n ° 11).

Only twice have I already had a name in mind before starting a note - and both times, moreover, he was jostled by the events!

It was, in retrospect only, Reverse weeks or even months, that appears an **overall movement** and a **structure** in all notes following overnight. I tried to grab one and the other by various groups and sub-groups of notes, each with his own name, which gives it its existence clean and its function or message; much like the organs and member of the same body (for resume image sometimes), and such portions of its members. Thus, in the "All" Crops and Seeds ago has five "parts" of which I have already mentioned, each has a good structure to it: Fatuité and Renewal is grouped into eight "chapters" I to VIII 41, and all three portions

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the Burial (which they p. L40 also gradually emerged over the months. . .) Is formed of a long and statutory Procession twelve "Processions" I to XII. The last of these, or rather the "**Funeral Ceremony**" (that is his name) to what had routed (without too suspecting anything, surely...) the previous eleven processions, is truly gigantic dimensions, measurement of the Work she dedicates solemn Funerals: it encompasses substantially all of RS III (L Burial (2)) and all RS IV (L Burial (3)), with its nearly eight hundred pages and in the hundred and fifty notes (while initially, the famous ceremony was planned to comprise only two!). Driving with skill (and with his well-known modesty...) By the officiating in person, the ceremony continues in new "time" or separated liturgical acts, opened by **the Funeral Eulogy** (one would have suspected) and ending (as it should) in the **De Profundis** final. Two others among these "time", named one of "**The Key of Yin and Yang**", the other "**The Four Operations**", are each (by far) the largest part of the portion (III or IV) Crops Seeds and wherein it is inserted, and also gives its name to it.

Throughout Crops and Seeds, I took care (as the apple of my eye!) Of the table materials, revise the constantly to reflect the ever renewed influx of unexpected Notes 42 and 41 In Fatuité and Renewal, I refer occasionally to these chapters as "parts" Crops and Seeds, which must be confused, of course, with the five parties that have already been made, and only appeared subsequently.

42 These unexpected notes, there are particular ones "from a footnote page that has taken prohibitive dimensions tive. "Usually, I placed immediately after the note to which it relates, giving him the same number

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make him reflect as finely as I could to set the movement of reflection and structure delicate that comes to light. It is in Parts III and especially IV (which he just mentioned), "The Key" and "The Four Operations" that this structure is found to be the most complex and the most nested.

To keep the text the character of spontaneity and the unexpected aspects of reflection as continued and it was really lived, I did not want to precede the notes by name, while it each time only appeared after the fact only. It is why I

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advise you in the end

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read every note, to defer you to the table of contents to learn how the note is called; and also, on occasion, to appreciate at a glance how it fits in thinking already pursued, even in the yet to come. Otherwise you risk losing you without hope a set in indigestible and motley appearance of notes to the sometimes bizarre numbering, not say grunt ⁴³; like a traveler lost in a foreign city (oddly thrust there at the option of caprice generations and centuries ...) without a guide or just a plan to help guide them.

In the manuscript for printing, I plan to include over the names of "chapters" and other text groups of notes and sections, with the sole exclusion of ratings (or sections) themselves. But even then the occasional use of the contents seems to me indispensable, not to get lost in a jumble of hundreds of notes, according to the single file-tail over a thousand pages. . .

3.12. Spontaneity and rigor

Spontaneity and discipline are the two sides "shadow" and "light" of the same undivided quality. It is from their nuptials, only, that is born this particular quality of a text, or be, we can try to mention a phrase like "quality of truth." If in my previous publications, spontaneity summer (if not absent, at least) to a minimum, I do not think by its late flowering in me, rigor became less either. Rather, the presence in itself of his girlfriend gives the yin rigor one dimension, a new fertility.

This rigor is exercised vis-à-vis itself, ensuring that the "tri" delicate that it must operate in the multitude of what happens in the field of consciousness, to settle there incessantly significant or most fortuitous or accessory, not thickens and congeals into censorship and automorphisms complacent. Only curiosity, thirst for knowledge in us awakens and stimulates such vigilance without heaviness, such vivacity, against the immense inertia, omnipresent, the "slopes (say) natural" carved by the preconceived ideas, expressions of our fears and our conditioning.

And this same rigor, the same careful attention also towards spontaneity as to what which takes aspects, to share it, again, these "slopes" everything is natural, of course, and distinguish

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what actually flows from the deep layers of the being, the original impulse of

p. L42

knowledge and action, bringing us to meet the world.

At writing, the rigor is characterized by a constant concern to identify as fine way, too faithful as possible, using the language, thoughts, feelings, perceptions, images, intuitions. . . it is to express, without simply a vague term or approximate where the thing to express is contoured clear-cut, or a term of a dummy accuracy (and thereby also deforming) to express

assigned an exponent or even as needed - avoiding the prohibitive task of having to renumber the same time all all subsequent notes already written! These notes, from a footnote page to another, are preceded in the table materials for the sign! (At least in the Burial (1)).

⁴³ For the purpose of such appearance numbering perhaps preposterous at times, I am referring to the previous note footnote to this endless letter.

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3.12. Spontaneity and rigor

thing that remains shrouded mists of what is still only approached. When we try to pick as in the moment, and only then, the unknown thing reveals its true nature, and until the full light of day perhaps, if done for the day and our desire makes him strip off its shade sails and mists. Our role is not to attempt to describe and fix what we do not and which escapes us, but to take notice humbly, passionately, the unknown and the mystery surround us on all sides.

This means that the role of writing is not to record the results of a search, but the process same results - the work of love and the works of our love for our Mother the World, the Unknown, who tirelessly calls us in it to even know of its inexhaustible Corps throughout

it where we are the mysterious ways of desire.

To make this process, flashbacks, that qualify, clarify, deepen and sometimes correct the "first throw" of writing, or a second or third part of the same process of the discovery. They are an essential part of the text and give it meaning. This is why the "notes" (Or "notes") placed at the end of Fatuité and renewal, and to which reference is made here and there in the fifty "sections" that constitute the "first draft" of the text, are an inseparable and essential part of it this. I urge you to see you there to progressively and at least the end of the reading of each section displaying one or more references to such "notes." It is the same for page footnotes in other parts of crops and Seeds, or references, in such a "note" (here constitute the "main text"), subsequent to such notes, which is therefore based on "return" on it, or annotation. This, with my Board not to get separated during reading the table of contents, the main recommendations reading I see to make.

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One last question, practice, which will close (somewhat prosaically) this letter it is time to finish. p. L43
There was some "panic" at times, to prepare the various fascicles of Crops and Seeds for pulling the duplicated service to college, in time for the draw is done (if possible) before summer holidays. In a hurry, there is a sheet of notes footer last minute, to add Issue 2 (The Burial (1) - or the dress of the Emperor of China), which has "skipped". This was especially rectification of certain clerical errors, appeared recently only being written in Four Operations. There is one of these low-notes is more consistent than others, and I would like here. This is a note to the note "The victim - or both silences" (n ° 78 @page 304). This note, which I tried, among other things, determine my impressions (all subjective, of course) to about how my friend Zoghman Mebkhout "internalized" at that time the iniquitous spoliation which it was fresh, was felt by him as unfair to him, whereas I seemed almost to put "in the same boat" with spoilers. What is certain is that in this note, which does not claim not give anything but impressions related to a "moment" particular I has only one sound bell, leaving the unspoken (and as a matter of course, no doubt) some other sounds all as real (and less debatable perhaps). Still, that reflection on this delicate subject deepens significantly, one year apart, in the note "Roots and Solitude" (n ° 171). It has not provoked Reserves from Zoghman. Other thoughts on this subject can also be found in the two notes "Three milestones - or innocence," and "The dead pages" (n ° s 171 (x) and (xii)). These three notes are part of "The Apotheosis", which is part of the Four Operations devoted to the operation of ownership and misuse of the work of Zoghman Mebkhout.

It only remains for me to wish you good reading - and the pleasure of reading you in my turn!

Alexandre Grothendieck

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3. U DO LETTER

Epilogue in Postscript - or context and prerequisites of a debate

February 1986

3.13. The bottles spectrograph

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That@seven months concoctions that this letter was written, and nearly four months it is sent with the p. A44

"pad" that goes with it. And with a dedication of my hand in each 44 . As a "bottle in the sea", or rather, as a slew of such stray bottles, my message went to land and move up in the most remote corners of this mathematical microcosm that was familiar. And direct echoes and indirect returning in me over the days, weeks and months, I am unexpectedly as before a vast radiography mathematical community, which would be taken by a sprawling spectrograph, which my innocent "bottles" are many travelers antennas. So (noblesse oblige!), I who Yet no lack of something to do, that placed me in front of the new task to decipher the radio and accountability, as best I can, what I have read. It will be for the sixth (and last is promise!) part of Crops and Seeds. So it will crown if God willing, "the great sociological work of my old age. "For now, the first few comments.

To accommodate my very modest scale fleet, which seems to dominate by far, is the tone mid-mocking, half-surly, to the tune of "Here Grothendieck becomes paranoid in his old age," or " There is one who takes himself very seriously " - and voila I have had yet one letter this! style then 45 , plus two others in that of a cozy derision and delighted to itself 46 . Most of my recipients mathematicians, including among those who were my students responded with silence 47 - a silence tells me along.

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This prevents that I already had a voluminous correspondence. The vast majority of letters are in p. L45

shades of polished embarrassment which often friendly would be, for the sake of propriety. two or Three times I felt this embarrassment behind and as he sifted through the heat of a still alive feeling. Most often, when the embarrassment is not expressed by the protests of good feelings (on its own account, or that of others), it is through compliments - I© never have as received in my life! Sure the air of the "great mathematician", "beautiful pages" (creativity "and all that"...) "indisputable writer" and many more. For good measure, I even got a heartfelt compliment (and not ironically) the richness of my inner life. Needless to say, all those letters, my correspondent has custody to get to the heart of any matter, let alone to get involved personally; the tone is rather of that which would have been "requested to provide an opinion" (in the words of one of these letters) on a matter a little shady, and what is more, hypothetical or imaginary, and certainly not least, a case **that does not concern him personally** . When it© mine yet to touch it, to any of these questions, it© fingertip and keep it as far away from him as he can - whether in favor of good advice provided to me, or conservative contingent, or the commonplaces of use when it is not clear

44 There are a few exceptions, including especially the colleagues I do not know personally, and who received only fascicles 0 and 4 of the provisional draw, bonus for their active participation in my burial.

45 This letter comes from one of those who were my students, and in addition, one of my coenterrés.

46 On the part of two of my former colleagues in Bourbaki, and one of which is one of the elders who welcomed me with a warm well-veillance, when I started.

47 For a hundred and thirty-one shipments mathematicians, there was far fifty-three among the recipients who have given signs of life, were it only to acknowledge. Among them, there are six of my former students - I have not had any sign of life the other eight.

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3.14. Three feet in a dish

what to say, or otherwise. Some still have suggested that there may be things not very normal that happened - while taking care to leave in the largest wave of what and who it is. . .

I also had frankly warm echoes from fifteen or sixteen of my old and new friends. Some expressed an emotion, without inclination to want to hide or silence. These echoes, and other equally warm from me outside the mathematical community, have been my reward for a long and lonely job, made not only for myself, but for everyone. And among the few hundred and thirty colleagues who received my letter, there are three who responded in the full sense, by getting involved themselves, instead of merely a distant comment on events of the century. I received another such still echo a corresponding non-mathematician. They were real **replies** to my message. And that was also the best of my rewards.

3.14. Three feet in a dish

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Many of my colleagues and friends mathematicians hoped that Crops and Seeds opens p. L46 a broad **debate** in the mathematical community, the state of morals in that environment, ethics of mathematicien, and the meaning and purpose of his work. For now, the least we can say is that it does take not the way. As of now (and for the game rigor of words) the debate on everything Burial seem to be replaced automatically by the burial of a debate!

That does not stop, like it or not and despite the silence and apathy of the many, that a debate is well and truly open. It is unlikely to ever take the size of a real public debate, or even (God forbid!) the pump and the stiffness of the debate "official". Many are in any case those who already took the lead quickly, to close in their hearts even before having read, highlights the eternal and unchanging consensus that "all is for the best in the Brave New World "(mathematics, in this case). Maybe yet a questioning eventually come from the **outside** , gradually, by "witnesses" who are not part of the same medium, are not Prisoners of its group consensus, and therefore do not feel (even in their hearts) in question personally.

In almost all the echoes received, I see the same confusion about the two preliminary questions: **whereupon** door "debate" raised (at least tacitly) by Crops and Seeds; and which is adapted to take knowledge and pronounce it, or again, to form an opinion with full knowledge of the facts. To , I would like here well mark **three "benchmarks"** . This will not stop, of course, those who hold confusion to continue to maintain it. At least, for those who want to know what it is, Perhaps this can he help them not to be distracted by the sound effects in all directions (including same the best intentioned. . .).

a) Such sincere friends assure me that "everything will eventually work out" (or "all", I guess, means "things" that would inadvertently damaged ...) I just had to make my comeback, "intrude by new work ", give lectures etc. - and the other would do the rest generously be told." We was a bit unfair when even the sacred Grothendieck "and rectify discreetly and more or less conviction 48 (*);

even the pat his shoulder in a paternal air, giving it the "great p. L47 mathematician ", just to calm a nobody altogether respectable, which unfortunately pretends to get upset and make unwanted waves.

48 (*) I have had occasion to note already several such discrete signs, showing that we have taken note that the lion woke up. . .

3. U DO LETTER

It is not, as suggested by these friends, "concessions" or to let go. I have to Personally, no need compliments or even sincere admirers, and not to "Aliés" for "my" cause or for any reason whatsoever. It is not me that this, which leads me to wonder, or my work, that speaks for itself, were it to the deaf. If this debate also concerns, among others, myself and my work is just as **revealing** else, through the reality of a burial (of more telling effect).

If there is "someone" seems to me to inspire a sense of alarm, anxiety and urgency, is not my person, nor any of my "coenterrés". But there is a collective being, both elusive and very tangible, often talked about and that is careful not to ever consider, and which not " **the mathematical community** . "

In recent weeks, I finally see her as a person of flesh and bone, and whose the body would hit a deep gangrene. The best food, the most selected dishes, she turn into poison, which is spread and more entrenched evil. Yet there is an irresistible bulimia to binge again and still more as a way likely to deceive, about a bad she would not want to read at any price. Whatever one may say it is a waste -The the simplest same words have lost their meaning. They cease to be holders of a message, and no longer serve that trigger the clicks of fear and denial. . .

b) Most of my colleagues or old friends even willing, when they venture an opinion, surround themselves conservative contingent, like "if it were true it would be unacceptable in effect..." - History going back to bed happy in their beds. I had grown yet clear. . .

Looking back seven months, I can now state that **for almost all of the facts** reported and commented in Crops and Seeds, **their reality is not the subject of any controversy** . I will return away on a few exceptions, which will be also marked as such, each in its place, for all other facts, after writing the original version

Crops and Seeds, confrontation

careful with some of the key concerned (ie pierre Deligne Jean-Pierre Serre and Luc Illusie) has eliminated the errors of detail, and reach an agreement unambiguous about material facts themselves 49 (*).

Thus, the debate bears no relationship to the facts, which is not at issue, but the question **if the practices and attitudes described by these facts should be considered and accepted as "normal" or not** .

This is practical in my testimony I call scandalous (perhaps wrongly...); as abuse of trust or power and as blatant dishonesty, reaching more than once dimension of the unjust and blatant. The pretty unimaginable that I had to learn again, after becoming aware of these facts (unthinkable there another fifteen years) is that a large majority among my fellow mathematicians, and even among those who were my students or friends, consider today these practices as normal and perfectly honorable.

c) There is a second way for many of my colleagues and old friends to maintain confusion.

It is on the air: "Sorry, but you are not expert in the field - do not ask us to take knowledge of facts, which we pass (providentially...) over the head. . . "

I say, on the contrary, to learn about key facts, there is no need to be "specialist" (sorry my turn!), or even know his multiplication table or the Pythagorean theorem.

49 (*) I am pleased to express my gratitude to all three, for the goodwill they have shown on this occasion, and gives them their good deed for total faith, for everything concerning issues of material facts.

3.14. Three feet in a dish

Not even having read "The Cid" or the Fables de la Fontaine. A ten year old normally developed is just as capable as the most renowned specialists (even better than he...) 50 (**).

Let me illustrate this point by just an example, the "first come" from the Burial 51 (***) .

There is no need to know the ins

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and outs of the multifaceted mathematical concept and very delicate p. L49

of "reason" or to only have his certificate of studies to learn about the following facts, and to make judgments about them.

1 °) Between 1963 and 1969 I introduced the concept of "reason"; and I developed around this concept a "Philosophy" and "theory", remained partially conjectural. Rightly or wrongly (no matter here), I consider the theory of motives like what I brought to deeper mathematical my time.

The extent and depth of "motivic yoga" is also now more challenged person

(After ten years of almost complete silence about it, soon after my departure from the mathematical scene).

2 °) In the first and only book (published in 1981), mainly devoted to the theory of motives (and where the name, introduced by me, in the title of the book), the only passage which could be suspected the reader that my modest person is linked in any way to any theory that might look like

that developed extensively in this book is on page 261. This passage (two lines

half) is to explain to the reader that the theory developed here has nothing to do with that of a man named Grothendieck (theory mentioned here for the first and last time, without further reference or precision).

3 °) There is a famous conjecture, called "Hodge conjecture" (no matter what she is talking about), which the validity implies that the so-called "other" memorandum theory developed in gloss volume is identical to (a very special case) that I had developed, in full view of everyone, almost twenty years before.

I could add a 4 °) as the most prestigious of the four signatories of the book was my student,

and that is none other than me he has learned over the years that he has brilliant ideas there as

if he find them at the moment 52 (*), and 5 °) that these two circumstances are common knowledge among knowledgeable people, but it is in vain to seek in literature written records attesting

said that brilliant author could

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have learned something through me 53 (*), and 6 °) the delicate question p. L50

arithmetic which (according to what was explained to me the main author in person) is the central problem of the book (and my name is pronounced), was released by me in the sixties, in the

Following the "yoga of reasons", and that it is by me that the author had knowledge; and I could stack

still 7 ° and 8 ° etc. (which I certainly does not lack to do in his place).

The foregoing enough about me, that is it. To learn about such facts and wear

judgment about them, there is no need of "skills" special - **not to that level "it**

happens". The faculty is at stake here, other than sound reason (devoted in principle to everyone) is that I would call the name **of decency feeling**.

The book in question is now one of the most cited mathematical literature, and his "author spring

cipal", one of the most prestigious mathematicians of the time. That said and seen, the thing now far

The most remarkable to me in this story is that no one among the countless readers

50 (**) Of course, this is not the intention of the ten year old I wrote Crops and Seeds, and I speak to him

choose a language that is familiar to him.

51 (***) This is the first "major operation" Burial I have discovered a April 19, 1984, where it is also

imposed on me the name "Burial". On this subject the two notes written on the same day, "Memories of a dream - or birth reasons", and "The Burial - or New Father" (Res III, n ° s 51, 52) There is also a complete reference book which it will be question.

52 (*) I do not hear that there is not in this book ideas, and even great ideas, due to the author or other co-authors.

But the whole problem of the book, and the conceptual context that gives it meaning, and how long including the delicate theory

X-categories (wrongly called "tannakiennes"), which technically is the heart of the book are my work.

53 (*) With the exception however of a line in a report from the pen of Serre, in 1977, which will be discussed in its place.

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3. U DO LETTER

this book, even among those who know firsthand what it is, and who were my students, or my friends - that **nobody has seen anything unusual**. There is no one in any case, until today

As I write these lines, which is made known to me to express on this prestigious book any

Subject 54 (**).

As for those among my colleagues and old friends, who have never held this book in their hands and

avail themselves of to plead incompetence, I tell them there is no need to be "specialist" to ask

the volume in the first mathematical library came, flip it and see for yourself what

is not disputed by anyone. . .

3.15. Gangrene - or the spirit of the time (1)

15. The "pattern operation" is only one of the four "major operations" in the same water, and among

a cloud of other smaller and in the same spirit. It is no longer the "big" of

collective mystification that

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flesh out my "table manners" of an era, and above all the most iniquitous.

p. L51

It consisted only plunder the rich flock to for its absence (or death...), And not future period (in general indifference) strangle for fun and under his eyes, the poor sheep. And into mathematical language entered now in common usage, the seemingly innocuous names books, concepts or statements cited at any time, are themselves already a hoax or sham ⁵⁵, and bear witness to the way the disgrace of an era.

If I think I have ever done useful work for the "mathematical community," is to have increased to the full daylight a number of inglorious facts which faisandaient in shadow. The kind of facts, surely everyone knew him every day or nearly so, from near or far. How much he is among them who took the time to stop it was only a moment to sniff the air and look?

He who has found himself exposed to the morgue of some and the dishonesty of others (or themselves) perhaps he flattered that this was a special misfortune, devoted to him. Confronting his experience my testimony, perhaps he feels that this "bad luck" is also a name he gave to a **spirit of time**, which weighs on him as he weighs all. And (who knows?) Maybe it[©]he encourage to get involved in debate, which concerns as much as it concerns me.

But if this "dirty laundry" that "I spread out into the open" does not raise anything but snicker joyless of each polished embarrassment of others, in the indifference of all, a situation that was disorder will become very clear. (For those at least who still cares to use his eyes.) The traditional consensus of good faith and decency ⁵⁶, in the relationship

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between mathematicians and in that of his mathematician

p. L52

art, would now things of the past, "outdated". Without any international association of mathematicians has yet to proclaim it solemnly, that would be yet heard something and now almost official: now **all shots are allowed**, without any reservation or limitation for "brotherhood by cooptation" of those who have power in the mathematical world. All ideas magouillages

54 (***) There was in all and for all two colleagues (including Zoghman Mebkhou) who have expressed to me such "reserves". Or one nor the other can not pass for "readers" of this book. They looked out of curiosity, just to realize. . .

55 I think here, especially at unusual abbreviation "SGA 4 1

2 "(useful mixed numbers!), Which is a double deception to him

one (and one of the most cited acronyms in contemporary mathematical literature), and the names "Verdier duality" or "dual Verdier," "" conjecture of Deligne-Grothendieck, "or finally" tannakiennes categories "(where Tannaka, for once, is not because, as it was never consulted. . .). It will issue more detailed manner in its place.

56 When I speak of these "consensus in good faith and decency," I do not mean they were never violated. But then even they were violated, it was good to "transgressions" that it was, and the consensus themselves do not stay less accepted.

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3.16. amends - or the spirit of the time (2)

to lead by the nose the apathetic reader who asks only believe, all paternity trafficking, and quotes cage between cronies and silence for those doomed to silence, and cronyism and falsification of all kinds and to the coarsest plagiarism in full view of everyone - **yes and amen to everything**, with blessing, by speech or by silence (when not with the active and eager) to all the "big names" and all the big and small bosses on the mathematical public. Yea and amen to "**New style**" who made fury! This was an art, here now, for assent (almost) unanimous, the Fair to confuse and grabs under the paternal eye of the leaders.

There was a time or the exercise of power, in the world of mathematicians, was limited by consenting plus unanimous and intangible expression of a collective sense of **decency**. These consensus and sense would now be obsolete and outdated things, certainly unworthy of the glorious era of computers, spatial cells and the neutron bomb.

It would be something gained and now sealed: power, for the brotherhood of those who have, is a **discretion**.

3.16. amends - or the spirit of the time (2)

16. In the letter, I said enough, I think, on the spirit in which I wrote Crops

Sowing and to make it clear that I do not pretend there to work as a historian. This is a testimony in good faith, for a experienced first hand, and to reflect on this experience. Testimony and reflection are available to all, including the historian, who can use it as a material among others. It is to him that it is therefore submitting this material to critical analysis, conformity the rigorous canons of his art.

It should, of course, to distinguish between the facts in the narrow sense (the "**facts gross**" or "material facts") and "assessment" or

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" **Interpretation** " of the facts, which gives them a **meaning** , which is not the same for p. L53 an observer (or a co-actor) and for another. Roughly speaking, one can say that the aspect of "witness" of Crops and Seeds to the facts, and that its "reflection" their interpretation, ie my job to give them meaning. Among the "facts" forming the testimony, I also ranks the "facts psychic " , including feelings, associations and images of all kinds that my testimony is reflection, that they take place in a more or less distant, or at the time of writing. In fact I describe and which I state in Crops and Seeds, I distinguish three kinds of **sources** . There are facts that restores my **memory** , more or less accurate, more or less of an opportunity blur to another, and sometimes distorted. To them, I can vouch for the provisions of truth when As I write, but not to the absence of any errors. On the contrary, I had the opportunity to meet some number, retail errors I noted in their place by footnotes subsequent page. There, on the other hand, **written documents** , including letters and especially scientific publications in due form, which I refer to the occasion with any desirable accuracy. There is, finally, the **testimony of third parties** . Sometimes it comes in addition to my own memories, allowing me to revive them, clarify and sometimes correct. In some rare occasions (which I will come back later), this testimony brings me entirely new information in relation to those already known to me. When I happen to echo of such testimony, it does not mean I had the opportunity to verify the accuracy and the validity of the line, but simply that it is inserted sufficiently so ment plausible in the rich fabric of facts that were known to me firsthand to drive my conviction (A right or wrong...) That the evidence corresponded, essentially, to the truth.

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3. U DO LETTER

To a careful reader, I think there will be any difficulty at any time, to do "on the part of things "between the account of the facts and the interpretation thereof, and (in the first case) to discern, among the three sources that I have just described, which comes in.

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When I referred to the moment the testimony of a third person, which I made without echo p. L54

being able to "verify the correctness of the line", it is that of **Zoghman Mebkhout** , about the vast operation retraction about his work. Among the "material facts" which I state Crops and Seeds, the only ones to present controversial or, in my own judgment now require rectification, are some of the facts stated by the only witness to Mebkhout. For end this postscript, I would like to present here critical comments about the version of the "case Mebkhout "presented in the preliminary draw Crops and Seeds. Comments and corrections More detailed will be included, each one in its place, in the print edition (constituting the text final Crops and Seeds).

The "Mebkhout version of" I@e wanted me to interpret, seems to consist mainly in the two theses as follows:

1. Between 1972 and 1979, Mebkhout was only 57 , in the general indifference and drawing my work to develop the "philosophy of the 3-Modules", as a new theory of "coefficients cohomological "in my opinion.

2. There would have been a unanimous consensus, both in France and internationally, to retract his name and its role in this new theory, once its scope has begun to be recognized.

This version was heavily documented, firstly by publications Mebkhout quite convincing cantes, else seemed by many other authors publications (including, for those of **Acts** of Symposium Luminy June 1981), where the deliberate retraction can be no doubt. Finally, more circumstantial than Mebkhout subsequently provided me (and I am echoing in part "The Burial (3) - or the Four Operations"), not directly verifiable, consistent, however, fully with some general atmosphere, the reality could not do for me no doubt.

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I just read about several developments 58 that show it is necessary to qualify strongly p. L55

ment point 1 °) above. The isolation in which Mebkhout was 59 was indeed real, but it was relative isolation. There was in France the work of **JP Ramis** in the same subject (whose work Mebkhout not said a word to me), and especially, it appears that some important ideas developed and completed by Mebkhout and which he attributed authorship, could be due to Kashiwara 60 . So it makes invraisem- 57 Except for constructability Kashiwara theorem of 1975, whose importance in the theory is not contested.

But according to the version of Mebkhout this would be the only contribution of Kashiwara the theory being born. This

Version (inaccurate) was confirmed by the absence of other publications Kashiwara, where he would have at least alluded to some the key ideas.

58 I am grateful to Pierre Schapira and Christian Houzel for kindly drawn my attention to these facts, and the tendentiousness of my presentation Mebkhout-Kashiwara dispute.

59 This isolation came primarily from the indifference of my former students to the ideas and work of Mebkhout who pretended stubbornly to draw an "ancestor" doomed to oblivion by a unanimous consensus. . .

60 The most important of these ideas is that of the "match" (to use the new style jargon) called "Riemann-Hilbert" for 3-modules. The relevant conjecture was proved by Mebkhout and also (according to what I said Schapira) by Kashiwara (while Mebkhout assured me that his demonstration was the only published). The question of priority for 106

3.16. amends - or the spirit of the time (2)

lar or questionable some of the episodes of the Kashiwara-Mebkhout dispute, as reported in the Version Mebkhout which I made the (too) faithful interpreter.

There is no doubt that at the "work room" as also by the design of some of ideas he has managed to finalize, Mebkhout has been a leading pioneer of the new theory 3-modules, perhaps **the** main pioneer; Only in any case that is invested body and soul This task then, the true scope still escaped him, as she escaped at all. And it is also true the retraction operation that took place around this work, culminating with the operation Symposium Luminy, remains for me one of the great misfortunes of the century in the mathematical world. But it would be wrong to claim (as I did it in good faith) that Mebkhout was alone in the task. By cons, it was the only to have the honesty and courage to make clear the importance of my ideas and my work in its work and the emergence of the new theory.

This is not the place in this postscript to get into more details on this case - I will do in its place, including the nature of comments to illuminate the psychological context of the "Version Mebkhout".

If the "litigation Mebkhout-Kashiwara" has for my interest is only to the extent where it illuminates the general mood of an era. And for me, down to the same deformations and forces who played for bring out the "Mebkhout Version" appears also, among other materials less questionable that I bring in "a record time", a "sign of the times" telling.

0 I still have to make amends for lightness, presenting the Mebkhout-Kashiwara a dispute p. L56 table only considered the evidence and documents provided by Mebkhout and this, as if this version could not be any doubt. This version had a third person in one day ridiculous or obnoxious, more reason to be cautious. For my light and for this lack of healthy caution, I present here willingly to Mr. Kashiwara my sincerest apologies. demonstration is for me nebula, and waive spend the rest of my days to clarify. . .

As for the statement-sister in terms of 3^∞ modules, it does not seem to be any doubt that the day paternity and the idea for demonstration belongs to Mebkhout. 107

3. U DO LETTER

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4. Introduction

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4.1. (I) The five-leaf clover

4.1.1. 1. Dream and fulfillment

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There will be three years in July, I had an unusual dream. If I say "unusual" is then p. I a print that appeared only after the fact, looking back upon waking. The dream itself came to me as the most natural, the most obvious of the world, without fanfare - even to the point that awakening; I almost did not pay attention, push into oblivion without more to go to "order Day. "Since the day I was shipped off to reflect on my relationship to mathematics. It was the first time in my life that I took the trouble to go - and again, if I got into it at that time there, it was really that I was almost under duress! There was such strange things, not say violent, that had happened in the months and in previous years, kinds of explosions mathematical passion bursting into my life without warning, it was not really possible to continue not watching what was happening.

The dream I speak contained no script or action of any kind. It consisted of a single picture, still, but at the same time very lively. It was the head of a person seen in profile. You could see the looking from right to left. It was a mature man, beardless, crazy hair making around the head like a halo force. The impression especially that emanated from the head was that of a force youthful, joyful, which seemed to spring from the flexible and sturdy bow neck (we guessed more than is saw). The facial expression was more that of a mischievous urchin, delighted some blow he would come

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4. Introduction

or to meditate, that of the mature man, or one who would take the plate, ripe or not. They especially off an intense exhilaration, contained fusing in.. .

There was not a second person present, an "I" would have looked and beheld the other, including we only saw the head. But there was a strong perception of this head, which emanated from her. There had either person to feel impressions, comment on them, name them, or to paste a name Perceived person, designate it as "such". There was this very living thing, this man@head, and also living perception, intense this thing.

As for the clock, without deliberation, I remembered the dreams

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last night, the vision of the head

p. II

man did not appear on the numbers with special intensity, it does not push forward to yell at me or blow me, it@me you need to look at! When that dream appeared in the field my quick look at the dreams of the night in the warm stillness of the bed, I had of course this reflex of the mind awake to put a name to what was seen. I do not also have to look, it was enough that I ask the question to find out as soon as the head of a man who had been there in the dream was none other than my own. It is not bad that one, I thought then, you still have to do, to see yourself as in a dream that, as if it was another! This dream came there as if, while walking and the largest chance, I came across a four-leaf clover, or even five to amaze me in a moment as it should be, and continue my path as if nothing had happened.

That@how at least that it almost happened. Fortunately, as it happened to me many both in situations like this, I still gained and black on white consciousness noted that small incident "not bad", beginning a discussion that was supposed to continue the momentum from that of the Eve. Then one thing led to the discussion that day was limited to delve into the meaning of this dream without pretension, this unique image and message on myself it brought me.

This is not the place to dwell on what this meditation one day taught me and brought. Or rather, that this **dream** has taught me and brought, once I had put myself in the provisions of attention, listening which allowed me to receive what he had to say. A first immediate fruit of dreams and this listening was a sudden influx of new energy. That energy carried the lengthy meditation that has continued in the following months, against inner resistance stubborn, that I had to disassemble one by one by a patient and persistent work.

For five years I began to pay attention to some of the dreams that came to me, it was the first "dream messenger" who did not present under the appearances, recognizable now, such a dream, with impressive scenic resources and an exceptional view of intensity, sometimes overwhelming.

This was all that was "cool" with nothing to force attention, discretion itself - it was to take, or leave without stories.

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A few weeks ago came a messenger dream in the old style, the dramatic tune

p. III

and even wild, which put a sudden and immediate end to a long period of mathematical frenzy. The only relative apparent between the two dreams is that in one or the other there was an observer. By

a parable of a lapidary force that dream showed something was happening in my life, without I take the trouble to pay attention to it - something I took very great care to ignore, frankly. It is this dream that made me so understand the urgency of a process of reflection in which I engaged A few weeks later, and which then continued for nearly six months. I have occasion to speak as little bit in the last part of this reflection-testimony " **Crops and Seeds** " which opens this volume and gives it its name ¹ .

1 See in particular section 43, "The killjoy boss - or the pot to pressure."

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4.1. (I) The five-leaf clover

When I began this introduction by the evocation of that other dream, the image-viewing myself ("Traumgesicht meiner selbst" as I called it in my notes in German), it is because in these recent weeks the thought of that dream came back to me more than once, while meditating "on a past mathematician "was moving towards its end. In fact, in retrospect, three years have passed since that dream appear to me as years of settling and maturing towards fulfillment its simple, clear message. The dream showed me " **as I am** ." It was also clear that in my waking life I was not fully that the dream showed me - the weight and stiffness from far were (and still are) often obstacle that I am fully and just myself. During these years, while the thought of this dream was mine rarely Yet this dream had to act in a way. It was not as a kind of model or ideal to which I would have tried to look like, but as the gentle reminder of joyful simplicity "was me", manifested in many ways, and was called to break free of what was going to affect her and reach their potential. This dream was a delicate and vigorous link to the time between a present weighted yet in many weight from the past, and "tomorrow" so close that it now contains the seeds, a "tomorrow" that me now, and in me always surely. . .

Surely, though in recent weeks it rarely mentioned dream was well again now, is that a certain level which is not that of a

0 thought that probe and analysis, I had to "know" that the work I was p. IV making and lead to an end, work resumed and deepened this other work there three years was a further step towards the completion of the message on myself it brought me.

This is now for me the main direction of Crops and Seeds, this intense work of nearly two month. Only now it is over, I realize how important it was for me to do.

During this work, I have known many moments of joy, a joy often mischievous, blagueuse, exuberant. And there were also moments of sadness, and times when I was reliving frustrations or penalties that hit me painfully in recent years - but there was no one moment of bitterness. I leave this work to the complete satisfaction of one who knows he has conducted work to an end. There is something so "small" is it that I have avoided, or he would have given my heart to say and I would not have said, and at that moment I would leave the residue of dissatisfaction, of regret, if "small" They are.

In writing this testimony, it was clear to me that it will not please everyone. It is even well possible that I found way to dissatisfy everybody without exception. This was however not my purpose, nor to displease anyone. My purpose was simply to look at things simple and important things everyday, my past (and sometimes my present too) mathematician, finally to discover (better late than never!) and without doubt or reservation, they were and what they are; and on the way, say in simple words what I saw.

4.1.2. 2. The spirit of a trip

This reflection which eventually became "Crops and Seeds" began as an "introduction" to first volume (nearing completion) to " **In the Fields of Pursuit** ", the first mathematical work I intend to publication since 1970. I wrote the first few pages to a low point in June last year, and I took this thinking there is less than two months, to the point where I had left. I I was aware that there were many things to look at and say, I was expecting an introduction relatively expanded, thirty or forty pages. Then, during the nearly two months that followed, until even now

0 As I write this new introduction to what was first an introduction, I thought each p. v

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4. Introduction

day it was when I was finishing this work, or it would be the next day or two at worst. As After a few weeks I began to approach the course of hundreds of pages, the introduction was

promoted "introductory chapter". After few weeks, when the dimensions of said "chapter" themselves located far exceed those of other chapters of the volume in preparation (all completed at the time of writing these lines except the last), I finally understood that his place was not in a math book that definitely this reflection and testimony would be cramped. Their true place was in a separate volume, which will Volume 1 of these " **Reflections Mathematics** " I intend to continue in the coming years on launched the Fields of Pursuit.

I would not say Crops and Seeds, the first volume in the series of Mathematical Reflections (Which will be followed by two or three volumes of Continued Fields, for starters) is a volume of "induction" to Reflections. Rather, I see this first volume as the foundation of what is to come, or rather, as one that gives the base note, **the spirit** in which I begin this new journey, I intend to continue in the coming years, and that will lead me I can not say where.

To complete these details on the main section of this volume, some indications of practical nature. The reader will not be surprised to find in the text Crops and Seeds of references the occasional "this volume" - understood, the first volume (Models of History) of the Continuation Champs, which I think still be writing the introduction. I did not want to "fix" these passages taking primarily to uphold the text spontaneity and authenticity of not only a testimony distant past, but on the same time of writing.

It is also for the same reason that my edits of the first draft of the text were confined to correct clumsiness of style or sometimes confused expression that hindered understanding of what wanted Express. These alterations may have led me to a clearer understanding or finer until writing the first jet. Modifications so little of it substantial for nuanced, the clear, supplementing or (sometimes) correct, are subject to a fifty **Notes** numbered, clustered at the end of reflection, and constitute more than a quarter of the text 2 . I refer by abbreviations as (1) etc. . . Among these notes, I have distinguished twenty who seemed of comparable importance (by length or substance) to that of any one of fifty "sections" or "sections" in which spontaneously reflection was organized. These longer notes were included in the table of contents, after the list of fifty sections. As expected, for some long notes, he found the need add one or more notes to the note. These are then included as a result of it, with the same type referrals, except rather short notes, which then appear on the same page in "low-notes" with references such as or.

I have had great pleasure in giving a name to each of the sections of the text, as well as each of the most balanced substantial - besides thereafter, it proved indispensable to find me. he goes probably say, these names were found afterwards, when in starting a section or Note a bit long I could not have said no to what would be the essential substance. It is the same let alone the names (such as "Labor and discovery", etc....) by which I designated the eight parts I to VIII in which I have grouped the aftermath cinquantés sections that make up the text.

For the content of these eight parts, I shall confine myself to very brief comments. The first two I (Labor and discovery) and II (Dream and the Dreamer) contain elements of a reflection on the work mathematics, and the general discovery work. My person is involved in a much

2 (May 28) It is here the text of the first part of Crops and Seeds, "Fatuité and Renewal". The second part was not written at the time of this writing.

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4.1. (I) The five-leaf clover

more episodic and less direct than in the following sections. These are they who primarily quality of evidence and meditation. Parts III to VI are mostly a reflection and testimony on my past mathematician "in the mathematical world," between 1948 and 1970. The motivation in this meditation was above all the desire to understand the past, in an effort to understand and assume a present in some sometimes disappointing or confusing aspects. Parts VII (The Child fun) and VIII (The solitary adventure) rather concern the evolution of my relationship to mathematics from 1970 to today, that is to say, since I left "the world mathematicians" never to return. I examines particular motivations, and strengths and circumstances that led me (to my own surprise) to take a mathematical activity "public" (by writing

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and by publishing Reflections Mathematics), p. VII after a gap of over thirteen years.

4.1.3. 3. Compass and luggage

I would have to say a word about two other texts which are with Crops and Seeds this volume of the same name.

The " **Sketch of a Program** " gives an outline of the main themes of mathematical thinking I have pursued over the past decade. I count at least develop some so slightly some in the coming years, in a series of informal discussions which I have already had occasion to speak, the "Reflections Mathematics". This sketch is the verbatim reproduction of a report that I wrote

January to support my application for a research position at CNRS. I have included in this volume, because obviously this program far exceeds the possibilities of my modest person, even if it were given to me to live another hundred years and I choose to use them to pursue as far as I can the topics in question.

The "**thematic Sketch**" was written in 1972 on the occasion of another application (for a position of vocational sor at the Collège de France). It contains a sketch by themes, what I considered then as my main mathematical contributions. This text is affected provisions in which it was written, a when my interest in mathematics was all that was marginal to say the least. also this sketch she is not much better than a dry and methodical enumeration (but fortunately not intended not to be exhaustive. . .). It does not seem driven by a vision or the breath of a desire - as if these things that I reviewed as a matter of conscience (and that were there indeed my arrangements) had never been touched by a living vision, not by a passion to take the day as they were still only approached behind their veils of mist and shadow. . .

If, however, I decided to include here the report uninspiring I fear, it is mainly to close the spout (Assuming that this is thing possible) to some high-flying colleagues and some fashion, that since I left a world that was common affect us look down on what they kindly call of "grothendieckeries". This, it seems, synonymous bombinage on too trivial things for a serious mathematician and

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tasteful consents to lose over them certainly valuable time. Maybe that "digest" p. VIII indigestible them there appear more "serious"! As for the texts from my pen a vision and a passion anime, they are not for those that mode maintains and justifies a sufficiency, making them insensitive to things that delight me. If I write for others than for myself, it for those who do not find their time and person too valuable to continue without tiring the obvious things that nobody deigns to see, and to rejoice in the intimate beauty of each discovered things, distinguishing it from any another that we had known in her own beauty.

If I wanted to lie to each other all the texts that make up this volume, and

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roles in this journey in which there embarked with Reflections Mathematics, I could that reflection-witness Crops and Seeds reflects and describes **the spirit** in which I undertake this Travel and gives it meaning. The outline of a program described my sources of inspiration that set a **management** if not certainly a destination for this journey into the unknown, like a bit of a compass, or vigorous breadcrumb. The thematic outline finally reviewed quickly a **background**, acquired in my past mathematician before 1970, part of which at least will be useful and welcome in such or that stage of the journey (as my reflexes and topossique cohomological algebra are indispensable to me now in the Continuation of Fields). And the order in which these three texts follow, such as their respective lengths, reflect well (without deliberate on my part) the importance and the weight I their grants in this journey, the first step is nearing its end.

4.1.4. 4. A trip to the prosecution of obvious things

It would take me say a few more words on this detailed trip undertaken for a little over a year, Mathematics Reflections. Let me explain in some detail, in the first eight sections Crops and Seeds (ie in parts I and II of reflection) about **the spirit** in which I undertake this trip, which I think is apparent now in this first volume, as also in one that follows it (the Models of History, which is Volume 1 of the Continuation of fields), being completion. It seems to me unnecessary to dwell on it in this introduction.

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I can certainly predict what the travel undertaken, something that I will discover as and as he

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will continue. I do not have to present a planned route even in outline, and I doubt that he will release one soon. As I said before, the main themes that are likely inspire my thoughts are sketched more or less in the "Outline of a Program", the "text-compass". Among these themes, there is also the main theme of the Continuing field, that is to say, the "fields", which I hope well shop around (and stand there) during this year, two or maybe three volumes. the about this subject I am writing in the sketch: "This is like a debt which I acquit vis-à-vis... a scientific past where for fifteen years (between 1955 and 1970), the development of tools cohomological was the constant leitmotif in my work foundations of algebraic geometry. " It is there, among the planned topics, one that is rooted most strongly in my "past" scientific. It is also one that has remained present as a whole regret during these fifteen years, as the most glaring deficiency of all may be the work I had left to do when I left the mathematical scene, and none of my students or former friends no one cared to fill. For more Details on this work in progress, the interested reader is referred to the relevant section in the Sketch

a program, or the introduction (real this time) of the first volume being completed, the Fields pursuit.

As another legacy of my scientific past that is close to my heart, there is above all the notion of **reason**, which is still waiting to get out of the night she remained held, for a good fifteen years yet it has emerged. It is not excluded that I finally get to work on foundation that is needed here, so nobody better placed than me (by a younger age, as well as by tools and knowledge available to it) does decide to do so in the next few years.

I take this opportunity to point out that the fortune (or rather misfortune ...) the concept of reason and among a few other ones I learned the day and between all seem to me (in power) the more fruitful, are the subject of a retrospective reflection of some twenty pages, forming more

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long (and the latest) "notes" to Crops and Seeds ³. I afterwards divided this note in two parts

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("My orphans" and "Denial of inheritance - or the price of a contradiction"), plus three percent. X "subscores" who follow ⁴. This set of five consecutive notes is the only part of Crops and Seeds that are mentioned mathematical concepts other than by passing allusions. these notions get the opportunity to illustrate some contradictions within the world of mathematicians, who themselves reflect contradictions in the people themselves. I thought at one time to separate this sprawling note of the text from which it comes, to join the thematic outline. This would have the advantage of putting it into perspective, and to infuse some life to a text that looks a little too a catalog. I have yet failed to do, in order to preserve the authenticity of testimony méganote with this, whether I like it or not, is indeed part.

In what is said in Crops and Seeds on the provisions in which I discuss "Reflections", I here would add one thing on which I spoke already in one of the notes ("The snobbery young - or defenders of purity"), when I write: "My ambition mathematician my life, or rather my joy and passion, were constantly discovering the obvious things, and this is my only ambition as in this book "(A Pursuit of Fields). This is my only ambition also for this new journey that I continue for a year with Reflections. It has not been different in these Crops and Seeds that (for my readers at least, if it is found) open this trip.

4.1.5. 5. Welcome debt

I would like to conclude this introduction with a few words about the two signings in this volume "Crops and Seeds".

The dedication "to those who were my students, to whom I gave the best of myself - and also the worst" has was present in me at least since last summer, especially when I wrote the first four sections what was still supposed to be an introduction to a mathematical structure. That is, I knew, in fact some years ago, there was a "worse" to consider - and it was now the time or never ! (But I had no idea that this "worse" would eventually lead me through a meditation near two hundred pages.)

For cons, the dedication "to those who were my seniors" appeared along the way only, as the very name of this reflection

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(now also that of a volume). This has revealed the important role p. XI who was the mathematician them in my life, a role whose effects remain alive today. it probably appear quite clearly in the following pages - to make it unnecessary to dwell here to subject. These "elders", in order (approximate) appear in my life when I was twenty, are Henri Cartan, Claude Chevalley, André Weil, Jean-Pierre Serre, Laurent Schwartz, Jean Dieudonné, Roger Godement, Jean Delsarte. The newcomer ignoramus that I was kindly received by each of them, and then many of them gave me a lasting friendship and affection. I must also mention Jean Leray, whose warm welcome: during my first contact with the "world of mathematicians "(in 1948/49) was also a great encouragement. My reflection showed a debt of gratitude to each of these men "from another world and another destiny." That debt is not a weight. His discovery came as a joy, and made me lighter.

End March 1984

³ This double rating (n ° s 46, 47) and its sub-notes were included in the second part of "The Burial" Crops and Seeds, which constitutes a direct continuation.

⁴ It is the subscores n ° s 48, 49, 50 (footnote ° 48 @as added later).

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4.2. (II) An act of respect

(- May 4 -... June)

4.2.1. 6. The Burial

An unexpected event revived a reflection that was completed. He inaugurated a waterfall discovered large and small green over the past weeks, gradually revealing a situation that was remained unclear and by sharpening edges. This particular leads me to go out in detail and approfondie in events and situations that he had previously discussed only in passing or referring. So the "retrospective reflection of fifteen pages" on the vicissitudes of a work, which discussed previously (Introduction, 4) has assumed unexpected dimensions, is increasing by some Two hundred additional pages.

By force of circumstances and by the inner logic of reflection, I have come way to involve others as much as myself. Whoever is involved more than any other (except me) is a man which binds me a friendship of nearly twenty years. I wrote him (euphemistically 5) that he had "

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a little face

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student "in the early years of this affectionate friendship rooted in a passion, and long and in my heart of hearts I saw in him a kind of "legitimate heir" of what I thought can bring mathematics beyond a published work remained fragmentary. Many will who already have recognized: it is **Pierre Deligne** .

I do not apologize to go public with these notes, among others, a personal reflection on a personal relationship, and to involve and without consulting him. I consider it important and healthy for everyone, a situation long remained hidden and confused is finally brought to light and examined. In doing so, I bring a witness, admittedly subjective and does not claim to exhaust a delicate and complex situation, nor error-free. His first merit (like my previous publications, or those on which I work now) is to exist, available to those it may concern. My concern was neither of convince, nor to make me immune to error or doubt behind the only things called "patent". My concern is to be true, saying such things as I see or sense, every moment - as a means to deepen and understand.

The name "**The Burial**", for the set of all notes to the "weight of the past", was imposed with increasing force during the reflection 6 . I play the role of the early deceased in the funeral the company of some mathematicians (much younger) whose work comes after my "start" in 1970 and bears the mark of my influence, a certain style and a certain approach to mathematics. Foremost among these is my friend **Zoghman Mebkhout** , which took the heavy privilege to have at face all the handicaps of the treaty "student Grothendieck after 1970" without having provided the advantage of contact with me and my encouragement and my advice while he was "student" that my work through my writings. It was at the time (it haunts the world) I was already figure "Deceased" to the point that for a long time the idea of a meeting apparently did not show up, and an ongoing relationship (personal as mathematical as) has ended up tying last year.

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5 On the meaning of this "understatement"; see note "Being apart", n ° 57 ©

6 Towards the end of this reflection, another name appeared, expressing another striking appearance of a picture that was gradually revealed to me over the past five weeks. This is the name of a story, which I will go his place: "The dress of the Emperor of China." . .

7 By the end of this reflection, another name appeared, expressing another striking appearance of a picture that was

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That did not stop Mebkhout against the current of a tyrannical fashion and disdainful of his elders (which p. XIII were my students) and an almost complete isolation, to new and profound work, a synthesis unexpected school ideas Sato and mine. This work provides a new take on the cohomology analytic and algebraic varieties, and carries the promise of a major renewal in our understanding of this cohomology. No doubt this would be accomplished thing renewal now and for years, if Mebkhout had found with all those nominated for this home warm and wholehearted support they once received from me. At least since October 1980 ideas and work provided inspiration and the technical means of a spectacular restart the cohomology theory of algebraic varieties, finally out (besides the results of Deligne around Weil conjectures) of a long period of stagnation.

unbelievable yet true enough, his ideas and results in nearly four years used by "all"

(Just like mine), while his name remains studiously ignored by you and even those who know his work first hand and use it in an essential way in their work. I do not know whether to any other time mathematics has experienced such a disgrace, when some of the most influential or more prestigious among his followers lead by example, to general indifference, contempt of the rule more universally accepted in the ethics of mathematician business.

I see four men, with brilliant mathematicians means that have and are entitled to with me honors of the funeral by silence and disdain. And I see in all the contempt bite on beautiful passion that had animated.

Apart from these, I see especially two men placed either under the spotlight on the square Public mathematics, officiating at funerals and numerous company at the same time (in a more hidden meaning) are buried and their own hands, along with those they bury about to deliberate. I have already appointed one of them. The other is a former student and an old friend, **Jean-Louis Verdier**. After my "departure" from 1970, contact between him and me was not maintained, with a few hasty meetings at the professional level. That's why probably it

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is included in this reflection at p. XIV

through certain acts of his career, while possible motives for these acts, in his relationship to me, are not examined and escape me elsewhere entirely.

If there is a pressing question that came to me throughout the years, which was a deep motivation Crops and Seeds and followed me as throughout this reflection, it is the the part that comes to mind in the advent of a certain spirit and morals that make possible disgraces like I said, in a world that was mine and which I had identified during more than twenty years of my life of mathematician. The reflection made me discover by certain attitudes fatuity in me, speaking by tacit disdain for fellow of modest means, and a complacency myself and such brilliant mathematicians provided means, I have not been abroad in this spirit that I see spread today among the very people I had loved, and among those also which I taught a job that I loved; those I unloved and poorly taught and who now set the tone (when they do law) in this world that was dear to me and I left.

I feel a breath of wind sufficiency, cynicism and contempt. "It blows without worrying about" merit "or of "demerit", burning with his breath the lowly vocations as the most beautiful passions. . . ". I understood that this wind is the prolific harvest of indiscriminate and careless planting that I helped to sow. And if his breath back on me and what I had given to other hands, and those I love today gradually revealed to me over the past five weeks. This is the name of a story, which I will go his place: "The dress of the Emperor of China." . .

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who dared to claim or just learn from me, this is a **turn of events** which I have no reason to I complain, and that has much to teach me.

4.2.2. 7. The Scheduling Funerals

Under the name "The Burial", so I grouped in the table of contents the imposing main parade "Notes" related to this innocuous appearance section "The weight of the past" (S.50), giving everything meaning the name that immediately had imposed on me for this final section of the "first draft" of crops and Sowing.

In this long procession of notes with multiple relatives, those that accompany them during the four past weeks (notes (51) to (97)) 8 0

stand out as the only dated (April 19 to May 24) 9 . he

p. XV

seemed most natural to them in chronological order in which they succeed in thinking 10 , rather than in some other order said "logic"; or the order of the references to these notes in previous notes. To find this last order (not linear) of filiation between Notes

Participating I followed (in the table of contents) on each number to that of the note (from those that precede it) where it is first made reference to it 11 , or (if) by the number of that which it is an immediate continuation 12 . (The latter relationship is indicated in the text itself by

Reference symbol placed at the end of the first note, as (⇒ 47) placed at the end of the last line of the note (46), which refers to Note (47) continued.) Finally, some kind of clarification so little technical

to a note are grouped at the end of it in numbered subscores by consecutive indices

number of primitive note - as in the sub-ratings (46 1) to (46 9) Note (46) "My orphans".

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For some structure to the overall scheduling of the Burial and allow it to re-

p. XVI

know in the multitude of notes flock there, it seemed to me sitting up for the occasion to include in the procession some seriously suggestive subtitle, each preceding and leading a long procession or short

of consecutive notes linked by a common theme.

I was so pleased to see assemble one by one in a long solemn procession from honor my funeral, ten 13 processions - some humble, some impressive, some contrite and other secretly cheering, as it can not be otherwise on such occasions. Here advance: **the posthumous student** (that everyone makes a point of ignoring) the **orphans** (freshly exhumed for the occasion), the **Fashion** and **illustrious men** (I deserved it), the **reasons** (last born and exhumed last of all my

8 It still must be added footnote ° 104 of 12 May 1984. The notes n ° 98 and following (except the previous footnote ° 104) constitute the "third wind" of reflection, as of 22 September 1984. They are also dated.

9 In a series of consecutive notes written on the same day, only the first is dated. Other undated notes notes n ° s 44 to 50 (forming processions I, II, III). Notes n ° s 46, 47, 50 are of 30 or 31 March notes n ° s 44 ©48, 48©49 of the first half of April, finally footnote ° 44 "is dated (May 10).

10 I sometimes made a small amplitude inversion in this chronological order, for the benefit of an order "logic says," when he seemed that the overall impression of the process of reflection was not distorted. As exceptions, I point However, eleven ratings (whose number is preceded by the sign!) from notes b. p. Subsequent to a note and took prohibitive dimensions, and I have each placed after the note to which it relates (except footnote ° 98, is relating to n ° 47).

11 When the reference to a note (as (45)) is located in "The weight of the past" itself; is the number (50) the latter, **in brackets** , which is placed after that of the note, as in 46 (50).

12 The number of a note that is immediate continuation of a previous note (which numbers then follow) is preceded by * in the table of contents. * 47 Thus, 46 states that footnote ° 47 is a direct continuation of Note ° 46 (which is also not here that immediately preceding, which is footnote ° 46 9).

I finally **pointed out** in t. of m. the numbers of the notes which are not followed by another number, that is to say those represent a "new beginning" of reflection, do not insert in a particular place of reflection already done.

13 (29 September) In fact, there is finally twelve processions, by including the Funeral Van (x), and "The deceased (still dead)" (XI) which comes in extremis to sneak still in the procession. . .

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orphans), **my friend Pierre** modestly leading the largest processions, followed closely by **the Agreement Unanimous** notes (silently) and concertos by the **Colloquium** (said "Pervert") at full strength (if Departing from the posthumous student, aka the Student Unknown by funeral processions carrying flowers and interposed crowns); Finally, to close with dignity the imposing parade, here©yet to advance **the student** (no post hume let alone unknown) aka the **Boss** , followed by the busy band of my **students** (equipped force shovels and ropes) and finally **Van Funeral** (featuring four beautiful securely screwed oak coffins besides Gravedigger) ... ten processions finally at full strength (it was time) if carrying slowly to the **funeral ceremony** .

The highlight of the ceremony is the Eulogy Funeral, served with perfect tact by none other than my friend Peter in person presiding at the funeral in response to the wishes of all and to everyone©satisfaction. Ceremony ends in a final and definitive De Profundis (at least we hope), sung as a sincere action Thanksgiving by the late deceased himself, who unbeknownst to all survived his impressive funeral and leads took the seed, to its **complete satisfaction** - satisfaction which form the final grade and the final agreement Burial memorable.

4.2.3. 8. The end of a secret

During this final stage (hopefully) my reflection appeared the interest to join in "Appendix" the present volume 1 Reflections Mathematics

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two other texts, mathematical in nature, in addition to p. xvii three of which he previously discussed 14 .

The first is the reproduction of a **report** commented in two parts, which I had done in 1968 and 1969 on the work of P.Deligne (yet some still unpublished today), corresponding to an activity mathematics to IHES for three years 1965/67/68.

The other text is a sketch of a "**form of the six variances** ", bringing together the features common to a duality formalism (inspired by the duality of Poincaré and the Serre) that I had reached between 1956 and 1963 form was found to have a "universal" character of all duality situations cohomologic encountered so far. This formalism seems to have fallen into disuse with my departure from the scene mathematics, to the point that I know anyone (except me) has not taken the trouble to write out ONLY ment the list of basic operations, basic canonical isomorphisms which they lead, and essential compatibility between them.

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This sketch of a coherent form will be for me the obvious first step to this "vast array of in- p. xviii seems the **dream of reasons** , "which for more than fifteen years©awaits the bold mathematician who wishes well 14 Moreover, I think add to the Sketch Theme (see "Compass and baggage," Introduction, 3) a "comment" giving

some details about my contributions to the "themes" which are reviewed briefly, and also about influences that have played in the genesis of the major key ideas in my mathematical work. The retrospective of the past six weeks already shows (to my own surprise) a role of "detonator" Serre, for starting most of these ideas, as well as for some of the "great work" that I had asked, between 1955 and 1970. Finally, like other mathematical nature of the text (in the usual sense), and the only figure (incidentally) in the text not technical "Crops and Seeds", reports the sub-grade $n \circ 87$ in note "The Massacre" ($n \circ 87$), I explicitly with care it deserves a "discreet" variant (speculative) of Theorem familiar Riemann-Roch-Grothendieck in the context coherent. This conjecture was included (among many others) in the stated closing of the seminar SGA 5 1965/66 exposed of which only traces (nor many others) in the volume published eleven years later as the SGA 5. vicissitudes of the seminar crucial in the hands of some of my students, and links them with some "operation SGA4 1

2 "is gradually revealed during the reflection continued in notes $\circ s$ 63 $\textcircled{67}$, 67 $\textcircled{68}$, 68 $\textcircled{84}$, 85, 85 $\textcircled{86}$, 87, 88.

As another note giving enough math comments expanded on the opportunity to reach a framework "topossique" common (wherever possible) the known cases where we have a duality formalism said "six operations", I also signals the sub-grade $n \circ 81$ 2 to the note "credit Thesis and comprehensive insurance $\textcircled{n} \circ 81$.

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4. Introduction

brush. "Apparently, this mathematician will be other than myself. It is high time indeed that what was born and confided in privacy there nearly twenty years, not remain the privilege of a single but to be available to **all**, so last night the secret, and be born again in the full light of the day.

While it is true that only one, apart from me, had an intimate knowledge of this "yoga reasons" for having learned from my mouth as the days and years that preceded my departure. Of all the things mathematics that I had the privilege of discovering and bringing to light this reality appears to me the reasons yet as the most fascinating, the most full of mystery - in the heart of the profound identity between " geometry "and" arithmetic ". And the " yoga of reasons "which led me this long ignored reality perhaps the most powerful instrument of discovery that I have reached in this first period of my life mathematician.

But it is also true that this reality, and "yoga" that tries to identify the closest, had no way been kept secret from me. Absorbed by mandatory tasks of writing fundamentals (everyone since is happy to use such in its work every day), I have not taken few months required to prepare a comprehensive outline of all of the yoga patterns, and thus put available to all. I have not failed yet, in the years before my departure unexpected, to talk about chance encounters and who would listen, beginning with my students, who (except one of them) have forgotten as all have forgotten. If I spoke, it was not to place "inventions" who would bear my name, but to draw attention to a reality that is manifested at every step, as soon as is interested in cohomology of algebraic varieties and in particular, their "arithmetic" properties and relations between them different cohomology theories known to date. This reality is as tangible that once was one of the "infinitely small", perceived long before the onset of harsh language allow to apprehend in a perfect way and the "establishment". And to understand the reality of 0

reasons we

p. XIX

Today \textcircled{c} not short of a flexible and adequate language nor a consummate experience in building mathematical theories that were missing from our predecessors.

If what I once shouted from the rooftops fell on deaf ears, and if the contemptuous silence of one collected echoing silence and lethargy of those who pretend to be interested in cohomology (And yet have eyes and hands like me...), I can not hold liable that one one who chose to keep in his possession the "benefit" of what I had told him for all. Strength is that our time, whose unbridled scientific productivity rivals that invested in the arms or consumer goods, is very far from what "bold dynamism" of our predecessors the seventeenth century, which "did not go around the bush" to develop a calculation of infinitely small, undeterred by concern if this calculation was "speculative" or not; neither expect nor such Prestigious man among them deign to give them the green light to grab what everyone could see from his own eyes and felt firsthand.

4.2.4. 9. The stage and Actors

By its own internal structure and its particular theme, "The Burial" (which now form more half Harvests text and Seeds) is largely independent and logically the long reflection that precedes it. Yet it is a superficial independence. For me this thinking about a "funeral" gradually leaving unspoken the mist and sensed, is insé-comparable to that which preceded it, which it was formed and gives it meaning. begun as

4.2. (II) An act of respect

view, it has become without having planned or sought, a meditation on an important relationship in my life, leading me to turn to a reflection on the fate of this work in the hands of "those who were my students." Separate from this reflection that she spontaneously outcome seems to me a way to reduce it to a simple "Table manners" (or even, to a settling of accounts in the "beautiful world" mathematical). It is true that if it holds, the same reduction to a "table manners" can be made for crops and entire planting. Certainly morals that

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prevail at a time and in a given environment and contributing p. xx
to shape the lives of men who belong, are important and deserve to be described. It will be clear Yet for a careful reader of Crops and Seeds that my purpose is not to describe the manners, that is to say a certain **scene**, changing with time and from one place to another, on which our place is actions. This scene largely defines and delimits the **means** at the disposal of various forces in us, allowing them to express themselves. While the stage and the resources it provides (and the "rules of the game" it imposes) vary infinitely, the nature of the deep forces that we (the collective level) shape scenes and (at the person) talk about them seems to be the same from one medium or from one culture to another and from one era to another. If there is one thing in my life, except mathematics and out of love of women, which I have felt the mystery and attraction (late, it is true), it is the nature hidden some of these forces that have power to make us act to the "best" as in the "worst" to bury and to create.

4.2.5. 10. An act of respect

This thinking has ended up taking the name "The Burial" began as an **act of respect**. A respect for things that I had discovered, I saw condense and take shape in a void, which I was the first to experience the taste and vigor to which I gave a name to express and the knowledge I had of them, and my respect. To these things, I gave the best of myself. They have fed the force based in me, they grew and flourished, like branches multiple and vigorous springing from the same trunk living in the vigorous and multiple roots. These are alive and present things, not inventions we can do or not do - things closely solidarity in a living unit that is made of each and gives each its place and meaning, an origin and an end. I had left long ago and without any worry or regret, because I knew that what I left was healthy and strong and did not need me to grow and flourish again and multiply, according to his own nature. It was not a bag of money that I let that one could steal or a bunch tools that could rust or rot.

Yet over the years, when I thought I was far from a world that I had left, came back to me here and thence into my retirement as

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flushes insidious disregard and discrete derision designating such p. XXI
these things I knew strong and beautiful, who had their place and that no single function else could ever fill. I felt like orphans in a hostile world, a world sick of the disease contempt, their obsession with what is without armor. It is in these provisions has began this reflection, as an act vis-à-vis compliance with these things and therefore, vis-a-vis myself - as a reminder of a deep connection between these things and me: one who likes to assign a vis-a-vis disdain one of those things that were fed my love, it©me that he likes to be despised, and all that is from me.

And it is the same one who, knowing firsthand the link that connects me to this thing learned by none other than me, pretended to hold negligible or ignoring this link or claim (Was it tacitly and by omission) for or on behalf of others a "paternity" dummy. I see

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4. Introduction

although clearly an act of contempt for a thing born of the worker as to the obscure and delicate work allowed this thing to be born, **and** for the worker, and above all (in a more hidden and more essential) for himself.

If my "back to math" should serve to make me remember this link and arouse in me the act respect to all - to those who affect to despise, and before the indifferent witnesses - this return will not have been useless.

It is true that I had really lost touch with the written and unwritten work (or at least not published) I had left. Beginning this reflection - I saw the branches distinctly enough without me too

However, remember that they were part of the same tree. Strangely enough, it was necessary that gradually unfolds in my eyes the picture of a **rampage** of what I had left, to find me in the direction of the living unit which was well dispersed and trashed. One won the ECU and the other a tool or two to rely or even to use it - but the unit that makes life and the true force of what I had left, she escaped to each and all. I know well that one yet felt deeply this unity and strength, and to background itself feels even today, and which likes to scatter the power within him to want to destroy this unity he felt in

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others through his work. In this living unity lies the beauty and

p. XXII

the creative power of the work. Despite the devastation, I find them intact as if I had to leave - except that I have matured and now see with new eyes.

If something is yet sacked and mutilated, and defused of its original strength is in those forget the power that lies within themselves and who think their ransack something to thank you, as they cut only the creative power of what is available to them as it is available to all, but not to their thank you in person or authority.

So this reflection, and through it, this "return" unexpected, will also have me back in touch with forgotten beauty. It is to have fully felt the beauty that gives meaning to this act of respect awkwardly expressed in the note "My orphans" ¹⁵, and I just reiterate with full knowledge case here.

¹⁵ This note (n ° 46) is chronologically the first of all those in the Burial.

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First part .

FATUS AND RENEWAL

123

To those who were my elders
who welcomed me fraternally
in this world that was theirs
and who became mine

To those who were my pupils
to whom I gave the best of
myself

and also the worst. . .

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5. Work and discovery

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June 1983

5.1. (1) the child and the good God

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Mathematical notes on which I work now are the first thirteen years I p. 1 intended for publication. The reader will not be surprised that after a long silence, my style of expression exchange. This change of expression is not, however, a sign of a change in the style or working method ¹ (1), much less that of a transformation that would be made in the nature of my mathematical work. Not only did it stay the same - but I acquired the belief that the nature of the work of discovery is the same from one person who discovers to the other that is beyond the differences created by infinite conditioning and temperament.

Discovery is the privilege of the child. It@the little child I want to talk to, the child who is not afraid to be mistaken, to look silly, not to be serious, not to do like everyone else. He does not have afraid that the things he looks at have the bad taste of being different from what he expects of them, what they should be, or rather, what he is, of course they **are**. He ignores silent consensus and without flaws that are part of the air we breathe - that of all the people supposed and well known as such. God knows there have been, people supposed and well known as such, since the night of ages! Our minds are saturated with a heteroclite "knowledge", entanglement of fears and idleness, cravings and prohibited; information to all coming and explanations push-button - closed space where come pile up information; cravings and fears without ever getting into the sea breeze. Except for knowledge routine, it seems that the main role of this "knowledge" is to evacuate a living perception, a acquaintance with the things of this world. Its effect is especially that of a huge inertia, a weight often overwhelming.

1 (1)

(Added in March 1984) It is probably unreasonable to say that my "style" and my "method" of work have not changed, so that my style of expression in mathematics has profoundly changed. Most of the time since a year at "The Pursuit of the Fields" was spent on my typewriter to type reflections that are meant to be published almost unchanged (with the addition of relatively short notes later added to facilitate reading through referrals, error corrections, etc. . .). No scissors or glue to painstakingly prepare a manuscript "definitive" (which above all should not reveal anything about the approach that resulted) - it still makes changes in

"style" and "method"! Unless we dissociate the actual mathematical work from the work of writing, presentation of results, which is artificial, because it does not correspond to the reality of things, the mathematical work being indissolubly related to writing.

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5. Work and discovery

The little child discovers the world as he breathes - the ebb and flow of his breathing make him welcome the world in its delicate being, and make it project itself into the world that welcomes it. The adult also discovers, in those rare moments when he forgot his fears and his knowledge, when he looks at things or himself with eyes wide open, eager to know, new eyes - child's eyes.

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God created the world as and when he discovered it, or rather he **creates** the world forever, the

p. 2
as he discovers it - and he discovers it as he creates it. He created the world and the creates day after day, by recovering itself millions of millions of times, without respite, groping, deceiving millions of millions of times and correcting the shot, without getting bored. . . Each time, in this game of the shot probe in things, the answer of things ("it's not bad that shot there", or: "there you're kidding in full", or "that walk like on wheels, continuous like that"), and the new probe rectifying or resuming the previous probe stroke, in response to the previous answer. . . , every way back and forth in this dialogue Infinite Between the Creator and Things, which takes place in every moment and in every place of Creation, God learns, discovers, He becomes acquainted with things more and more intimately, as and when they take life and form and transform themselves into His hands.

This is the process of discovery and creation, as it seems from all eternity (for as much as we can know it). She was such, without the man had to enter the scene late, barely a million years ago or two, and that it is getting the job done - with, lately, the unfortunate consequences that we know.

It happens that one or the other of us discovers such thing, or such other. Sometimes he rediscovers then in his own lives with wonder, what is that **to discover**. Everyone has everything he needs to discover all that draws him into this vast world, including that wonderful ability that is in him - the most simple, the most obvious in the world! (One thing though that many have forgotten, as we have forgotten to sing, or to breathe as a child breathes. . .)

Everyone can rediscover what discovery and creation is, and no one can invent it. They were there before us, and they are.

5.2. (2) Error and discovery

To return to the style of my mathematical work proper, or its "nature" or its "approach", they are now as before those whom God himself taught us without words to everyone, God knows when, long before our birth maybe. **I do like him**. It's also what everyone instinctively, as soon as curiosity pushes him to know such a thing among all, something invested from by this desire, this thirst. . .

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When I am curious about one thing, mathematical or other, I **asked**. I ask him, without worrying

p. 3

if my question is perhaps stupid or if it will appear such, without it being carefully weighed at all costs. Often the question takes the form of an affirmation - an affirmation that, in truth, is a probe. I believe more or less, to my assertion, it depends of course on the point where I am in the understanding of things I'm watching. Often, especially at the beginning of a search, the statement is downright false - still had to be done to be convinced. Often, it was enough to write it for it

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5.3. (3) Unmentionable labors

it is obvious that, before writing it, there was a blur, a malaise, instead of evidence. It now makes it possible to return to the charge with this ignorance less, with a question-affirmation perhaps a little less "next to the plate". More often still, the affirmation taken at the foot of the letter turns out to be false, but the intuition which, clumsily still, tried to express itself through it is just, while remaining fuzzy. This intuition will gradually be decanted from a gangue just as shapeless first false or inadequate ideas, it will gradually emerge from the limbo of the misunderstood understood, the unknown who asks only to be known, to take a form that is only hers,

to refine and sharpen its contours, as the questions I ask these things before me are more precise or more relevant, to identify them closer and closer.

But it also happens that by this step, the repeated soundings converge towards a certain image of the situation, coming out of the mists with features marked enough to lead to a beginning of conviction that this image expresses reality well - whereas it is not so yet, when this image is tainted by a error of size, of a nature to distort it deeply. Work, sometimes laborious; which leads to screening of such a false idea. from the first "take-offs" noted between the image obtained and certain facts patents, or between this image and others who also had our trust - this work is often marked by increasing tension, as we approach the knot of contradiction, which wave At first it becomes more and more obvious - until finally it explodes, with the discovery of the error and the collapse of a certain vision of things, occurring as an immense relief, as a release. **The discovery of error is one of the raw moments**

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cial, a creative moment of all, in p. 4

any work of discovery, whether it is a mathematical work, or self-discovery work.

It is a moment when our knowledge of the thing suddenly probed is renewed.

Fear of error and fear the truth is one and the same. Whoever fears to be wrong is powerless to discover. It is when we fear to deceive ourselves that the error that is in us is immutable as a rock. Because in our fear, we cling to what we have decreed "true" a day, or what has always been presented to us as such. When we are moved, not by the fear of to see vanishing an illusory security, but by a thirst to know, then the error, as the suffering or the sadness, crosses us without ever becoming frozen, and the trace of its passage is a renewed knowledge.

5.3. (3) Unmentionable labors

It is surely not a coincidence that the spontaneous approach of any real research does not appear for say never in the texts or the speech that are supposed to communicate and convey the substance of what has been "found". Texts and speeches most often merely record "**results**", in a form to mortals must make them appear as so many austere and immutable laws inscribed with all eternity in the granite tables of some kind of giant library, and dictated by some omniscient God to initiated-scribes-scholars and assimilated; to those who write scholarly books and articles no less scholarly, those who transmit knowledge from a pulpit, or in the smaller circle of a seminary. Is there a single classbook, a single textbook for schoolchildren, high school students, students, and even "our researchers", who can give the unfortunate reader the slightest idea of what research is - if not precisely the universally accepted idea that research is when you are very well trained, that you have passed many exams and even competitions, big heads what, Pasteur and Curie and the Nobel Prizes and all that. . . We readers or listeners, swallowing somehow the Knowledge that these great men have wanted to record for the good of humanity, we are just good (if we work hard) to pass our exam at the end of the year, and 129

5. Work and discovery

again. . .

How many are there, including among the unfortunate "researchers" themselves, in search of theses or ar-even among the most "learned"

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the most prestigious among us - who therefore has the simplicity of

p. 5

see that "search", it is neither more nor less **interroger** things, passionately - like a child

who **wants to know** how he or his sister were born. What to look for and find, ie:

to question and listen, is the simplest, most spontaneous thing in the world, of which no one in the world has the privilege. It is a "gift" that we all received from the cradle - made to express and flourish under an infinity of faces, from one moment to another and from one person to another. . .

When one ventures to make such things heard, one harvests in some as in others, of the most dunce sure of being dumb, the most learned sure to be learned and well above the ordinary mortals, the same half-embarrassed smiles, half-heard, as if we had just made a joke a little big on the edges, as if we were displaying a naivety stitched with white thread; it©all well and good, you have to spit on no one understands - but must not push anyway - a dunce is a dunce and it©not Einstein nor Picasso!

In the face of such unanimous agreement, I would not have the grace to insist. Incurable decidedly, I still lost an opportunity to shut up. . .

No, it is surely not a coincidence if, with a perfect set, informative or edifying books and manuals of all kinds present "the Knowledge" as if he had gone out dressed from head to toe of the genial brains who have recorded for our benefit. It can not be said either that it is bad faith, even in rare case where the author is enough "in the coup" to know that this image (that can not fail to suggest

his text) does not correspond to reality. In such a case, the presentation may be more than collection of results and recipes, that a breath passes through it, that a living vision animates it, which sometimes communicates from the author to the attentive reader. But a tacit consensus, apparently of considerable force, that the text leaves not stand the slightest trace of the **work** which it is the product, even when he expresses with a pithy force the sometimes profound vision of things which is one of the true fruits of this work. To tell the truth, at times I myself have dimly felt the weight of this force, of this consensus mute, on the occasion of my project to write and publish these "Mathematical Reflections". If I try to probe the tacit form that takes this consensus, or rather that that takes the resistance in me to my

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project, triggered

p. 6
by this consensus, the term "indecent" immediately comes to me. The consensus, internalized in me I can not say since when, tell me (and this is the first time I take the trouble to shoot in the light of day, in the field from my eyes, what he mumbles with some insistence for weeks, if not months):

is indecent to display before others, or even publicly, the ups and downs, the trial and error on the edges, the "dirty laundry" in short, a work of discovery. It's just wasting the reader's time, which is precious. In addition, it will make pages and pages more, that will have to compose, print - what a waste, at price where is the scientific printed paper! You really have to be very vain to spread things like that who have no interest in anyone, as if my same boondoggles were remarkable things - a opportunity to strut, in short. "And more secretly still:" It is indecent to publish the notes of a Such a reflection, as it **really** continues, as it would be indecent to make love in a square public, or expose or just leave behind, the sheets stained with blood from the labors of childbirth ...

".
The taboo here takes the insidious and imperious form at the same time, of the sexual taboo. It's time to write this introduction that I begin to glimpse only its extraordinary strength, and the scope of this fact itself even extraordinary, attesting to this strength: that the true approach of discovery, of a simplicity so

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5.4. (4) Infallibility (of others) and contempt (of oneself)

disconcerting, a childlike simplicity, does not appear almost anywhere; that she is silently retracted, ignored, denied. This is so even in the relatively innocuous field of scientific discovery, not that of his zizi or anything like God thank you - a "discovery" in fact good to be put between all hands, and who (one could believe) has nothing to hide. . .

If I wanted to follow the "thread" that presents itself there, a wire by no means tenuous but all that is drue and strong - sure it would lead me much further than the few hundred pages of homologico-homotopic algebra that I will eventually finish and deliver to the printer.

5.4. (4) Infallibility (of others) and contempt (of oneself)

Decidedly it was a euphemism, when sometimes I noted cautiously that "my style of expression" had changed, even suggesting that there

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there was nothing that could surprise: you understand, p. 7

when we have not written in thirteen years, it's more the same as before, the "style of expression" it must change, necessarily. . . The difference is that before I "expressed myself" (sic) like everyone else: I did the work, then I made it upside down, carefully erasing all erasures. Along the way, new erasures, messing up all the work sometimes worse than the first roll. A redo so - sometimes three times, even four, until everything is impeccable. Not only no dubious corner nor sweeps surreptitiously pushed under a propitious furniture (I never liked sweeps in the corners, from the moment we take the trouble to sweep); but most of all, in reading the final text, the impression certainly flattering that emerges other scientific text) is that **the author** (my modest person case) **was the infallibility incarnated**. Infallibly, he fell right on "the" good notions, then "the" good statements, chaining in a well oiled engine purring, with demonstrations that "fell" with a dull sound, each exactly at his moment!

We judge of the effect produced on a reader who does not suspect anything, a student of high school say learner the Pythagorean theorem or the equations of the second degree, or even one of my colleagues from the institutions of research or teaching said "superior" (by the way, hi!) fencing (say) on reading such article of such prestigious colleague! This kind of experience repeating itself hundreds, thousands of times all Throughout a life of schoolboy, even student or researcher, amplified by the appropriate concert in the family as in all the media of all the countries of the world, the effect is that which one can foresee. It can be seen in so as the others, if only one takes the trouble to be careful: **it is the firm conviction of its own nullity**, in contrast to the competence and the importance of people "who know" and people "who." This inner conviction is sometimes compensated for, but by no means resolved or defused of an ability to memorize things that have not been understood, or even that of a certain operational skill:

tiplier matrices, "mount" a French composition with shots of "thesis" and "antithesis". . . It is the capacity in fact, the parrot or the scholarly monkey, more popular today than it ever was, sanctioned by coveted degrees, rewarded by comfortable careers.

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But the very same degrees sewn p. 8

and well boxed, covered with honors perhaps, is not fooled, deep inside himself, these dummy signs of importance, of a "value". Not even the rarer one who has invested his all-out on the development of some genuine gift, and which in his professional life has been able to give his measure and make creative work - he is not convinced, deep within himself, by the brilliance of his notoriety, by which he often wants to give the changes to himself and to others. The same doubt never examined lives in one and the other just like the first a dunce come, the same conviction of which, perhaps, they will never dare to take cognizance.

It is this doubt, this intimate inexpressible conviction, that pushes one and the other to continually surpass oneself.

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5. Work and discovery

in the accumulation of honors or works, and to project on others (on those above all on whom they have some power ...) that contempt for themselves that gnaws at them in secret - in an impossible attempt to escape, by the accumulation of "evidence" of their superiority over others 2 (2).

2 (2)

(Revised March 1984) In rereading these last two paragraphs, I had a certain feeling of unease, due to the fact that in writing, I involve others and not myself. Obviously, the thought that my own person might be concerned not touched while writing. I have surely learned nothing, when I am thus limited to putting black on white (probably with a certain satisfaction) things that for years I have perceived in others, and seen to be confirmed in many ways. In following the reflection, I am led to remember that attitudes of contempt for others have not failed in my life. It would be strange that the connection I have made between contempt for others and self-contempt is absent in the case of my person; the

sound reason (and also the experience of similar situations of blindness in my own regard, which I have come to realize)

tell me that it must not be so! This is, however, for the moment, a mere deduction, the only

possible utility would be to make me see what is happening, see and examine (if it does exist, or has existed)

this contempt of myself, still hypothetical, so deeply buried that it has so far completely escaped my gaze.

It is true that things to watch did not fail! It suddenly seems to me one of the most crucial, because

precisely that it is so hidden. . . [(August 1984) See, however, about the reflection of the last two paragraphs of the note "massacre", n ° 87].

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6. The dream and the dreamer

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February 1984

6.1. (5) The forbidden dream

I take the opportunity of an interruption of three months in the writing of the Poursuite des Champs, for take the Introduction to the point where I left it last June. I just read it carefully, more than six months away, and add some subtitles.

In writing this Introduction, I was well aware that this type of reflection could not fail to many misunderstandings - and it would be futile to try to take the lead, which would simply to accumulate others over the first ones! The only thing I would add about this is that it is not my intention to go to war against the style of scientific writing devoted by millennial use, which I myself have practiced diligently for more than twenty years of my life, and taught my students as an essential part of the mathematician©job. Rightly or wrongly, today again I consider it as such and continue to teach it. Surely even I would rather old-fashioned, with

my insistence on a job done to the end, sewn hand from beginning to end, and without pardoning any a little dark corner. If I had to put water in my wine for ten years, it is by the force of things! Writing

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shaped "is for me an important part of mathematical work, p. 9

both as an instrument of discovery, to test and deepen an understanding of things that without it remains approximate and fragmentary, only as a means to communicate such an understanding.

From the didactic point of view, the mode of exposure of rigor, the deductive mode therefore, which does not exclude the ability to brush large tables, offers obvious benefits, conciseness and convenience of

references. These are real benefits, and significant, when it comes to presentations that are directed to

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6. The dream and the dreamer

mathematicians say, and more particularly, to mathematicians who are sufficiently familiar already with some ins and outs of the subject treated, or others nearby.

These advantages, on the other hand, become entirely illusory for a presentation addressed to children, young people or adults who are absolutely not "in the know" in advance, whose interest is already in awakening, and who moreover, more often than not, are (and will remain, and for a reason ...) in a total ignorance of this what is the true approach of a work of discovery. Readers, rather, who are **unaware**

even such work **accessible to everyone** endowed with curiosity and good sens.- this work which is born and reborn constantly our intellectual knowledge of the things of the Universe, including that which is expressed in imposing orders like the "Elements" of Euclid, or "The Origin of Species" of Darwin.

Complete ignorance of the existence and nature of such work is almost universal, including among teachers at all levels of education, from the teacher to the university professor. It[©]here an extraordinary fact, which appeared to me in full light at first the reflection started last year with the first part of this Introduction, at the same time as I was glimpsing the roots deep of this fact confusing. . .

Even though it would address readers perfectly "in the game" in every way, it remains a important, however, that the mode of exposure "de rigueur" is forbidden to communicate. It is also a something quite frowned upon in the circles of serious people, as we in particular scientists! I mean the **dream**. Dreams, and visions that he breathes us - impalpable like him first, and reluctant often take shape. Many years or even a lifetime of intense work will not suffice

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maybe not

p. 10

to fully manifest such a vision of dream, to see it condense and polish to the hardness and the brilliance of the diamond. This is our work, workers by hand or by the mind. When the work is completed, or this part of the work, we present the tangible result under the brightest light we can

find, we look forward to it, and often take pride in it. It is not in this diamond, however, that we have carved at length, that is what inspired us by cutting it. Perhaps we have fashioned a

high-precision tool, an effective tool - but the tool itself is limited, like anything done by the the hand of man, even when it seems great. A vision, without name and without outlines first, tenuous as a shred of mists, guided our hand and kept us bent over the book, without feeling

spend hours or maybe years. A flap that broke loose without sound from a bottomless sea mist and dimness. . . What is limitless in us is She, this Sea ready to conceive and to give birth constantly, when our thirst The fruitful. From this marriage deaf the Dream, like the embryo nestled in the nourishing matrix, waiting for the obscure labors that will lead him to a second birth, in the light of day.

Woe to a world where the dream is despised - it is a world too where what is deep in us is despised. I do not know if other cultures before ours - that of television, computers and rockets transcontinental - professed this contempt. It must be one of the many things that we let[©]distinguish from our predecessors, whom we have so radically supplanted, eliminated so much from the surface of the planet. I did not know of another culture, where the dream is respected, where its roots deep are not felt by all and recognized. And is there significant work in a person[©]life?

or of a people, who was born of the dream and was nourished by the dream before hatching in the open? Home yet (must we even say already: everywhere?) the respect of the dream is called "superstition", and it is well known that our psychologists and psychiatrists have taken the measure of the dream up and down - barely what to clutter the memory of a small computer, surely. It is also true that no one "at home" does not know how to light a fire, nor dare in his house to see the birth of his child, or die his mother or father - there

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6.2. (6) The Dreamer

has clinics and hospitals that are there for that. Thank God ... Our world, so proud of its power in megatons and the amount of information stored in its libraries

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and its computers, p. 11

is probably the one where also **the impotence** of each fear and contempt before it simple and essential of life has reached its climax.

Fortunately, the dream, just like the original drive of sex in the most repressive society, has the hard life ! Superstition or not, he continues to steal from us stubbornly blowing an acquaintance that our awakened mind is too heavy, or too cowardly to apprehend, and to give life and lend wings to the projects he inspired us.

If I suggested earlier that the dream was often reluctant to take shape, it is an appearance, which does not really touch the bottom of things. The "reluctance" would come rather from our spirit in the waking state, in his ordinary "plate" - and again the term "reticence" is it an understatement! It would rather be a deep mistrust, which covers an ancestral **fear - fear of knowing**. Speaking of the dream literally of the term, this fear is all the more active, it makes a screen all the more effective, that the message of the dream touches us more closely, that it is fraught with the threat of a profound transformation of our person, if by chance he came to be heard. But we must believe that this mistrust is present and effective even in the relatively innocuous case of the mathematical "dream"; to the point that every dream seems to be banished not only from texts (I do not know any where there is any trace); but also discussions between colleagues, in small groups or one on one.

If that is so, it is certainly not the mathematical dream does not exist or no longer exist - our then science would become sterile, which is not the case, surely the reason for this apparent absence

This conspiracy of silence is closely tied to that other consensus - that carefully erase all track and any mention of work by what is discovery and renews our knowledge of the world.

Or rather, **it is one and the same silence around and dream, and the work he creates, inspires and nourishes .**

So much so that even the term "mathematical dream" seem nonsensical to many, we are moved so often clichés button pushes, rather than through direct experience that we can have a really simple, everyday, important.

6.2. (6) The Dreamer

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In fact, I know from experience that when the mind is eager to know, instead of flee (or p. 12 to approach it with a patented grid by hand, which is the same), the dream is not reluctant "to taking shape" - to let describing delicately and deliver his message always simple, never fool, and sometimes upsetting. Instead, the dreamer in us is an incomparable master to find or create from scratch, from one opportunity to another, the cleanest language to circumvent our fears, to shake our torpor, with scenic means infinitely variable, since the absence of any visual or sensory element whatever it is, the most stunning stagings. When it occurs, it is not to steal, but to encourage us (wasted almost always without ever tires His benevolence...) out of ourselves, heaviness when he sees us bundled up, and he sometimes amused, no less, of parody in comical colors. Lend ear to Dreamer us is communicating with ourselves, to against powerful dams that would like at all costs we ban it.

But who can do more can do less. If we can communicate with ourselves through the dream, revealing us to ourselves, surely it must be possible so any easier to communicate others the way intimate message of mathematical dream, say, that does not involve forces

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resistance of comparable power. And indeed, what have I done in my past other mathematician, if this is followed, "dream" to the end, until the most obvious manifestation, the more solid: unimpeachable, dream tatters standing out one by one with a heavy and dense mists of fabric? And how many times have I stamped impatiently in front of my own stubbornness polishing jealously until his last face each precious or semi precious stone to what my dreams were condensed - rather than follow a pulse deeper: to follow the multifaceted intricacies of fabric parent - undecided confines of the dream and its license incarnation, "publishable" in sum, according to the canons in force! I was also about to follow this impulse then, to get into a work of "mathematical science fiction", "a kind of dream awake "on a theory of" reasons "was left at that time purely hypothetical - and that remained until even today and for good reason, fault to another "daydreamer" to embark on this adventure. It was the late sixties, when my life

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(But I doubt myself at all) was about to

take a different turn, which for a decade was to relegate my mathematical passion a marginal or even denied.

But all in all good, "In the Fields of Pursuit", the first publication after fourteen years of silence is in the spirit of this "waking dream" that was never written, and he seems to have taken over provisional. Certainly, the themes of these two dreams-there are so dissimilar at first glance at least, it is possible for two mathematical topics; besides the first one of the reasons, seem lie on the horizon instead of what could be "doable" with the means at hand, while the second, the famous "fields" and others, seem quite handy. These are dissimilarities could be called casual or accidental, and may vanish much earlier than had expected ¹ (3). They have relatively little impact, to me it seems, on the kind of work one and another theme may result, since it is precisely to "daydream", or, to put it in terms less provocative: to continue the conceptual work of roughing up an overview of coherence and sufficient accuracy to cause more or less complete conviction that the vision corresponds essentially to the reality of things. In the case of the theme developed in this book, this should mean, more or less, that the detailed verification of the validity of that vision becomes a matter of pure craft. While this may take considerable work, with its share of trick and imagination, and probably unexpected twists and perspectives that will make other thing, fortunately, a purely routine work (a "long period", to paraphrase André Weil). This is the kind of work, in short, I did and again ad nauseam in the past, I have at your fingertips and therefore it is unnecessary for me to redo in the years that remain to me. Insofar as I invested again in a mathematical work is the borders of "waking dream" that my energy surely will be best used. In this election, it is not also a profit motive that inspires me (Assuming that such a concern can inspire anyone), but just a dream or dreams. If this new momentum in me must be the bearer of strength is in the dream that he will be drawn!

¹ (3)

I am thinking here particularly to conjectures feues Mordell, Tate, of Shafarevich, who found themselves all demonstrated three last year in a forty-page manuscript Faltings, at a time when the consensus established people "in hit "ruled that these conjectures were" out of reach! "It turns out that" the "fundamental conjecture that serves as a key vault program "algebraic geometry anabelian" which is dear to me, is just near the Mordell conjecture. (He would even appear that this would be a consequence of this, which showed that the program was not a story for serious people. . .)

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6.3. (7) The legacy of Galois

6.3. (7) The legacy of Galois

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It seems that of all the natural sciences, it is only in mathematics that I called ^{p. 14} "Dream" or "daydreaming", is struck by a seemingly absolute ban, more than twice millennia. In other sciences, including reputable science "exact" such as physics, the dream is for less tolerated, even encouraged (different times), under names indeed more "sortable" like "specular lations, "" assumptions "(like the famous" atomic hypothesis ", following a dream, forgiveness of speculation Democritus), "theories". . . The change of status of the dream-that-dare-say-his-name with that of "scientific truth" is by insensible degrees, a consensus gradually expanding. In mathematics against it is almost always (today at least) a sudden transformation, by virtue of the wand magic a **Sample** ² (4). At times when the notion of mathematical definition and demonstration was not, as now, clear and consensus (more or less) usually there were yet obviously important concepts that had an ambiguous existence - like that of many "negative" (rejecting ted by Pascal) or the number of "imaginary." This ambiguity is reflected in the language used yet today.

The gradual clarification of the notions of definition, statement, demonstration, mathematical theory, was very beneficial in this regard. She made us aware of the power tools, a childlike simplicity yet, we have to develop with perfect precision the very thing that might seem unformulable - simply by virtue of a sufficiently rigorous use of everyday language, just things close. If there is one thing that fascinated me since my childhood mathematics is precisely this power to define in words and express perfectly, the essence of mathematics such things which at first are in a form so elusive or mysterious, they seem beyond words. . .

An unfortunate psychological backlash Yet this power, the resources offered by the precision perfect and demonstration, is that they have increased even the traditional taboo against the "dream ma-theme ", that is to say with regard to anything that would not occur under conventional aspects accuracy (even at the expense of a broader vision) guarantees "colorfast" by the shaped demonstrations,

or otherwise (and more

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more by these days. . .) Through demonstration sketches supposed to p. 15
get fit. Of **conjectures** occasionally are tolerated at best, provided that they meet
the accuracy requirements of a questionnaire, where the only permitted answers are "yes" or "no." (And
provided further, is it necessary to say, that one that allows to do is set up shop in the world
Math.) To my knowledge, there has been no example of development as "experimental", a
mathematical theory that would explicitly conjectural in its essential parts. It is true that following
modern guns, while the calculation of "infinitely small" developed from the seventeenth century, became
since the calculus, take dream figure awake, which would eventually be transformed into
2 (4)

Even today the way, we meet "demonstrations" of uncertain status. It has been so for years
demonstration by Grauert the finiteness theorem that bears his name, that person (and goodwill do not
missed!) do manage to read. This confusion has been resolved by other transparent demonstrations, and some al-
laient further, who took over from the initial demonstration. A similar situation, more extreme is the "solution"
the problem called "four-color" which, the computational part was set to computer moves (and a few million
dollars). So this is a "demonstration" that is no longer based in the firm conviction from the under-
hension of a mathematical situation, but in the fact that credit to a machine devoid of the ability to understand and whose
the mathematician User ignore the structure and operation. Even if the calculation is confirmed by other
computers, according to other computer programs, I do not consider so long as the four color problem is
closed. He will have only changed its face in the sense that it is hardly to find a cons-example, but only
a demonstration (read it of course!).

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Math serious only two centuries later, by the magic wand of Cauchy. And that
reminds me necessarily the daydream of **Evariste Galois**, which has not had any luck with that same
Cauchy; but it was enough this time to less than a hundred years for another wand, this time Jordan
(If I remember correctly) gives citizenship to this dream, renamed for the occasion "Galois theory".
The finding that emerges from all this, and that is not to the advantage of "Mathematics 1984" is
he is happy that people like Newton, Leibnitz, Galois (and I probably spend a lot, not being
versed in history ...) were not encumbered with our existing canons, at a time when they were content
discover without taking the time to canonifier!

The example Galois came there without my calling, touch a chord in me. It seems to me
remember that feeling of brotherly sympathy for him has awakened from the first time I heard
about him and his strange destiny, the time when I was still in high school or a student, I think. Like him, I
felt in me a passion for mathematics - and like him I felt a marginal, a stranger in
the "beautiful people" that (it seemed to me) had rejected. Yet I have done myself by being part of this beautiful
world for one day leave without regret. . . This somewhat forgotten affinity reappeared me lately
and in an entirely new, while I was writing the "Outline of a Program" (on the occasion of my application
admission as a researcher at the National Scientific Research Center). This report focuses
primarily a sketch of my main themes

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reflection for ten years. Of all

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these themes, the one that fascinates me most, and I count mostly develop in the coming years, is
the same type of mathematical dream, which also joined the "dream of reasons", which provides an approach
new. In writing this sketch, I remembered the longest mathematical thinking that I
continued trafficked in these last fourteen years. It continued from January to June 1981 and I
have named "The Long March through Galois theory". Little by little, I realized that the
daydream that I continued sporadically for several years, who ended up taking the name of
"Algebraic geometry anabelian" was nothing but a continuation, "the ultimate culmination of the theory
Galois, and probably in the spirit of Galois. "

When occurred to me that continuity at the time of writing the passage of which is extracted from the mentioned line, a joy
went through, which has not dissipated. She was one of the rewards of continued work in solitude
complete. His appearance was as unexpected as the home more than once fees received from two or
three colleagues and old friends yet well "in the know", one of which was also my student, which
I had the opportunity to speak, "hot" again and in the joy of my heart, of those things that I was
to discover. . .

It reminds me that today resume the legacy of Galois, surely also accept the risk
loneliness that was his in his time. Perhaps the time they change less than we think,
often this "risk" does not yet for me figure of threat. If I happen to be pained and frustrated

the affectation of indifference or disdain of those I have loved, never against for many years the loneliness, mathematical or otherwise, she weighed me. If he is a faithful friend that always I aspire to find when I come to leave, this is it!

6.4. (8) Dream and demonstration

But back to the dream, and prohibits strikes the math for millennia. This is the most inveterate perhaps among all the preconceptions has often implicit and rooted in habits, decreeing that such a thing "is math" and another, not. It took thousands of years before such childish things

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6.5. (9) welcome abroad

and pervasive that the symmetry groups of certain geometrical figures, topological forms of some others, the number zero, the sets are in the admission sanctuai

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re! When I talk to p. 17

Students of the topology of a sphere, and forms that are derived from a sphere by adding handles - things that do not surprise young children, but are confusing because they think they know what it is that "math" - the first spontaneous echo that I get is, but it's not math that! The course math, is the Pythagorean theorem, the heights of a triangle and the second degree polynomials. . . these students are not more stupid than you or me, they react like reacted at all times until today

even all the mathematicians of the world except people like Pythagoras or Riemann and maybe five or six others. Poincaré himself, who was not first come, came to prove by A more philosophical B many felt that the infinite sets, that were not math! Surely there must have been a time when the triangles and the squares that were not math - they were drawings that kids or potters traced on sand or clay vases, not confused. . .

This fundamental inertia of the mind, stifled by his "knowledge" is not clean Although mathematicians. I

Ⓢ away somewhat from my point: **prohibits strikes mathematical dream** , and

Through it, all that does not show up in the usual aspects of the finished product, ready for consumption. The little I have learned about the other natural sciences enough to make me a measure prohibits a similar rigor would have condemned to sterility, or an increase of turtle, like in the Middle Ages where it there was no question of écornifler the letter of Scripture. But I know also that the deep source Discovery, as the process of discovery in all essential respects, is the same in mathematics than in any other region or thing in the universe that our body and our mind can know.

Banish the dream is to banish the source - ordered to existence occult.

And I know also, for an experience that has not diminished since my first love and juvenile with mathematics, this: in the deployment a vast and profound vision of mathematical things, this is deployment vision and understanding, the gradual penetration, constantly **before** the demonstration, which makes possible and gives it meaning. When a situation, from the humblest the largest was included in its essential aspects, demonstration of what is included (and the rest) fall like a ripe fruit to perfection. While torn demonstration

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like an unripe fruit tree p. 18

knowledge leaves an aftertaste of dissatisfaction, frustration of our thirst, not appeased.

Two or three times in my life mathematician did I have to bring myself, *faute de mieux*, to snatch the fruit rather than pick. I do not say that I have done wrong, and I regret it. But what I have been able to better and what I liked the best, I took it willingly and not by force. If mathematics given me joys aplenty and continues to fascinate me in my middle age, not by the demonstrations that I have known snatch, but by the inexhaustible mystery and harmony that I feel in it, always ready to be at hand and a loving look.

6.5. (9) welcome abroad

The time seems ripe to express myself about my relationship to the world of mathematicians. It is quite a different thing from my relationship to mathematics. It existed and was strong from an early age, although even before I doubt that there is a world and mathematicians environment. A whole world complex, with its learned societies, its periodicals, his meetings, conferences, congresses, Primas-data and jobbers, its power structure, brokers, and the equally gray mass of cuttable and bondsmen, bad thesis or articles and also those rarer that are rich in resources and ideas

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face the closed doors, desperate to find the support of one of these powerful men, pressed and feared who have this magical power: to publish an article. . .

I discovered the existence of a mathematical world by landing in Paris in 1948, at the age of twenty, with a suitcase in my meager License es Sciences of the University of Montpellier, and a manuscript lines tight wrote duplex, Borderless (the paper was expensive!), representing three years of solitary reflections which (I learned later) was then known as the "measurement theory" or "full Lebesgue. "Without ever having met each other, I thought well, until I arrived in the capital, I was alone in the world to "do math", the only **mathematician** so. (This was for me the same thing, and is a bit remained until this day.) I had juggled the sets I appe-measurable foreshore (without meeting of all else that is...) and the convergence almost everywhere, but did not know what a topological space. I remained a little lost in a dozen concepts

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equivalent "abstract space" and compactness, sins in a small booklet (called a Appert p. 19

I believe in the Scientific and Industrial News), on which I had fallen, God knows how. I had not heard pronounce even in a mathematical context at least, strange words or bar-bares as a group, body, ring, module complex homology (you name it!), suddenly, without warning station, surged on me all at once. The shock was rude!

If I "survived" this shock, and continued to do math and make even my job is that these ancient times, the mathematical world hardly even looked like what it has become since. It is possible I also had the chance to land in an area more welcoming another this unsuspected world.

I had a vague recommendation of one of my professors at the Faculty of Montpellier, Mr. Soula (No more than his colleagues he had seen me often to her classes!), Who had been a student of Cartan (father or son, I can not say too much). As Elie Cartan was then already "out of play", his son Henri Cartan was the first "congener" I had the good fortune to meet. I had no idea then how it was happy omen! I was greeted by him with this courtesy mark of kindness that distinguishes the well-known generations of ENS who have had this chance to make their very first weapons with him. He ... not must not realize, moreover, the full extent of my ignorance, judging by the advice he then gave me to direct my studies. Anyway, his benevolence obviously addressed the person, not the baggage or prospective gifts or (later) a reputation or notoriety. . .

In the year that followed, I was the host of a course Cartan to "the School" (the differential formalism on varieties), to which I clung farm; that also the "Cartan Seminar", in stunned witness dis-sions between him and Serre blows of "Spectral Suites" (brr!) and drawings (called "trees") full of arrows covering the whole picture. It was the heroic age of the theory of "beams", "caramels paces "and an arsenal whose meaning completely escaped me, while I was yet compelled them both although hard to swallow definitions and statements and to check the proofs. At the seminar there was Cartan also periodic appearances Chevalley, Weil, and the days of Bourbaki seminars (involving

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about twenty or thirty to break everything, participants and listeners), one could see land as a group mates a bit noisy, the other members of that famous gang Bourbaki: Dieudonne, Schwartz Godement, Delsarte. They are all familiar terms, spoke the same language that escaped me almost completely, smoked many happy and laughing, lacking only the cases of beer to complement the atmosphere - it was replaced placed chalk and sponge. An atmosphere than any other course of Leray at the College of France (on the Schauder theory of topological degree in spaces of infinite dimension, poor me!), I would listen to the advice of Cartan. I had been to see Mr Leray College de France to ask (If I remember correctly) what would treat its course. I do not remember neither explanation he could give me, 140

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or if I have understood anything - only that here too I felt a warm welcome, addressing the first come abroad. It is this and nothing else, surely, that fact that I went to this course and am myself hung bravely as the Cartan Seminar, while the sense of what Leray exposed escaped me then almost completely.

The strange thing is that in this world where I was a newcomer and I do not understand the language and was speaking very least, I did not feel a stranger. While I had no chance to speak (and due!) with one of these lads as Weil or Dieudonne, or with one of these gentlemen-like more distinguished as Cartan, Leray, or Chevalley, yet I felt I **accepted** , I would almost say: **a their** . I do not remember a single occasion when I was patronized by one of these men, nor used when my thirst for knowledge, and later again, my joy to discover, to be found rejected a sufficiency or disregard a \exists (5). If it were so, I would not "become a mathematician" as they say - I would have chosen another profession where I could give my measure without having to face contempt. . .

So that "objectively" I was a stranger to this world, just as I was a foreigner in France, a link
Yet these men bound me to another environment, another culture, another fate: a passion
common. I doubt that in this crucial year when I discovered the world of mathematicians, one of them, not
Cartan even I was a little student but had many more (and less dropped!), collected
in me the same passion that the

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lived. For them, I had to be one of a mass of listeners during p. 21
and seminars, taking notes and obviously not well in the game. If perhaps I distinguished myself
any way other listeners, is that I was not afraid to ask questions, which most often
were especially denote my phenomenal ignorance as well as the language of mathematics things.
The answers can be brief or surprised, never amazed weirdo I was not then collided
a rebuff to a "surrender in my place," nor in the medium without ways Bourbaki group or as part
most austere of Leray course at the College de France. In the years since I arrived in Paris with a
Elie Cartan letter in my pocket, I never had the impression of finding myself in front of a clan, a
closed world, even hostile. If I knew, well-known that inner contraction in the face of contempt, this is
not in this world; not this time, at least. Respect for the individual was on the air
I breathed. There was not to earn respect, to prove himself before being accepted and treated with some
amenity. Strangely perhaps, it was enough to be a person, to have a human face.

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This fact is even more remarkable that until about 1957, I was regarded with some reservation by more than one Member
the Bourbaki group, which had eventually co-opt me, I think, with some reluctance. A good-natured joke tidying me
the number of "dangerous specialists" (in Functional Analysis). I sometimes felt Cartan unexpressed reserve more
serious - for a few years, I had to give the impression of someone ported to Free generalization and super-
ficial. I saw surprised to find in the first (and only) writing a little longer than I did for Bourbaki (on
the differential formalism on varieties) thinking so little substantial - it was not hot when I was
proposed to undertake it. (This thought I was useful again years later, developing the tailings formalism
the point of view of coherent duality.) I was also often dropped during the Bourbaki Congress, especially during
the public reading essays, being quite unable to follow lectures and discussions at the rate they were continuing.
It is possible that I am not really in a collective effort. Still, this difficulty that I had to insert myself
in the common work, or reserves that I could create for others reasons for Cartan and others, did me no
time attracted sarcasm or rebuke, or only a shadow of condescension, except at most once or twice in
Weil (really a special case!). At no time does Cartan divested of equal kindness toward me, footprint
cordiality and also this touch of humor all his own which for me is inseparable from his person.

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6.6. (10) The "Mathematical Community": fact and fiction

No wonder if, this year maybe in my heart, and more and more clearly
all cases in the years that followed, I felt a member of this world, which I had fun
see under that name, responsible for me meaning, " **mathematical community** ." Before writing,
he never presented the opportunity to examine what was the sense that I gave that name, despite the fact that
I identified a large extent to the "community". It is now clear that it represented
to me nothing less than a kind of ideal extension in space and time, of this world
caring who welcomed me and accepted me as one of them; a world, moreover, which I was
bound by one of the great passions that dominated my life.

This "community", to which I identified progressively, was not entirely an extrapolation
This fictitious mathematical environment that had first greeted me. The initial medium has expanded gradually, I
mean: the circle of mathematicians that I was led to frequent regularly driven themes
common interests and affinities of people, went widening in ten or twenty years that have
followed this first contact. in ter

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my concrete is the circle of colleagues and friends, or rather this structure

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concentric from colleagues to whom I was bound as close (first Dieudonne, Schwartz Godement,
especially later Greenhouse, yet later people like Andreotti, Lang, Tate, Zariski, Hironaka, Mumford
Bott, Mike Artin, not counting people Bourbaki group was also expanding gradually, and
Students coming towards me from the sixties. . .), Other colleagues I had the opportunity
meet here and there and that I was bound more or less close affinities with more or less
strong - that microcosm therefore, made in chance encounters and affinities, representing the
concrete contents of the name responsible for me warmth and resonance: the mathematical community.
When I identified with it as a living entity, warm, it was actually this microcosm
I identified.

Only after the "watershed" of 1970, the first **alarm** should I say, I went account that this cozy and friendly microcosm represented only a small portion of the "world mathematics", and that the features he liked to lend to this world, as I continued to ignore, which I had never thought to be interested, were fictitious traits.

During these twenty-two years, this microcosm itself had also changed its face in a surrounding world who also changed. I too certainly, over the years, without knowing it, I had changed as the world around me. I do not know if my friends and colleagues is perceived more than I This change in the surrounding world, in their microcosm to them and in themselves. I would not know say either when or how it made this strange change - probably came insidiously, to no-wolves **man notoriety was feared**. Myself was concerned - if not by my students nor my friends or by those who knew me personally, at least by those who knew me by notoriety, and who felt themselves protected by a comparable reputation.

I have become aware of the fear that plagues the mathematical world (and equally, if not more, in other scientific circles) than tomorrow my "awakening" of there almost fifteen years. during fifteen years that preceded, gradually and without knowing it, I had entered the role of "big boss" in the world of mathematics who is who. Without

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I doubt it, too, was a prisoner of this role, which

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isolated me from all but a few "peers" and some students (and still...) which definitely "wanted it." It was only after I came out of that role, that at least some of the fear surrounding it is fell. Tongues are untied, who had been silent before me for years.

The evidence they brought me was not just the fear. It was also that of **Me-**
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6.7. (11) Meeting with Claude Chevalley, or: freedom and good feelings

taken. Contempt mostly people up against the other, a contempt that creates and fosters fear.

I had little experience of fear, but that of contempt, in times when the person and life a person does not weigh heavy. It pleased me to forget time of contempt, and now he remembered my good memory! Perhaps had he never stopped, as I had been content simply to change world (as it seemed to me), look elsewhere, or simply, to pretend not to see, hear anything, apart exciting and endless mathematical discussions? In those days, finally I agreed to learn that the contempt was raging all around me, in this world that I had chosen as mine, which I identified myself, who had my deposit and had pampered me.

6.7. (11) Meeting with Claude Chevalley, or: freedom and good feelings

Perhaps the preceding lines can they give the impression that I was shocked by the témoignages which, almost overnight, began flocking to me. There is nothing yet. these témoignages were recorded at a level which remains superficial. They simply added to other facts I had just learned, or that I knew while avoiding far to pay attention. Today I exprimerais the lesson I have learned so well: "scientists" of the most famous to the obscure, are people just like everyone else! I was well pleased to imagine that "we" were something better, we had something extra - it took me a good year or two to get rid of this illusion then, really tough!

Among the friends who helped me, one was in the middle I had to leave without thought of return 4 (6). This is Claude Chevalley. While he made no speeches and was not interested in my family, I think to say that I learned from him the most important things and more hidden than what I just said.

At the time I frequented enough

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regularly (the time of the group "Survive", which he had joined with p. 24 a mixed belief), it often baffled me. I do not know how, but I felt he had a

4 **(6) My friends Surviving and Living**

Among these friends, I should probably count as Pierre Samuel, whom I had known previously especially in Bourbaki as Chevalley, and who (like him) played an important role in Surviving and Living group. It does not seem like Samuel was so focused on this illusion of superiority of science. He especially contributed much, I feel, Common sense and good mood smiling he put into the common work, discussions, relations with others, and also to carry through with the role of "the awful reformist" in a group brought to the analysis and radical options. He remained in Surviving and Living still some time after I removed myself, acting director of the Bulletin same name, and he left with good grace (to join the Friends of the Earth) when he felt that his presence in this group had ceased to be useful.

Samuel was in the same environment that restricts me, which did not prevent it belongs to friends of those years bubbling I think I learned something (anything bad student that I was ...). These ways of being, as

those of Chevalley while they resemble little, was a better antidote to my inclinations "meritocratic" that the most striking analysis!

It now appears to me that for all the friends of this period I have learned anything, it's more their ways being and their different sensitivity to mine, and which "something" ended up communicating by explanations, discussions, etc. . . I remember above all about it, in addition to Chevalley and Samuel, Denis Guedj (who had great influence over the group and *Surviving Life*), Daniel Sibony (which is kept away from the group, while continuing its evolution of the corner of a half-disdainful eye, half-mocking) Gordon Edwards (who was co-actor of the birth of the "movement"

in June 1970 in Montreal, and who for years has done wonders energy to maintain a "US edition" of *Bulletin Surviving and Living* in the English language), Jean Delord (a physicist about my age, man fine and warm, which took me affection and the survivrien microcosm), Fred Snell (to another physicist based in the United States, Buffalo, I've hosted in his country house for a stay of several months in 1972).

Among these friends, five are mathematicians, physicists are two, and all are scientists - which suggests the closest midst of me in those years remained a scientific environment, especially mathematicians.

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knowledge that eluded me, an understanding of some basic things and simple surely which can be expressed in simple words indeed, but without however understanding "pass" of to one another. I realize now that there was a difference in maturity between him and me, was that often I felt cantilever against him in a kind of dialogue of the deaf was not the result of a lack of mutual sympathy or esteem. Without that it is expressed in these words (As far as I remember), it should be clear to him that the "challenged" (the "social role scientific", science, etc...) which I could then, either alone or by the logic of reflection and a common activity in the group "Survive" (which later became "Surviving and Living") - these questioned remained in shallow bottom. They concerned the world in which I lived, certainly, and the role that I played well - but they are not really involved me in a profound way. My vision my own person during these bubbling years, has not changed a bit. It's not when I started to get to know myself. It is only six years later that for the first time my life I; got rid of a stubborn illusion, not on others or on the surrounding world but on myself. It was another revival, greater than the first, which had prepared range. It was a the first in a "cascade" of successive revivals, which I hope will continue for in years remain assigned to me.

I do not remember that Chevalley had alluded in some occasion to self-knowledge, or "Self-discovery", rather. In retrospect, it is clear however that he must have begun to get to know himself long ago. Sometimes he talk about himself, just a few words on the occasion of this is that, with disconcerting ease. It is one of two or three people I did not hear out of shot. He spoke little, and what he said expressed, not ideas it had adopted and accepted them, but a perception and a personal understanding. Therefore surely it often disconcerted me, already the time when we meet again in the Bourbaki group. What he often said shoving ways of seeing that were me

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expensive, and for

p. 25

Therefore I considered "real". There was in him an inner self that I lacked, and I began to perceive dimly the time of "Surviving and Living". This autonomy is not the order of the intellect, speech. This is not something you can "adopt" as ideas, points view, etc. . . The idea would never come to me, fortunately, of wanting to "make my own" this perceived autonomy in another person. I had to find my own self. This also means: I learned (or relearn) to be myself. But in those years, I do not doubt me of my immaturity, of internal autonomy. If I eventually find out, surely the meeting with Chevalley was among the ferments who worked me in silence, while I was embedded in large projects. They are not speeches or words that have sown this ferment there. To sow, it was enough that such a person encountered chance of my road goes speech, and is content to be itself.

It seems to me that in these early days of the seventy years, when we meet regularly the occasion of the publication of the bulletin "Surviving and Living" Chevalley was trying, without insistence, com- me communicate a message that I was then too clumsy to type, or too locked in my militant tasks.

I realized dimly that he had something to tell me about freedom - the freedom intérieure. While I tended to operate with blows of great moral principles and had started to sing this trumpet it as soon the first issues of *Surviving* as matter of course, he had a particular aversion to moralizing. It was I think the thing that baffled me most in him, the beginnings of *Surviving*. For him, such a speech was just a coercive attempt, superimposed on a

6.8. (12) The merit and disregard

Such a view, the pros and cons. She hustled totally mine, animated (one suspects) by more noble and generous sentiments. I was pained, he was incomprehensible to me that Chevalley, who I had the greatest respect and with whom I found myself a bit like a comrade, take a pleasure in not sharing these feelings! I did not understand the truth, the reality of things, is a question of good feelings, or opinions or preferences. Chevalley **saw** something while
Are there simple

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and real, and I did not see her. It's not that he had read somewhere; nothing p. 26 common between seeing something and read something about it. It can read text rigor with hands (in Braille) or ears (if someone makes you play), but we can not see thing itself than with his own eyes. I do not think that Chevalley had better eyes than me. But he used, and I do not. I was too busy with my good feelings and the rest for leisure watch the effect of my good feelings and principles on my own person and that of others, starting by my own children.

There had to see that I do not often used my eyes, I did not have the slightest desire even. It's strange that he never let me hear. Or did he, without my hearing? Or is it abstained, saying that it was useless? Or maybe the idea would not come to him - it was my case after all, not his, if I used my eyes or not!

6.8. (12) The merit and disregard

I would like to examine more closely, in the light of my own limited experience, when and how contempt settled mathematicians in the world, especially in this "microcosm" of colleagues, friends and students who had become like my second home. At the same time, see what was my share in this transformation.

I think I can say without reservation that I have not met in 1948-49 in the circle Mathematicians I mentioned above (including the center for me was the initial Bourbaki group), the any contempt trace, or simply disdain, condescension, with respect to myself or any other young men, French or foreign, come here to learn the mathematician business. Men who played a role of figurehead, by their position or prestige, such Leray, Cartan, Weil, were not feared by me, nor do I believe in any of my classmates. Apart Leray and Cartan, who were very "Distinguished gentlemen", I had a good time even before realizing that each of these lads who landed there without ways Cartan familiarly like a buddy and visibly "in the know". was professor of the University as Cartan himself, was not intended like me from hand to mouth but touched astronomical emoluments for me, and was furthermore a major mathematician and an international audience.

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Following a suggestion of Weil, I spent the next three years to Nancy, who at that time was a p. 27 bit headquarters Bourbaki with Delsarte. Dieudonne, Schwartz Godement (and later also Serre) teacher there at the University. There was there with me a handful of four or five young people (among whom I remember the Lions, Malgrange, Bruhat Berger except confusion), so we were there much less "embedded in the job" in Paris. The atmosphere was even more familiar, everyone knew personally, and is familiarly all I think. When I search my memory, this is yet that is the first and only time I saw before me a mathematician treat a student with contempt undisguised. The unfortunate had come for the day, from another city to work with her boss. (He was preparing a doctoral thesis, which he also ended up spending honorably, and it has since acquired

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notoriety, I think.) I was pretty blown stage. If someone had allowed such a tone with I was it just a second, I would have slammed the door in his face too dry! In this case, I knew although the "boss", I was even on you and you with it, not the student that I knew by sight only. My elder had, in addition to a broad culture (not only mathematical) and an incisive mind, a kind of authority peremptory who at that time (and for some time after another, even in the early 70s) impressed me. He exercised a certain influence on me. I do not remember if I asked a question about his attitude, only the conclusion that I withdrew from the stage: is that really that unhappy student must have been zero, to deserve to be treated this way - something like that. I did not then say that if the student was void because it was a reason to advise him to do something else, and

stop working with him, but never to treat with contempt. I identified myself to the "strong in math" as this prestigious elder at the expense of "nobodies" it would be lawful to despise. I then followed the clear path of collusion with contempt, which suited me, highlighting the fact that I was accepted into the brotherhood of meritorious people, strong in math! 5 (7)

Of course, no more than anyone else, I would be told in clear terms: the people who are trying to make maths without are good happen to despise! I heard someone say something of this water to that time or other, I would have picked up nicely, sincerely sorry for a

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spiritual ignorance

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also phenomenal. The fact is that I bathed in ambiguity, I was playing on two tables that communicate quainterly: first the fine principles and feelings of the other, poor guy, you really have to be zero get treated like that (meaning: it is not to me that this kind of mishap could happen is sure!).

It finally seems that the incident that I reported, and especially the role (seemingly innocuous) that I played, is actually typical of an ambiguity in me, who followed me throughout my life of mathematician in the twenty years that followed, and that dissipated as aftermath of the "awakening" 1970 6 (8), without I clearly detects the front today, as I write these lines. This is unfortunate indeed

I did not notice it at the time. Perhaps the time had it not ripe for me. Still that the evidence which then reached me on the rule of contempt, which I had chosen to close eyes, do not put me involved personally, or indeed any of the colleagues and friends in the game closest to me of my dear microcosm 7 (9). It was rather on the air ah! it is sad to

5 (7)
The preceding paragraph is the first in the introduction that is heavily crossed out on my original manuscript, and provided with

many overloads. The description of the incident, the choice of words came first against the grain, against the current - a force apparently pushing to pass on the quick incident, as a matter of conscience, to "get down to serious." These are the familiar signs of **resistance** here against the elucidation of this episode, and its scope as revealing an inner attitude. The situation is quite similar to that described at the beginning of this introduction (para. 2), the time "crucial" for the discovery of a contradiction and its meaning in a mathematical work: that is when **the inertia** spirit, his reluctance to part with incorrect or insufficient vision (but where our person is not engaged) who plays the role of the "resistance". It is active in nature, inventive needed to get to drown a fish without even water, while the inertia I mentioned is just a passive force. In this case, more than in the case a mathematical work, the discovery that just appeared in all its simplicity, in all its evidence, is followed in now by a sense of relief with a weight, a feeling of **release**. This is not just a feeling - it is rather acute and grateful perception of what just happened, which **is** a liberation.

6 (8)
As will become clear in the following, this ambiguity has in no way "dissipated in the wake of revival in 1970". There is there a typical strategic retreat of the "me" who abandons the profit and loss period "before awakening", which immediately becomes the dividing line for "after" impeccable!

7 (9)
This is not entirely accurate, there is at least one exception among my closest colleagues, as will appear far. There was then a "lazy" typical of memory, which often tend to "go to as" the facts that "stick" with no a vision of things familiar and ingrained long.

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6.9. (13) strength and thickness

learn (or: to teach you) such things, who would have thought, to be really bastard (I was going to say no, sorry!) to treat living things that way! Not so different from the other air eventually, simply replace "none" with "bastard" and "get treated" with "treat" and voila! And honor, of course, is except for the champion of good causes!

The thing that is clear from this, it is my collusion with contempt attitudes. It dates back to least the beginnings of the fifties, from the years so following the warm welcome received from Cartan and his friends. If I do not "see anything" Later, when the contempt became commonplace everywhere, is that I did not want to see - nor in this isolated case, and particularly blatant, where you really had to put the package to pretend not to see or feel!

This collusion was in close harmony with my new identity as a respected member of a group, the meritorious people group, strong in math. I remember I was especially pleased, proud Similarly, in this world that I had chosen, who had co-opted me, it was not social status or even (not!) the only reputation that counted, it was still necessary that it be deserved - we be fine university professor

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or academician or anyone, if one was a mediocre mathematician (poor p. 29 guys!) there was nothing, what counted was only merit, profound ideas, original, virtuosity technical, vast visions and all that!

This ideology of merit, which I identified myself unreservedly (while remaining course implicit and unspoken) still took a blow proud home to tomorrow, like I said, the famous Wake Up 1970. I'm not sure indeed it disappeared from that moment without a trace. He would have probably necessary for it that I detect in myself clearly, when I especially denounced in the other, I think. This is also Chevalley was one of the first, with Denis Guedj I also Surviving known to draw my attention to this ideology there (they called it the "meritocracy", or name like that), and what was in it of violence, contempt. It is because of this, told me Chevalley (it had to be at our first meeting with him about Survive), he could not stand the atmosphere in Bourbaki and had ceased to set foot there. I believe, in retrospect, he should many have noticed that I had been part of this ideology there, and maybe was left still traces in some corners. But I do not remember it ever suggested. Perhaps as yet, he preferred to leave me the care to put points on the i traced it to me, and I waited until today to put them. Better late than never !

6.9. (13) strength and thickness

It is possible that the incident I reported also marks the moment of an internal failover me to a more or less unconditional identification with the brotherhood of merit at the expense of people considered invalid, or simply "uninspired" as it seemed a few generations before (this term was no longer in vogue already in my time): dull people, mediocre - at best "resonance" (as Weil wrote somewhere) to the great ideas of those who really matter... The mere fact my memory, which is so often the same gravedigger for episodes that on the moment mobilize a considerable psychic energy, has chosen this episode one, does relate directly to any other memory linked, and come in such a seemingly mundane, makes it plausible that feeling of a "tilt" that took place then.

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In meditation there is less than five years, I have also come to realize that this ideology p. 30 the "we, the great and noble minds ...", in a particularly extreme and virulent form, had raged 147

6. The dream and the dreamer

in my mother since childhood, and dominates its relationship to the others, she liked to look at the top of his size with an often disdainful pity or contempt. I vouais besides my parents unreserved admiration. The first and only group to which I am identified myself, before the famous "commathematical nity" was the family group down to my mother, my father and I, who had the honor of being recognized my mother as worthy to have them as parents. This means that the seeds of contempt had be sown in my person since childhood. The time might be ripe to follow the vicissitudes in through my childhood and my adult life, these germs, and illusion crops, isolation and conflict What some of them raised. But this is not the place, where I am a more limited purpose. I think I can say this attitude of contempt has ever taken in my life a vehemence and a destructive force comparable those that I have seen in the life of my mother, (when I took the trouble to look at the lives of my Parents Twenty-two years after the death of my mother, and thirty-seven years after my father). But this is the now or never time to carefully review here at least it was the place of this attitude in my life of mathematician.

Before that, to be in its general context the incident reported in the previous paragraph, I would like emphasize this fact, it is completely isolated from my memories of the fifties, and even more later. Even today, while I yet seen a sometimes disconcerting erosion of certain forms elementary courtesy and respect for others in the medium which was mine s (10), the direct expression and undisguised of student boss contempt must be quite rare. In terms of the fifties, I have very few memories that go in the direction of a fear that would have surrounded a figure of notoriety, or attitude of contempt or simply dismissive. If I dig into this, I can say that when first time I was received by Dieudonné in Nancy, with full kindness delicacy that always had with me, I was a bit flabbergasted by how this elegant and affable man spoke of his students - all morons say much! It was a chore to do their courses, to which it was obvious that they understand anything. . . After 1970 I heard the echoes

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from the amphitheater side, and I knew that Dieudonné

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was indeed afraid of students. Yet while he was reputed to have strong opinions and serve them with some thunderous frankly, I've never seen behaving in an offensive manner or humiliating, even in the presence of colleagues he had low esteem, or times of legendary

big anger which subsided as quickly and easily they had arisen.

No associate myself with the sentiments expressed by Dieudonné about his students, I did not take no more my distance from its attitude, shown as the most obvious thing in the world, as almost for granted by a person who had a passion for mathematics. The full authority of my eldest benevolent helping, that attitude then seemed like at least one of the attitudes possible could reasonably have vis-à-vis students and teaching duties.

It seems to me that Dieudonné as for me, impregnated one and the other of the same ideology merit, the insulating effect of the latter was largely neutralized when we were before a person in flesh and blood, whose presence alone silently reminded us of the realities more essential than the so-called "merit", and recovering a forgotten link. The same should happen for most of our colleagues or friends, no less impregnated Dieudonné me or the so prevalent syndrome superiority. Surely this is the case today for many of them.

8 (10)

For example, I can not count the number of letters, on issues as well as practical mathematics or personal, sent to colleagues or former students whom I considered friends, and have never received a response. It seems not just whether preferential treatment reserved for myself, but a sign of a change of manners, according echoes in the same direction. (These relate, indeed, cases where one who sent a letter mathematics was not known to the recipient, for mathematician. . .)

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6.9. (13) strength and thickness

Weil also had the reputation of being feared by his students, and he is the only one of my microcosm in the fifties, which I had the impression he was feared even among colleagues, status (or Just temperament) more modest. Sometimes he would be unanswerable height of attitudes that could disconcert the best hung insurance. My susceptibility helping, it was an opportunity or a twice quarrels transient. I have not seen her in a way of contempt or intent deliberate injury, crush; rather childish attitudes spoiled, taking pleasure (sometimes malicious) to get uncomfortable as a way to convince a certain power he wielded. He had also a truly amazing ascendancy over the Bourbaki group, he sometimes gave me the impression of lead the wand, like a kindergarten teacher a troop of good children.

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I remember only one other occasion in the fifties, I@e felt a brutal expression, p. 32 undisguised contempt. It came from a colleague and foreign friend, about my age. He had a unusual mathematical power. A few years before, when this power was however already manifesto, I was struck by submission (which seemed almost obsequious) the great teacher he was still a modest assistant. Its exceptional means quickly earned him a reputation International and a key position in a particularly prestigious university. He reigned over a small army of student assistants, apparently just as absolute as his boss had ruled he and his comrades. To my question (if I remember correctly) if he had a few students (meaning: that did a nice job with it), he replied, with a false casualness air (I translate in French): "Twelve pieces!" - where "parts" then, was the name by which he referred to his students and assistants. It is certainly unusual for a mathematician has such a number of students at a time doing research under his guidance - and surely my interlocutor drew a secret pride, he was trying to hide under this careless, as to say, "oh, just twelve rooms, not worth even talking about it!". It must have been around 1959, I had a good shell then surely, I nevertheless had a high heart! I had to tell him on the field in a way or another, and I do not think it has wanted me. Maybe even his relationship with his pupils was not she as sinister as his expression could lead one to believe (I did not have the testimony of one of his students) and that he had simply found trapped in his childish desire-to strut before me in all its glory. In retrospect, I see that this incident had to be a turning point in our relations, which had been friendly relations - I sensed in him a kind of fragility, delicacy, too, which attracted sympathy affectionate. These qualities were dull, corroded by its important position man, admired and feared. After this incident, malaise remained in me against him - definitely I did not feel part the same world as him ...

Yet it was indeed part of the same world - and without realizing account more than him, surely I épaississais me, too. On this subject I was left a vivid memory, located in the International Congress of Edimburgh, in 1958, since the previous year, with work on the theorem of Riemann

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Roch, p. 33

I was promoted superstar, and (without I had to tell me in plain words then) I was also one of stars of Congress. (I made a presentation on the strong start of the diagrams in this theory year.) Hirzebruch (another star of the day, with its Riemann-Roch theorem to him) was a opening speech in honor of Hodge who was going to retire this year. At one point, Hirzebruch

suggested that mathematics was by youth work especially, more than by that of Mathematicians mature. This had triggered in the Congress hall, where young people were a majority, general approval outcry. I was delighted and very of course right, I was thirty stack it could still pass for young and the world was mine! In my excitement, I had to scream out loud and type of blows on the table. It happened that I was sitting next to Lady Hodge©wife
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eminent mathematician that was supposed to honor this occasion, while he was going to retire. She turned to me with big eyes and said a few words, which I have more memory - but I have seen reflected in his astonished eyes the thickness tactless had just unleashed without restraint before the lady on the end of his life. Then I felt something, the word "shame" gives an image may distorted - rather humble truth about who I was then. I no longer had to give blows on the tables that day. . .

6.10. (14) fear of Birth

It was about this time I guess when (without having sought) I began to be seen as a star in the mathematical world, some fear that had to start also to surround myself for many unknown or lesser-known colleagues. I suppose, without being able to locate it in a memory precise, for an image that would hit me and would be fixed in my memory, as this incident reported above (which probably marked my first encounter with contempt in my mid adoption).

The thing had to be imperceptibly, without attracting my attention, without manifesting itself by some incident particular, typical, that memory would have retained, with lighting may also deliberately anodyne as for the other incident. What renders me "en bloc" I remember these transition years is that was not uncommon for people who approached me either after my seminar, or during a meeting such as Bourbaki seminar or some

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seminar or conference, had to overcome a kind of stage fright, which

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remained more or less apparent during our discussion, debate if there were. When it lasted more than Within minutes, the most often embarrassment gradually disappeared while we were talking and the conversation became animated. Sometimes, rarely, it had to happen that discomfort continues, to the point of a real barrier to communication even impersonal level of a mathematical discussion, I have felt so confused in front of me a helpless suffering, exasperated with herself. I talk about everything this without really "remember", as through a fog, however, restores my impressions that had to be saved and evacuated without doubt progressively. I would be unable to be in Over time, other than a guess, the appearance of this embarrassment, expression of fear. I do not believe that this fear came from me and it was limited to an attitude, to com-behaviors that could have distinguished me from my colleagues. Had it been so, I think I would have ended up receive echoes at the beginning of the seventy years, when I came out of a role to which I lent me until then, the role precisely star, "big boss." It is this role I think, not my person, who was surrounded by fear. And this role, I think, with this halo of fear that has nothing to do with respect, did not exist, not even in the early fifties, at least not in the mathematical environment that greeted me from the moment I met her meeting in 1948.

Before this "awakening" of 1970, I would not have thought also to be called "fear" the jitters, this discomfort which I was sometimes confronted by colleagues who were not part of the more familiar surroundings. I was embarrassed by myself when it manifested, and was then my best to dispel it. A remarkable thing, typical of the lack of attention to this stuff in my beloved microcosm: I do not remember one time during the twenty years I was part of this milieu, where the issue was discussed between colleague and I, or others before me! 9 (11) This "fog" that keeps me instead of memory restores to me

9 (11) Aldo Andreotti, Ionel Bucur

Of course. it is not impossible that there is oversight on my part - besides my special provisions "polar" in this time were not much encouraged to talk with me about these things, or carry me remember a conversation in this sense that might have occurred. What is certain is that it should be very exceptional to say the least that the issue
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6.10. (14) fear of Birth

not some impression of conscious or unconscious gratification that such situations could aroused in me. I do not think there has been a conscious level, but would not venture to assert I have not been touched opportunity

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tionally the unconscious level, in the early years. If so, this p. 35

had to be fleeting without affect in behavior that would have acted as a fixer of an annoyance. It certainly not my conceit was not involved in the role I was playing! But if I invested in this role without count, which then motivated my ego was not the ambition to impress the "colleague" rank, but to challenge myself constantly to force esteem constantly renewed my "peers" - and before all others, Perhaps elders who had given me credit and had accepted me as one of their own even before I could give my measure. It seems that the inner attitude that was mine vis-à-vis the fear that I was subject, I tried my best to ignore while dissipating a fashion where it manifested - that this attitude can be seen as typical throughout the sixties in the middle (the "Microcosm") including myself.

The situation has deteriorated considerably again in ten or fifteen years that have passed since then, Judging at least by the signs that come to me from time to time in this world, and the situations I could be the next witness, sometimes even a co-actor. More than once, even among those of my old friends or students who were dearest to me, I was confronted with the familiar signs, unimpeachable contempt; the will ("free" in appearance) to discourage, humiliate, crush. A wind contempt rose I can not say when, and breath in this world that was dear to me. It blows, regardless the "merits" or "demerits", burning with his breath the lowly vocations as the most beautiful passions. Is it only one of my former companions, each protected with "his own", by solid walls, installed (as I once was) in hushed awe surrounding his person - is it one that smells this breath there? I know well one and only one among my old friends, who have felt and spoke to me without call it by its name. And another who also collected a day against his will, to hasten forget the very next day 10 (12). Because feel that breath and take to one of my old friends while fear is addressed (without calling it by that name...), and it should be just as today, especially in the "beautiful world".

Among my many friends in this world, except Chevalley, who had become aware of this fear of atmosphere at least in the sixties, the only other which I think he has had to perceive clearly Aldo Andreotti. I had met him, and that of his wife Barbara and their twin children (still small) in 1955 (at a party at Weil in Chicago, I think). We stayed very connected until the "turning point" of 1970 when I left the middle that was ours and have a little lost touch. Aldo had a very keen sensibility, which had in no way blunted by trade with mathematics and with "thrillers" like me. There was in him a gift spontaneous sympathy for those he approached. This set him apart from all the other friends I have known in the middle mathematical, or even outside. At his friendship always took precedence over common mathematical interests (which not missing), and that one of the few mathematicians who I have so little about my life, and he hers. His father, like mine, was Jewish, and he had to suffer in Mussolini Italy, like me in Hitler Germany. I saw it always available to encourage and support young researchers in an environment where it was difficult to gain acceptance by the establishment. His spontaneous interest was always the first to the person, not to a "potential" or mathematical to a reputation. It was one of the most engaging people I had the chance to meet.

This evocation of Aldo brings out the memory of Ionel Bucur, also won unexpectedly and before the age, and as Aldo, regretted even more (I grow) as the friend we love to find that as mathematical discussion partner. One felt in him a kindness, next to an unusual modesty, a propensity to constantly erase. It a mystery how a man as little inclined to take to important or to impress anyone, has eventually found Dean the Faculty of Sciences in Bucharest; probably because the idea never occurred to him to challenge the charges he was far from covet, but his colleagues and political authority rested on his shoulders, tough it must be said. He was the son of peasants (Something that had to play in a country where the "class test" is important), and had the good sense and simplicity. surely must be aware of the fear surrounding the notoriety of man, but surely also the thing must have seemed like for granted as the natural attribute of a position of power. I do not think however that he himself has ever inspired fear to anyone, nor indeed his wife Florica or daughter Alexandra, nor his colleagues or students - and echoes I could have go far in this direction.

10 (12)

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6. The dream and the dreamer

as for myself, it is also willing to wear a look at yourself.

6.11. (15) Harvests and sowing

I do not think I will definitely consider more indignant at a wind blowing, so I saw clearly that I am no stranger to the wind, as a conceit in me would have liked me to believe. And even that I in

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rais was abroad, my indignation would have been a very paltry offering to those who are humiliated p. 36

as to those who humble themselves, and I loved like each other.

I have not been abroad to wind through my connivance with contempt and fear in this world

I had chosen. It suited me to condone these burrs, as on many others, both in my professional life and in my family life. In one and the other, I have reaped what I sowed - and that others have sown before me or with me, both my parents (and my parents@parents...) my new old friends. And others that I now reaping the sowing that lifted both my kids (and my children@children), such that my students today, treated with contempt by some of my former students.

And there is bitterness or resignation in me nor apitoyement, speaking of planting and harvesting. Because I learned that in the same bitter harvest, there is a substantial flesh which it is up to us to feed ourselves. When this substance is eaten and has become part of our flesh, bitterness disappeared, which was the sign of our resistance to a food for us.

And I also know that there are crops that are also sowing other crops, often more bitter than those that preceded them. It still happens that something in me tightens before the chain seemingly endless carefree sowing and bitter crops, transmitted and generating recovery generation. But I@ more overwhelmed or outraged as before a cruel and inevitable fate, and less I@ the complacent and blind prisoner, as I was once. For I know that there a nourishing substance in everything that happens to me, that the sowing are out of my hand or that of others - it@up to me to eat and see turn into knowledge. And it is no different for my children and for all those I loved and those I love in this moment, when reaping what I sowed in times of complacency and carelessness, or what happens to me sow today. The word "day" is here to be taken literally, not as a metaphor.

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7. The double face

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7.1. (16) and first rows Marais

But I@ still not reached the end of this reflection on the part that was mine in the appearance contempt and his progress in this world which I continued blithely refer to by name "My community

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theme. "It is this reflection, I feel now, which is what I have to offer better p. 37 those I have loved in this world, just as I@ about, certainly not to return, but to me express again.

It remains mostly, I think, to consider what kind of relationship I have talked with each other that were part of that world, the times when I still was part like them.

Thinking about it now, I am struck by the fact that there was in this world a part I Yet hung around regularly, and that escaped my attention as if it had never existed. I had to the levy at that time as a kind of "swamp" no function definite in my mind, not even that of "sounding board" I suppose - as a kind of gray mass, anonymous, of those in seminars and symposia invariably sat in the back rows, as if they had been assigned there of birth, those who never opened their mouths during a presentation to venture a question, some they had to be sure in advance that their issue could be that next to the plate. If they asked a question to people like me, deemed "in the know" was in the hallways, when it was clear that "Competence" did not want mine talk to each other - they asked their question and then quickly like on tiptoe, as if ashamed to abuse the precious time of important people like us. Sometimes the question seemed beside the plate and in fact I was trying so (I guess) to say a few words why; often it was relevant and I also answered my best, I think. In both cases it was rare that a question in such terms (or, should I say rather, in a such atmosphere) is followed by a second question, which would have clarified or depth. Maybe we, the people in the front rows, were indeed too eager in these cases (even though we we applied

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7. The double face

surely sometimes not appear on), so that the fear in front of us can dissipate and to allow exchanged born. I was of course, as my interlocutor on his side, the situation in which we were involved were false, artificial - not that I am the ever so formulated, and without either, no doubt, does the ever formulated. One and the other, we operated as strange robots, and a strange complicity bound us: to pretend to ignore the anxiety hugged one of us, dimly perceived by the other - this parcel

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anxiety in laden air anguish

p. 38

that saturated the scene, all probably saw as we, and all chose to ignore a agreement 1 (13).

This confused perception of anguish only became conscious home tomorrow as the first "Awakening" in 1970, when the "swamp" came out of the darkness in which he appealed to me so far keep it in my mind. Without the thing is done by some deliberate decision without me to take consciousness on the field, so I left a medium to enter another - the middle of the people "of the first ranks "for the" swamp ": suddenly most of my new friends were those just a year before I would still tacitly located in this region nameless and contours. The so-called sudden marsh came alive and took life by the faces of friends related to me by a common adventure - another adventure!

7.2. (17) Terry Mirkil

Indeed, even before this crucial turning point, I had been friends with peers (become "colleagues" later) I would probably located in the "swamp", if the question was posed to me (and if they had were my friends. . .). We had this discussion, and I searched my memory to remember and for that memories scattered flock. I met three friends in the very first time, when I was learning the craft in Nancy like them - at a time so we were still in the same basket, where nothing designated me as "eminence". It probably not a coincidence, and there is no other such friendships during the twenty years that followed. We were four foreigners, it was there surely an important link - my relationship with young people "ENS" parachuted in Nancy as me, were much less personal, we hardly saw at college. One of my three friends emigrated to South America a couple of years later. He was like me Research Associate at CNRS, and I as an impression that he did not know himself what he "sought", his situation became CNRS slightly scabrous, to force. We continued to see or write here and there, and we ended up losing contact. My relationship to the other two friends were of longer duration, and also stronger, less superficial. our mathematical interests are also playing a role of the deleted or no.

1 (13)

It is clear that the above description has no pretense of trying to return somehow, by words concrete, that delivers me this "fog" of memory, which is condensed in no case so little accurate, including I could here give a description so little "realistic" or "objective." It would distort my argument than to say in this passage that colleagues who are reluctant to sit in the front rows, or who have not star status or eminence are necessarily tied anxiety by talking to one of these. This was obviously **not** the case for most friends that I have known in this environment, even among those who happened to haunt symposia and seminars. What is true without

no reservation is that the status of "eminence" creates a barrier vis-à-vis ditch those without similar status, and it is rare that the gap vanishes, were that the space for discussion. I would add that the subjective distinction (which seems to me quite real) between "front row" and "swamp" can not be reduced to sociological criteria (of social position, positions, titles, etc. . .) Or even "status" of fame, but it also reflects the psychological features of temperament or more sensitive provisions to define. When I arrived in Paris at the age of twenty, I knew I was a mathematician, I had **done** the math, and despite the scenery which I had the opportunity to speak, I felt the bottom "One of them", while only one to know, and not even be sure first that I would continue to do math. Today I am inclined to sit in the last row (on the rare occasions when the question arises).

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7.3. (18) Twenty years of complacency, or the untiring friend

Terry and his wife Mirkil Presocia, tiny and fragile as it was

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stocky, with a gentle air p. 39

and one in the other, we often spent evenings in Nancy, and sometimes nights, singing, playing piano (It was Terry who was playing), talking music was their passion, and things and other important In our lives. Not the **more** important it is true - not those that are still killed so carefully. . .

This friendship brought me a lot though. Terry had a delicacy, a discernment that were lacking to me, while most of my energy was already polarized on mathematics. Although more than me, he had kept a sense of simple and essential things - sun, rain, earth, wind, singing, friendship. . .

After Terry has found a post to his liking at Dartmouth College, Harvard not so far from where I was making frequent trips (from the late fifties), we continued to meet and to write. Meanwhile, I knew he was prone to depression, which made him long stays in the "houses crazy" as he called in the single terse letter in which he spoke to me, after a these "horrible stay." When we met, he was never a question - except once or twice very Incidentally, in response to my astonishment that he and Presocia did not adopt a child. I do not believe the idea never occurred to me is that we can talk about the problem from the bottom, he and I, or only the touch - probably not even that there might be issues to look at, in my life Friend or mine. . . There were these things taboo, unspoken and impassable. Gradually, meetings and letters are spaced. It is true that I was becoming increasingly prisoner of tasks and a role, and this will especially become like an obsession, an escape maybe something else, to challenge myself constantly in the accumulation of works - when my life fami- subsidiary mysteriously deteriorated inexorably. . .

When I learned one day by a letter from a colleague Terry in Dartmouth, my friend committed suicide (This was long after he was already dead and buried...), This news came to me as through a fog, like an echo of a faraway world and I would have left, God knows when. A world in me, perhaps, who had died long before Terry will end its life, devastated by the violence of anguish he had been unable or unwilling to solve, and that I had been unable or unwilling to guess. . .

7.3. (18) Twenty years of complacency, or the untiring friend

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My relationship with Terry was not distorted at any time I believe, by the difference in our statutes in the p. 40 mathematical world, or a sense of superiority that I would have withdrawn. This friendship, and one or two Others whose lives made me gift in those days (regardless if I "deserved"!) was certainly one of the few antidotes then against a secret fatuity, fueled by social status and, even more, by realized that I had taken from my mathematical power and value myself not respite him. He did not go well in my relationship with the third friend. He, and later his wife (whom he had knowledge about the time we had known Nancy) have shown me over the years a warm friendship, delicate footprint and simplicity, in all occasions when we met in their house or in mine. In friendship there was obviously no back- thought, related to status or brain capacity. But my relationship with them remained during footprint more than twenty years of this deep ambiguity in me, this division I mentioned, which marked my life mathematician. In their presence every time again, I could not help but feel their friendship affectionate and respond, almost against my will! At the same time, for more than twenty years I managed this feat of watching my friend with disdain, the top of my greatness. That must engage well the early years in Nancy, and also my long prevention extended to his wife, as

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if he could not be as heard in advance that his wife could only be as "insignificant" than him. Enter my mother and I do affections designate as a mocking nickname, which had to stay engraved in me well long after the death of my mother, which occurred in 1957. It now appears to me that the force at least behind my attitude was ascending the strong personality of my mother had on me all his life, and for nearly twenty years after his death, during which I continued to be imbued with the values that had dominated his life. The sweet-natured, affable, not combative My friend was tacitly classified as "insignificant", and became the subject of a mocking disdain. It only Now even bothering first to examine what was this relationship that I discovered the full extent of this isolation frenzied before the warm sympathy of others, who for so marked long time. My friend Terry, not more aggressive or powerful as that other friend had

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the good fortune, he, being authorized

p. 41

my mother and has not been the object of his mockery - and I suspect that why my relationship with Terry able to flourish without inner strength in me. Its investment in math was not more fervent nor his "gifts" more Prominents without autamtj@n to draw pretext to cut myself off from him and his woman by the shell of disdain and sufficiency!

What remains incomprehensible to me in this other relationship is the loving friendship my friend has ever discouraged by the reluctance he could not fail to feel in me every new meeting. Yet today I know that I was **something else** too that this shell and disdain, something other than cerebral muscle and conceit which drew vanity. As in them, there was the child in me - the child I pretended to ignore, disdain object. I was cut off from him, and yet he lived some part of me, healthy and vigorous as in the day of my birth. It is surely the child was going affection my friends, least cut me from their roots. And it is also, surely, that met there in secret

the sly, when the Great Chief back was turned.

7.4. (19) The world without love

The Grand Chief has aged, happily, it has eroded a tad, and the kid from could take longer ease, In terms of the relationship with these really steadfast friends, it seems to have put his finger there on the case in my life the most obvious, the most grotesque effects of a certain smugness (among others) in a personal relationship. Maybe I'm still trying to deceive me, but I believe it is also the only time my relationship with a colleague or friend in the mathematical middle (or elsewhere) was invested sustainably by conceit, instead it will simply show up occasionally, discrete and fleeting way. It also seems to me that among the many friends I had then in the mathematical world and loved to attend, there is none to which I could imagine that they have experienced a similar error in a relationship with a colleague, friend or not. Among my friends, I was the less "cool" perhaps the most "polard" the least inclined to let pierce a touch of humor (it ended up come to me only later on), the most common to take terribly seriously. Surely even I could not so researched the company of people like me (assuming that he is found)!

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The amazing thing is that my friends, "marsh" or not "swamp", supported me and even took me affectionate p. 42

tion. This is a good and important thing to say here - even though we often saw little for discuss math in long hours and days: affection flowed as she runs today, between the friends of the time (at the discretion of some fortuitous affinity) and me since the first time I was received with affection in Nancy in 1949 in the home of Lawrence and Hélène Schwartz (where I was doing some part of the family), one of Dieudonné, the Godement (that time I haunted also regularly 156

7.4. (19) The world without love

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This affectionate warmth that surrounded my first steps in the mathematical world, and I had tend a bit to forget, was important in my life of mathematician. It was she who surely gave a warm tone similar to my relationship amidst my elders embodied for me, She gave all her strength to my identification with that environment, and its meaning to the name of "community mathematical".

Obviously, for many young mathematicians today is being cut in their time learning, and often well beyond any current affection, warmth; see reflected their work in the eyes of a remote boss and parsimonious in its comments, like if they read a Circular of the Ministry of Research and Industry, which cuts the wings to work and takes away a sense more deeper than a livelihood gloomy and uncertain.

But I anticipate, speaking of this disgrace then, the deepest of all, perhaps, the mathematical world 70s and 80s - the mathematical world where those who were my students, and the students of my old friends, set the tone. A world where, often, the boss assigns his work on the student, as one throws a bone to a dog - that or nothing! As assigns a cell to a prisoner: this is where you do the your solitude! Or Such a thorough and solid work, the result of years of patient effort, is rejected by the smile of contempt one who knows everything and has the power in his hands: "This work does not amuse me!" and the issue is closed. Good to the trash, do talk more. . .

Such misfortunes, I know it did not exist in the environment that I knew, from the friends I haunted, in the fifties and sixties. It is true that I learned in 1970 that it was rather the daily bread

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in the scientific world outside of math - and even in math was not so p. 43 apparently uncommon, open face contempt, flagrant abuse of power (without recourse), even among some renowned colleagues and I had the opportunity to meet. But in the circle of friends I had naively taken for "the" mathematical world, or at least as a faithful expression of this miniature world, I have not experienced anything like this.

Yet the seeds of contempt had to be there already sown by my friends and me and raised in our students. And not only our students, but also in such of my former companions and friends. But my role is not to denounce or even fight: we do not fight corruption. In view of my students as I liked, or as the old fellow, something in me tightens - and rather than accept knowledge brings me pain, I often refuse pain and am struggling and refuge in denial and a fighting attitude, such a thing does not happen to be! Yet it is - and even I know in what is its meaning. In more ways than one, I'm not abroad, if such student or former companion that I liked, if Please crush quietly as another that I love and in whom he recognizes me.

Again I digress, doubly I could say - as if the wind blew contempt of only around my house! Yet it is through her breath on me and especially those who are near and dear to me that I

am touched and know. But time is not ripe to talk about it, except to myself only in the silence. It's time instead I resume the thread of my thinking-witness, who could take name "In the pursuit of contempt" - contempt in myself and around me in this mathematical environment that was mine, in the fifties and sixties.

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7.5. (20) A world without conflict?

I thought about the "swamp" in a few lines, for conscience, just to say he was there but I do not frequent it - and as so often in meditation (and also in the mathematical work tick); the "nothing" that looks proved rich in life and mystery, and knowledge hitherto neglected. Like the other "nothing", which also was at Nancy coincidentally (really the cradle of my new identity!), the "nothing" that student just no certainly that was being treated should have seen. . . I thought about Flash sometimes, when I wrote (a little fast perhaps?) that "these disgraces", it does not exist "in us. "Let's say it is the only

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and one such incident that I can report that looks like (it should

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recognize the good) to "disgrace" to which I was referring, without much to dwell on a description detailed. Those who have suffered know well what I am talking about, without having to design. And also those who, without having suffered, do not rush to close their eyes whenever they are confronted with it. As for the others, those who despise their heart as those who just close their eyes (as I did it myself successfully for twenty years), even an album of drawings you lose. . . It remains for me to examine my personal and professional relationships with my colleagues and my students, during these two decades, and incidentally also, that I have known relationships of my colleagues closer to each other, and with their students. The thing that strikes me most today is how it seem that **the conflict has been absent from all these relationships** . I should add immediately that this is something which in those days seemed very natural - a bit like the least of it. The conflict between people Goodwill, mentally and spiritually adult and stuff (the least of it, again!) had no place. When conflict there was somewhere, I looked like a sort of regrettable misunderstanding with the good will of rigor and by explaining, that could only be resolved in the most promptly and without a trace! I chose from an early age as my mathematical activity favorite, it's probably because I felt that "s in that path that this worldview was most likely not encounter every step troubling denials. When we **demonstrated** some thing, after all; everyone agreed that is to say, people of good will and all that, of course. It is that I had just felt. And the history of the past two decades in the tranquility of the world "No conflict" (?) Of my beloved "mathematical community," is also the story of a long stagnation interior in me eyes and ears plugged, without learning anything except math or nearly so - while in my private life (first in relations between my mother and me and the family I founded soon after his death) raged a silent destruction that at no time during these years I have dared watch. But that is another story. . . The "awakening" of 1970, which I have often spoken in these lines, was a turning not only in my life math

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matician, and a radical of the medium change, but a turning

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also (almost one year) in my family life. This is also the year in which for the first time, in contact with my new friends, I might suddenly casual eye, although still stealth, on the conflict in my life. It's the when doubts began to dawn on me, that has matured over the years that followed, the conflict in my life, and that also sometimes I was apprehensive in the lives of others, was not a misunderstanding, a "Blunder" that took off with a sponge.

This absence (at least relative) conflict in this environment that I had chosen as my own, I think in retrospect a rather remarkable thing, when I finally learned that the conflict raging around where humans live in families like the workplace, as these are factories, laboratories and offices of professors or assistants. It almost seems I fell battery, September or October 1948, landing in Paris without suspecting anything, on the paradise island and only in the Universe, where people live without conflict with each other!

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7.5. (20) A world without conflict?

The thing suddenly seems really extraordinary, after all that I have learned since 1970.

Surely it deserves to be looked at more closely - is this a myth or reality? I see affection that circulated among many of my friends and I, and later between student and I do not have to be invented - but it almost seems that I am obliged to invent the conflict in this world heavenly where the conflict seems banned!

True, in this reflection I have had the opportunity still to touch two conflicts, as revealing each time an inner attitude in me: One is the incident of "student no" to Nancy, whose I do not know the ins and outs between direct protagonists. The other is a conflict in me - Similarly, a division, in my relation to "the indefatigable friend" - but it was never expressed as a conflict between people, the only form of generally recognized conflict. Remarkably, in the sense Conventional the term, the relationship between these friends and I was completely free of conflict - it has to no time experienced any cloud. The division was in me, not them.

I continue the census. One of the first thoughts: the Bourbaki group! During the years when I participated more or less regularly, so until the end of the fifties, this group embodied for me the ideal of collective work done in respect of both the detail appa

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No. small in this work p. 46

itself, that of freedom of each of these members. At no time have I felt from my friends Bourbaki group the shadow of a stress inclination, whether of me or anyone else, member seasoned or guest, came to the test to see if it would "hang" between him and the group. At no moment, the shadow of a struggle for influence, either about differences of views on a particular issue to the agenda, or a rivalry for hegemony exercised over the group. The group was working without a leader, and nobody apparently aspired in his heart, as far as I could see myself, to play this role. Of course, as in any group, as a member exerted on the group, or on such other members, a ascending greater than another. Weil played on it a special role, which I spoke. When he was present, it was a bit "playmaker" 2 (14). Twice I believe my susceptibility to was offended, and I am party - they are the only signs of "conflict" that I had knowledge. Gradually Serre had on the group upward comparable to Weil. From the time I was part of Bourbaki, this has not resulted in situations of rivalry between the two men, and I have no knowledge of enmity would set them later. Looking back twenty-five years ago, Bourbaki, as I knew him in the fifties, still seems a remarkable success story in terms of quality relationships in a group around a common project. The quality of the group appears to me a Gasoline more rare quality books that are out. This was one of the many privileges of my life, full of privileges, to have made the acquaintance of Bourbaki, and having served for a few years. If I did not stay there, it is not a result of conflict or because the quality of which I spoke would have deteriorated, but because of the personal tasks more strongly attracted me again, and I have devoted their entire my energy. His departure also has thrown shadow nor my relationship the group or on my relationship with any of its members.

I would have to review the conflict in which I was involved, who have opposed me

2 (14)

One might think that this contradicts the assertion of lack of leadership, then it is not. For former Bourbaki I think that Weil was seen as the soul of the group, but never as a "leader". When he was there and when he pleased, it became "playmaker" as I said, but it was not the law. When he was cranky it could block the discussion on such a subject he disliked, even regain quiet about another conference when Weil was not there, even the next day when he was no longer obstructed. Decisions were taken unanimously by the members present recital that it was not excluded (or even rare) that a person is in the real against the unanimity of all the others. This principle may seem absurd to group work. The extraordinary thing is that it worked yet!

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one of my colleagues or my students between 1948 and 1970. The only thing that comes out so slightly, these are the two temporary quarrels with Weil, which has already been discussed. Some fleeting shadows, very transient on my Serre relations, because of my extra

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ceptibilité overlooked some casually

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sometimes disconcerting that he had to cut short an interview when had finished the interest, or express lack of interest or aversion to such work in which I was engaged, or that vision on which I insisted, perhaps a bit too much too often! It never grown into a quarrel. Beyond temperament differences, our mathematical affinities were particularly strong, and he had to feel like me that we we complete each other.

The only other mathematician whom I was bound by an affinity comparable and even stronger, was Line. Incidentally, the memory comes the question of the appointment of Deligne to IHES in 1969

led to tensions, I have not seen then as a "conflict" (which would be expressed say by a falling, or a turning point in a relationship between others).

I think I've been around - at the level of conflict between people visible manifestations tangible in relations with colleagues or co-workers and students in the middle that I haunted, that all during these twenty-two, incredible as it may seem. Suffice to say, no conflict in this paradise I had chosen - so should we believe, not contempt? A further contradiction in mathematics? Definitely will require that I look closer!

7.6. (21) A well-kept open secret

I have surely forgotten past few minor episodes, such as "cold" passengers in my relation to such colleague, especially due to my sensibilities. I should also add three or four occasions when my love-own was disappointed when it happened that colleagues and friends do not remember, in such their publications such idea or result I had done their part had to play a role in their work (and it seemed to me). The fact that I still remember it shows that this was a sensitive issue, which has perhaps not entirely disappeared with age! Except once, I refrained to mention it to the interested parties, including good faith was certainly above suspicion. The opposite surely have happened also without I receive in echo. I am not aware of a case in my "microcosm" where an issue priority should be the occasion of a brouil

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the or enmity, or even about catty among stakeholders.

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Still, the only time I had such a discussion (in a case that seemed obvious) there has been a kind of spat, which has cleaned the atmosphere without leaving a residue resent. It was a particularly brilliant colleague, who among other capabilities that assimilate with a rapidity Impressive everything he heard, and it seems that he often had a tendency to take to endorse the ideas of others he had learned from their mouth.

There is a difficulty that has to be under a more or less strong form in all mathematical ners (and not only among them), and not only due to the ego drive that pushes Most of us (and I pay no exception) to assign "merits", both real and supposed.

The understanding of a situation (mathematical or otherwise), regardless of how we manage it, with or without the assistance of others, is in itself a thing personal essence, a personal experience nelle whose fruit is a vision, necessarily personal too. A vision can sometimes communicate, but communicated vision is different from the original vision. However, it takes great vigilance nevertheless received from others in the formation of his vision. Surely myself have not always had this vigilance, which was the last of my worries, while yet I was waiting at the other vis-à 160

7.7. (22) Bourbaki, or my big chance - and its reverse

Screw me! Mike Artin was the first and only one that I have heard one day, with one joker air which discloses an open secret that it was both impossible and perfectly vain to tire in want to discern what part "self", what the "others" when we get to take a substance arms and body to understand something. That had me a little confused, as it was not at all in ethics which had been taught me by example by Cartan, Dieudonné, Schwartz and others. I yet felt vaguely that there was in his words, and just as much in his laughing eyes, a truth that had escaped me until now 3 . My relationship to mathematical (and especially the mathematical production) was heavily invested by the ego, and this was not the case with Mike. It really gave the impression of doing Math as a kid having fun, and not forgetting the food and drink.

7.7. (22) Bourbaki, or my big chance - and its reverse

Before you even delve a little deeper beneath the visible surface, there

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a finding which is binding on p. 49

me now: that **the mathematical middle that I haunted for two decades in the years**

50 and 60, was indeed a "world without conflict" , in other words! This is a quite extraordinary thing by itself, and deserves me to dwell somewhat.

I would have to clarify immediately that this is a very small community, the central part of my micro-mathematical cosme, limited to my "environment" immediate - few twenty colleagues and friends I met regularly and which I was most strongly linked. passing the review, I was struck by the that more than half of these colleagues were active members of Bourbaki. It is clear that **the core and the soul of this microcosm was Bourbaki** . It was in almost exactly, the Bourbaki and mathematicians closest Bourbaki. In the 60s I was no longer myself part of the group, but my relationship some members remained as close as ever, particularly with Dieudonné, Greenhouse, Tate Lang Cartier. I continued also to be a regular at the Bourbaki seminar or rather, I became at that time, and it is at this time that I made most of my presentations (on the schema theory).

It probably in the sixties that the "tone" in the Bourbaki group slid elitism more and more pronounced, which I was certainly involved then, and that for this reason I did not risk not noticing. I still remember my astonishment, in 1970, discovering how the Bourbaki same name had become unpopular among broad (ignored me until now) of mathematical world, more or less as a synonym for elitism, narrow dogmatism, worship of form "Canonical" at the expense of a living understanding, hermetic, antisponanéité of castrating and I past! It is also not in the "swamp" Bourbaki bad press was focusing: in the years sixty, and perhaps even before, I had had occasional echoes from mathematicians with Another mindset, allergic to "Bourbaki style" 4 (15). By adhering unconditional I was surprised 3 (30 September) In another aspect of things, however, see note 1 June (after three months in this text) "Ambiguity" (n ° 63), examining the pitfalls of complacency to self and to others.

4 (15)

I have not felt this "allergy" to Bourbaki style has led to communication difficulties between mathematicians and I or other members or supporters of Bourbaki, as would be the case if the spirit of the group had been parochialism, elite among the elite. Beyond styles and fashions, there were in all members of the group a sense keen to mathematical substance from any source. It was during the sixties that I only remember some of my friends, calling it "troublemakers" as mathematicians whose work did not interest him. As for things I knew almost nothing otherwise I tend to take for granted such assessments, impressed by so many casual insurance - until I discovered that this "troublemaker" was an original and profound spirit, had not had the good fortune to please my brilliant friend. It seems to me that in some Member Bourbaki an attitude of modesty

(Or at least reserve) before the work of others, when you ignore this work or imperfectly understands, has eroded 161

7. The double face

and struggled a bit - I thought that mathematics was the agreement of the minds! Yet I should have remember that when I started, it was not always easy to swallow or inspirational text

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Bourbaki, even

p. 50

if it was expeditious. The canonical text hardly gave an idea of the atmosphere in which it was written, to tell least. It now seems that this is precisely the main shortcoming of Bourbaki texts - that not even a casual smile there can arise suspicions that these texts were written by **people** , and people linked by much more than by any unconditional allegiance to ruthless rigor guns. . .

But the question of a shift towards elitism, like the writing style of Bourbaki, here is a digression. The thing that strikes me here is that this "bourbakien microcosm" I chose to middle professional, **was a world without conflict** . The thing seems to me all the more remarkable as protagonists in this environment each had a strong mathematical personality, and many are considered as "great mathematicians", each which certainly did its own weight to form mid-crocosome to him, which he was the center and the undisputed leader! 5 (16) This is the same cordial coexistence and affectionate, for two decades, these strong personalities in one microcosm and in the same working group, which strikes me as something so remarkable, perhaps unique. This ties printing of "outstanding success" that was already clear yesterday about Bourbaki.

It seems that finally I had this unique opportunity during my first exposure to the world ma-theme, falling stack on **the** privileged place in time and space, which had just been formed since few years a mathematical environment of exceptional quality, perhaps unique in that quality. This medium has become mine, and remained for me the epitome of a "mathematical community" ideal, which probably was no longer the time (beyond the middle which for me incarnated) at no other in the history of mathematics, if perhaps not in some equally small groups (such that perhaps that had formed around Pythagoras in a spirit very different).

My identification with this medium was very strong, and inseparable from my new identity mathematician, born the late forties. It was the first group beyond the family group, where I was greeted with heat, and accepted as one of them. Other link, of a different nature: my own ap

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near mathematics

p. 51

was confirmed by the group, and in those of the members of my new surroundings. She was not the same as "Bourbaki" approach, but it was clear that the two were brothers.

This medium moreover, was for me to represent this ideal (or nearly so!), This **place without conflict** whose quest was probably headed to math, science among all where any hint of conflict seemed absent! And if I mentioned earlier in my "unique opportunity", he was present in my

mind that this chance then had its downside. If it allowed me to develop ways and give my measure as a mathematician in the middle of my peers became my seniors, it was also the way Welcome to an escape from the conflict in my own life, and a long spiritual stagnation. First, while this still existed "mathematical instinct" that felt rich substance or a solid job without to refer to a name or a reputation. By the echoes that come to me here and there, it seems to me that one as the other, modesty as instinct, have now become rare things in what was my mathematical environment.

5 (16)

Indeed, several members Bourbaki surely had their own microcosm "to them", more or less extended, except or beyond bourbakien microcosm. But it is perhaps no coincidence that in my own case, as a microcosm did formed around me after I have ceased to be part of Bourbaki, and all my energy was invested in Tasks that were personal to me.

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7.8. (23) De Profundis

7.8. (23) De Profundis

This medium "Bourbaki" has certainly exerted a strong influence on me and my world and my place in the world. This is not the place to try to identify this influence, and how it is expressed in my life. I would say only that he does not seem to me that my inclinations to the conceit, and méritocratisantes their rationalizations, were stimulated by my contact with Bourbaki and my insertion in the "Bourbaki middle" - at least not at the end of the forties and the fifties.

The seeds were planted in long in me, and would have found opportunity to develop in all another medium. The incident of "student no" I reported is not typical, rather, a atmosphere that would have prevailed in this environment, I repeat, only an ambiguous attitude in my own person. The atmosphere in Bourbaki was an atmosphere of respect for the person, an atmosphere of freedom - this is the least that I felt; and it was likely to deter and mitigate any inclination to attitudes of domination or foppery, whether individual or collective.

This exceptional quality of environment is no more. He died I can not say when, without anyone probably noticing and the bell tolls, even in his heart. I suppose a deterioration insensible had to make in people - we all had to "take the bottle" to go stale. We become important people listened, powerful, feared, sought.

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The spark perhaps was still there, but the innocence p. 52 got lost on the way. Such of us may end up before his death, like a new birth - but this medium that had welcomed me no longer, and it would be vain I expect rise again. Everything is back in order.

And respect as perhaps got lost on the way. When we were students, it might be too late so that the best is transmitted - there was still a spark, but the innocence or respect except for "peers" and "hers".

The wind can get up and blow and burn - we are safe behind thick walls, each with "his".

Everything is in order. . .

7.9. (24) My goodbye, or: foreign

This retrospective of my mathematician©life takes a different path than I had expected. As a matter of fact, I did not think even a retrospective, but only to say in a few lines or even a page or two, what today was my relationship to this world that I had left, and perhaps also, conversely, what was the relationship to me of my old friends, from the echoes that come to me from time. I© had intention, by cons, examine a little closer the sometimes strange vicissitudes of certain ideas and concepts that I introduced in these years of intense mathematical work - I should say: the new types of objects and structures that I have been privileged to glimpse and take the night of the unknown to total darkness, and sometimes even the clearest daylight! It now seems about detonate in what became a meditation on the past, in an effort to better understand and take a present, sometimes confusing. Decidedly, reflection provided on a certain "school" geometry that had formed under my leadership, which has vanished without (almost) trace, wait a occasion more conducive 6 . In so My immediate concern will be to conduct the retrospective to an end on 6 This "more conducive opportunity" appeared earlier than expected, and reflection in question is the subject of the second part, "The Burial" Crops and Seeds.

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my mathematician living in the world of mathematicians, not fussing over a work and the fate that was

his.

During the five days that have gone by, busy with other tasks such as discussion papers, a memory came back to me with some

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insistence. It will serve as my epilogue to De Profundis that I

p. 53

had stopped.

It happens by the end of 1977. A few weeks earlier, I had been quoted in the Criminal Court of Montpellier for the crime of having "free sheltered and fed an illegal alien" (that is ie, a foreigner whose residence papers in France are not in order). It was during this quote I learned the existence of this incredible paragraph of the 1945 law regulating the status Foreigners in France, a paragraph that prohibits any French to provide assistance in any form whether a foreign "irregular". This law, which did not have its analogue even in Germany Hitler against Jews, had apparently never been applied in its literal sense. By a "chance" very strange, I had the honor to be taken as the first guinea pig for a first entry into force of this unique paragraph.

For a few days I remained dumbfounded, like paralyzed, deep discouragement. Suddenly I saw myself back thirty-five years ago, to the time when life did not weigh heavy, especially the strangers. . . Then I reacted, I shook myself. For some months I have invested all my energy to try to mobilize public opinion, first in my University and Montpellier, and then to National level. It was at this time of intense activity, for a cause which later proved to lost in advance, that puts the episode that I could now call him to **say goodbye** .

As for action at the national level, I wrote five "personalities" from science, particularly known (including a mathematician) to make them aware of this law, which still I always seem incredible that day I was quoted. In my letter I proposed a joint action to show our opposition to a wicked law, which amounted to outlaw hundreds of thousands foreigners residing in France, and designate the distrust of the people, such as leprosy, millions other foreigners, which suddenly became suspect, likely to attract the worst trouble that the French do not stand on their guard.

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Surprisingly, completely unexpected for me, I have received response from any of these five

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"Personalities". Really, I had things to learn. . .

That when I decided to go to Paris, at the Bourbaki seminar where I would not fail to meet many old friends for initially mobilize opinion in the mathematical community, which I was most familiar. This medium, it seemed, would be particularly sensitive to the cause of foreigners while all my fellow mathematicians, like myself, have to rub shoulders daily colleagues, students and foreign students, most if not all have had moments of difficulty with their papers to stay, and had to face the arbitrary and often contempt in corridors and offices of police prefectures. Laurent Schwartz, I had apprised of my project, I was told they let me off at the end of the presentations of the first day of the Seminar, to refer the situation with these colleagues.

This is how I landed that day, a large package of leaflets in my suitcase for the benefit of my colleagues. Alain Lascoux seconded me to distribute them in the hallway of the Institut Henri Poincaré before the first session and "intermission" between the two presentations. If I remember correctly, he had even a small tract on his side - he is one of a couple of colleagues who, having had echoes of the case,

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7.9. (24) My goodbye, or: foreign

had moved and had contacted me before my trip to Paris, to offer me their help 7 (17). Roger Godement is also part of the number, he even made a leaflet headlined "A Nobel Prize in Prison?". It was chic to it, but it definitely was not connected to the same wavelength, as if the scandal was to take it to a "Nobel Prize", rather than first lamplighter came!

There was a crowd in effect on the first day of Bourbaki Seminar, and a lot of people I had known more or less close, including old friends and companions of Bourbaki; I believe most were well be there. Many of my former students too. It had to do ten years soon that I had not seen all these people, and I was happy coming this opportunity to review, even than it will do much to time ! But we would eventually end up in smaller numbers. . .

But the reunion "were not that," it was quite clear from the

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beginning. Many hands outstretched p. 55

and tight, for sure, and many questions "like, you here, what brings you here?", yes - but there was

as an indefinable air of embarrassment behind the cheerful tones. Was it because the cause that brought me no not interested in the background, so they came to a certain tri-annual mathematical ceremony asking their attention? Or regardless of what brought me, is it my person himself which inspired this discomfort there, a bit like a defrocked priest qu@spirerait discomfort among seminarians good complexion? I can not say - can -be was there both. From my side, I could not help see the transformation that had taken place in some faces that were familiar and even friends. They were frozen, would have said, or sagging. A mobility that I had known seemed disappeared, as if it had never been. I found myself in front of strangers, as if nothing ever had me tied to them. Dimly, I felt that we did not live in the same world. I grew retrieve brothers this exceptional opportunity that brought me, and I found myself in front of strangers. While high, it must be recognize, I do not recall bittersweet comment or leaflets that would have dragged down. In fact, all distributed leaflets (or almost) had to be read, curiosity helping. It@not as long as the wicked law has jeopardized view! I had my five minutes, perhaps I have taken even ten, to talk about the situation of those for me were brothers, called "foreigners". There was a packed auditorium of colleagues, quieter than if I had made a mathematical statement. Perhaps the conviction to talk to them already was gone. There was, as before, sympathomimetic current pathy and interest. There must be people pressed into the number, I had to tell me, I shortened, offering find us on the field with colleagues who were concerned to work together in a more detailed on what could be done. . .

When the session was declared adjourned, it was a general rush to the exits - obviously everyone was a train or subway about to leave, he had to miss at any price! Within a minute or two, the Hermit amphitheater was left empty, it was prodigious! We ended up with three in the great desert amphitheater, under the lights

0 floods. Three, including Alain and me. I did not know p. 56
 Third, one of those foreigners still unmentionable I bet in dubious company and irregular to boot! We did not take the time to hold forth at length on enough eloquent scene had just happened to us. Maybe so I was the only one not believe my eyes, and my two friends have been kind so refrain from comments about it. Obviously I disembarked. . .
 The evening ended with Alain and his ex-wife Jacqueline, to take stock of the situation and enter 7 (17)

This is especially outside the scientific community that I met warm echoes the action in which I had engaged, and active support. Besides the friendly support of Alain Lascoux and Roger Godement, I must note here yet over-while that of Jean Dieudonné, who moved to Montpellier at the hearing in Correctional, to add warm witness to other evidence for a lost cause.

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review what could be done; to do a little more knowledge, too. Neither date nor later, I have taken the leisure position in relation to a past episode that I had to live. It was that day that I had yet understand without words a certain environment, a world I had known and loved was no longer a living warmth that I thought back had dissipated long ago probably.

That has not prevented the echoes that reached me yet, year by year, of that world whose heat fled, have many times baffled me, painfully touched. I doubt this reflection are some changes thing for the future - except, perhaps, that I rebifferai me unless so touched. . .

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8. Teacher and students

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8.1. (25) The student and the program

I have not finished a tour of what were my relationships with other mathematicians at the time when I felt part with them in the same world, the same "mathematical community." It remains

especially to examine what were my relationships with my students, as I lived them, and others for which I did figure eldest.

Overall, I think I can say without reservation that my relationships with my students have been respectful relationships. In this respect at least, I think, that I had received from my elders in the days when I was myself student has not deteriorated over the years. As I had the reputation of doing math "Difficult" (concept indeed more subjective!), And being more demanding than other patrons (something already less subjective) students who came to me were early enough highly motivated: "They wanted it! "There was just a student at the beginning was a bit" ollé ollé "it was not so clear whether he would start - and then if he is fired without I had to push. . .

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As far as I can remember, I accepted all students who asked to work with me. To p. 57 two of them, it turned out after a few weeks or months that my work style will suit them not. Indeed, it now seems to me that this was the twice blocking situations, which I then hastily interpreted as signs of inability to mathematical work. Today I would be much prudent to make such predictions. I had no hesitation to share my impressions with two individuals, advising them not to continue in a career that, it seemed to me, did not correspond not with their provisions. In fact, I knew that for one of these students at least, I had erred - this young researcher has subsequently earned notoriety in difficult subjects, on the borders of the geometry and algebraic number theory. I did not know if the other student, a young woman, continued or not after his disappointment with me. It is not excluded that my impression of his abilities, expressed so too peremptory, has discouraged the while she was maybe just as able as another to do good job. I think I had credit and confidence to these students as others. I missed by cons

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8. Teacher and students

discernment to make sense of things in front of what were surely blocking signs, rather than demerit 1 (18).

From the early sixties, so for ten years, eleven students made a thesis State doctorate with me 2 (19). After choosing a topic at their convenience, they each did their job with gusto, and (so did I feel) they identified strongly about they chose. There have been But an exception in the case of a student who had chosen, perhaps without real conviction, a subject "Should be done", but were ungrateful aspects too, the case of a technical development, sometimes difficult or even arid, ideas that were already acquired, when there was hardly any surprises or suspense 1 (18)

I think this lack of discernment was not from negligence on my part on both occasions, but a lack of maturity, of ignorance. It is only a decade later that I started to pay attention locking mechanisms, both in my own person in my family or among students, and to measure the role huge that they play in the lives of everyone, not just at school or university. Of course, I regret not having had on both occasions the discernment of a more mature, but not to have clearly expressed my impressions merit. When I noted in this case a job done without serious, the naming of these things for what they I think are necessary and beneficial thing. If in another case again, the conclusion I was shooting was hasty and not founded, I was not the only one yet whose responsibility was engaged. The student shook and had the choice again, either in take a leaf (that is maybe what happened once) or to be discouraged, and maybe then change jobs (which is not necessarily a bad thing either!).

2 (19) Jesus and the Twelve Apostles

Since 1970 until today still a student, Yves Ladegaillerie, prepared and passed a thesis with me. Students in first period are P. Berthelot, M. Demazure, J. Giraud. Mrs. M. Hakim, Ms. Hoang Xuan Sinh. Illusie L., P. Jouanolou. M. Raynaud, M. Raynaud, N. Saavedra, JL Verdier. (Six of them have also completed their thesis after 1970 So at a time when my math was more limited availability.) Among these students, Michel Raynaud takes a place besides, having found itself the key issues and concepts that are the subject of his thesis, he more developed entirely independently; my role of "supervisor" itself has thus merely read the thesis completed to constitute the jury and take part.

When it was me who was proposing a subject, I took good care to confine myself to those whom I had a relationship enough strong to feel able, if necessary, to support the work of the student. A notable exception was the work Michèle Raynaud theorems of local and global Lefschetz to the fundamental group, formulated in terms of 1-fields on suitable stalls sites. This question seemed to me (and has indeed proved) difficult, and I did not Demonstration idea for conjecture I proposed (which could also little doubt). This work continued to the early 70s, and Ms. Raynaud (as was previously the case for her husband) has developed a delicate and original method without any assistance from me or from elsewhere. This excellent work also opens the question an extension of Ms. Raynaud©results to the case of n-fields, which seems to me to represent the natural outcome, in the context of patterns, theorems of the type "theorem Lefschetz low". The wording of the relevant conjecture here (which can do little doubt either) however uses essential way the notion of n-fields, whose prosecution is

supposed to be the main object of this book [*This is actually Volume 3 of Mathematics Thoughts, not this Volume 1 Crops and Seeds - see Introduction, p (v)..*], As the name "In the Fields of Pursuit" suggests. We are would probably stay in its place,

Another case is quite apart from Ms. Sinh, whom I had first met in Hanoi in December 1967, on the occasion a seminar-a month that I gave at the University of Hanoi evacuated. I offered her the following year on thesis. She worked in the particularly difficult conditions of wartime, his contact with me merely a episodic correspondence. She was able to come to France in 1974/75 (at the International Congress of Mathematicians in Vancouver), and then pass his thesis in Paris (before a jury chaired by Cartan and comprising Schwartz, Deny, Zisman and me).

Finally, we must mention me even Pierre Deligne and Carlos Contou-Carrère, who both have a bit of an student the first to the 1965-1968 years, the second to the 1974-1976 years. The both were visibly (and still have) the unusual ways, which they used in very different ways and with very different fortunes too. Before coming to Bures, Deligne was a little student Tits (Belgium) - I doubt he was a student of mathematics someone within the meaning current term. Contou-Carrere was student Santalo (in Argentina), and for a while Thom! or less).

The one and the other had the stature of a mathematician when the contact is established, except that Contou-Carrere lack of method and craft.

My role with mathematical Deligne has simply let him know, by the week, the little I knew in algebraic geometry he learned as one listens to a tale - as if he had always known; way and also doing, raise questions most often it was response on the field or in the following days. These are the
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8.2. (26) Discipline and rigor

Perspectives 3 (20). Carried away by the needs of a broad program for which I needed to arm I had run out of psychological insight in proposing this subject was not appropriate, surely, to particular personality of the student. He for his part was not too realize what a pain he was getting there! Still, neither he nor I have been able to see in time that it was off on the wrong foot, and it was better to start on something else.

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Obviously it worked without real conviction, and without departing from an air always a little sad, maus- p. 58 Sade. I think I already had arrived at a point where I was not paying too much attention to these things, which nevertheless (I should remember) are day and night in any research, not just research!

My role then limited himself to be annoyed when the work pretended to drag on, and push a "Phew!" relief when it set off again, and when at last the planned program ended up being "completed". It was not until years after my awakening in 1970, having had to correspond with this former student (now teacher, like everyone else in this mild weather!), that the idea came to me as decidedly something had gone wrong in this case, it was perhaps not a total success. Today, it ap- me seems like a failure, despite the "Program completed" (not sloppy!), the diploma and the position in the key. And I wear a large share of responsibility for having put the needs of a program before those a person - a person who was given to me with confidence. "Respect" which sometimes I have prevailed ("unreservedly"), which I have demonstrated vis-à-vis my students stayed here superficial, separated from what is the real soul of respect: loving attention to human needs in the extent at least that satisfaction depended on me. Need here a joy in work, otherwise it loses its meaning, becomes constrained.

I had the opportunity during this discussion to talk about a "world without love," and I was looking in my own person the seeds of that world that I récusais. Here©one size - and I can not say au JourdQui how he rose in others. This superficial respect, devoid of attention, true love is the "Respect" as I have given to my children. With them, I had the privilege to see up this seed and proliferate. And I also understood so little that nothing serves to balk at harvest. . .

8.2. (26) Discipline and rigor

If I except the student, who certainly was no less "gifted" than others, I can say that relations between my students and I were cordial, often affectionate. By force of circumstances, all early work of Deligne I have known. Those after 1970 (for him also to my "official students") are me known by very scattered and distant echoes [*This is actually Volume 3 of Mathematics Thoughts, not this Volume 1 Crops and Seeds - see Introduction, p (v)..*].

My role with Contou-Carrère, following what he says to himself early in his thesis, was limited to introducing the language patterns. I have followed that by far in any case the work he has prepared as State doctoral thesis in these recent years on a topic of the current that escapes my ability. It was after a few mishaps in the wide world that Contou-Carrère has been recently led finally, in extremis and (to me it seems now) to his body unwillingly, to call on my services to act as supervisor and form a jury. (This exposed him to the risk to figure rises Grothendieck "after 1970" in a Guess where this can present serious drawbacks. . .). I carried out this task as best I could, and it is likely that this is the last time I will have exercised this function (at a state doctorate). I am particularly pleased, in this unusual circumstance,

the friendly competition of Jean Giraud, who also took his time a month or two to make a careful reading bulky manuscript, which he made a detailed report and warm.

3 (20)

This makes me think about Monique had taken Hakim, who was not more engaging indeed, I wonder how she made to keep the morale! If she has struggled at times, it was not in any case as to make sad or gloomy, and work us was done in a friendly and relaxed atmosphere.

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8. Teacher and students

have learned to be patient vis-à-vis my two main defects as "boss": the

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having a writing

p. 59

not (yet all I think eventually learn to read me) and more serious thing indeed (which I did notice it until much later), my land difficult to follow the thoughts of others, without my do have first translated in my pictures to me, and redesigned in my own style. I was much more brought to communicate to my students a certain vision which I had strongly impregnated rather to encourage in them the emergence of a personal vision, perhaps quite different from mine. This difficulty in the relationship with my students has not disappeared today, but it seems that its effects are mitigated, because I realize this propensity in me. Maybe my temperament, innate or acquired me he predisposes more solitary work, which was also mine during the fifteen first years of my mathematical activity (from 1945 to 1960 approximately), to the role of "master" in contact students whose vocation and mathematics personality are not fully trained 4 (21). It is true also, however, that since my childhood I loved to teach, and that since the sixties up Today, the students I have had in my life took an important place. This also means that my teaching activity, my role as a teacher had in my life and keep it a great place 5 (22). During this first period of my teaching activity, there was no apparent conflict between any my students and I would have expressed if only by a "cold" passenger in our relationships. A once, I found myself obliged to tell a student that he lacked seriousness in his work and it does not interest me to continue with it if it continues like this. He knew of course just as well as me what it was, it was taken and the incident was closed without a cloud. Another time, in the early seventy already, while most of my energy was engaged in group activities "Survive and Living ", a student whom I had shown (as is my habit) the thesis statement I had just written on his work, was angered, believing that some considerations in this report questioned the quality of his work (which was not my intention). This time it was me who corrected this without make trouble. It does not seem to me then that this short incident can leave a shadow in our relationship, but perhaps I am wrong. The relationship between this student and I was more impersonal than them

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Very students (apart from "the student sad" I spoke), a good working relationship without more, without a p. 60

genuine warmth that would have happened between us. But I do not think it@a lack of kindness unconscious in me that would have put me in my report the considerations he considered disadvantageous to him, adding "he was not going to pass" the thing as did a friend of his, who had already spent his thesis with me. With this other student, a sensitive and affectionate nature, I was bound by a relationship 4 (21)

It might be more accurate to say that for the temperament of mine, is the **maturity** necessary that makes me failure to fully assume a teaching role. My acquired temperament has long been marked by a predominance excessive "male" traits (or "yang"), and one aspect of maturity is precisely balance "yin-yang" dominant "Feminine" (or "yin").

(Added later.) Even more than a mature, I see that it is a certain **generosity** which is lacking in me my life as a teacher until today - a generosity that is expressed more delicately than by time availability and energy, and that is essential. This lack has not manifested visibly (by an accumulation of situations Failure say) in my first teaching period, probably mostly because it was offset by a strong motivation in students who chose to come and work with me. In the second period against from 1970 to today, I seems to lack is at least one reason, and that in any case that involves me most directly, for failure Overall I see in my teaching at research (from the level of an AED so). On this subject "Outline Program" para.8 and para 9 "Review of teaching activity", which reflected the frustration on which left me in this business for seven or eight years [Compare also footnote (23iv) added later.].

5 (22)

Plus for a long time, perhaps, since I decided to apply for admission to the National Center for Scientific Research, and end as a teaching activity in a university, which in recent years has

8.2. (26) Discipline and rigor

especially friendly; if I had included in my report on his thesis the same kind of consideration that were so displeased with his friend, it was certainly not for lack of good will! Moreover, for one and for the other, as with all my students, I would not have given the green light to a defense, if I had fully satisfied with the work they presented. None of my students this period has also been difficult to quickly find a job in his measure; once its former thesis.

Until the year 1970: I had vis-à-vis my students virtually unlimited availability 6 (22 ⑥

When the time was ripe and every time so that it could be useful, I went with one or other of all day if necessary, to work these issues that were not developed, or to review their successive stages of writing their work. As I experienced these sessions, it does not seem that I have ever played the role of "director" making decisions, but it was every time a search town, where discussions were made between equals, until complete satisfaction of one or the other. The student brought a considerable investment of energy, incommensurate course than I was called to make myself, which was against with more experience, and sometimes more flair exercised. The thing though that seems the most essential for the quality of any research, whether intellectual or other, there is no question of experience. This is **the requirement vis-à-vis oneself**. The requirement I'm talking about is delicate essence, it is not of the order of scrupulous compliance with standards whatsoever, rigor or others. It consists of a **careful** extreme to something delicate inside ourselves, which defies standard and measure. The tricky thing is the absence or presence of an understanding of the considered thing. Rather, the attention I

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want p. 61

talking is attention to the **quality of understanding** present in every moment, from the cacophony of a heterogeneous stacking concepts and statements (assumed or known), up to full satisfaction, harceremony completed a perfect understanding. The depth of research that culminated an fragmentary or complete understanding, is in the quality of this attention. Such attention does not appear as a result of a precept that would follow a deliberate intention to "be careful" to be careful - it arises spontaneously, it seems to me, the passion to know, it is one of the signs that distinguish the drive knowledge of his egotistic counterfeits. This attention is also sometimes called "**rigor**". It's an inner rigor, independent austerity guns that may prevail at a given moment in discipline (say) determined. If in this book I would like to take liberties with guns rigor (which I taught and have their purpose and usefulness), I do not think that rigor more essential it is smaller than in my previous publications in canon style. And if I could, perhaps, nevertheless, convey to my students something more than price and language expertise, it is undoubtedly this requirement, this attention, this rigor - if not in relation to others and to self-determination (whereas at this level as it was lacking to me that whoever), at least in mathematical work 7

6 (22 ⑥

Even after 1970, when my interest in math became sporadic and marginal in my life, I do not think there had used me where I am challenged when a student was using me to work with him. I can even say that except two or three cases, the interest of my students after 1970 for the work they did was far below my own interest them, even in times when I was concerned about little math on days when I set foot in college. also the kind of availability that I had my students before 1970, and the extreme demands in work that was a main sign, would not they had any vis-à-vis the meaning of most of my future students, who were doing math without conviction, for continual effort they should have done on themselves. . .

7 (23) and the master Child

The term "forward" here does not really match the reality of things, which reminds me of a more modest attitude. This rigor is not a thing we can pass, but no wake or encourage, as she is ignored or discouraged from an early age, the family environment as well as by school and college. As far as I can remember, this rigor was present in my quests, those of an intellectual nature, at least, and I do not think she I was sent by my parents, let alone master, school or mathematicians among my elders. she me

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8. Teacher and students

(23). This is certainly a modest thing, but perhaps, after all, better than nothing.

8.3. (27) the burr - or twenty years after

Except perhaps in the case of two students I spoke with a working relationship that did fi- eventually not established, I do not remember the other students who came to me and asked

to work with me, have come with a "stage fright" or fear. No doubt they would already know me more or less, for following would do some time my seminar at the IHES. If there was discomfort at the beginning of our relationship, it ended up dissipate, without a trace, during the job. I should, however, make two exceptions. One is the student who has not arrived to take really liking his work, and remained monosyllabic even during our joint work. Perhaps It also came at a time when my availability would become less, and there has been with him working sessions on parts for afternoon

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for days. No, in fact I can not remember

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no such sessions; I rather think we could see especially in a rush for an hour or two, to the point where it was. Certainly it was he who had the least drop me!

The other student by against I wanted to talk worked with me at the time I still had a dis-Complete ponibilité for my students. Our relationship has been cordial since the beginning. It is even part of some students with whom has established a friendly relationship, those that I used to see them at all as they came to me, a relationship a little family to family. It is true that even in those cases, the relationship still remained at a relatively superficial level, at least in my case. at conscious, while I already not aware of much of what was happening with me, under my own roof, I hardly knew anything finally about the lives of my mathematician friends, students or not, except the names of the wife and children (and again, sometimes I forget them, without ever wants is me!). Maybe I represented an extreme case of "polard" but I believe in the mathematical middle that I knew, most if not all relationships, even friendly and affectionate, remained at this level superficial heaven where we finally know that very little of each other, except what is perceived at the unformulated. This is one reason, surely, why the conflict between people was so rare in this environment, while it is clear to me that the division existed within most of my colleagues and friends, and within their families, as well as home and elsewhere.

I do not think my relationship with this student will be distinguished from my relationship to others, and I did not not the feeling at the time, conversely, his relationship to me was distinguished by a significant way than other students, including those with whom friendships were related. It is only recently that I was able to realize that it had to be a stronger relationship than most of my classmates.

The visible manifestations of an unexpressed conflict came as an unexpected revelation about twenty years after the time when he was my student. It was only then that I made the connection with "Small" is long forgotten. For a long time, maybe even for the whole period (a few seems to be part of the attributes of **innocence** and thus, things that are assigned to each birth. this innocence early "to see green and not ripe", which it is obliged to dive deeper or shallower, and often does appear hardly trace in the rest of life. With me, for reasons I have not yet thought to probe a certain innocence survived relatively insignificant level of intellectual curiosity, while elsewhere it plunged deep, seen or experienced! as with everyone. Perhaps the secret, or rather the mystery, of "teaching" in full sense of reconnecting with that innocence disappeared in appearance. But there is no question of finding it contact the student, if it is not already present or first found in the person of the teacher himself. And what is "transmitted" then by the teacher to the student is not at this rigor or innocence (innate in both), but a respect, tacit appreciation for this thing commonly rejected.

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8.4. (28) The unfinished harvest

years so) when we happened to work together more or less regularly,

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this student had retained p. 63

some "jitters". This manifested itself at each meeting, with signs that do not lie. these signs disappeared pretty quickly then, during the joint work. Of course I was embarrassed by these signs unwell, and I felt it was more. It was one and the other pretending to ignore the thing, as just. Surely the idea of talking would come to one or the other, nor even to grant some Attention written before itself in a strange situation, obviously worthwhile! For him as for me, "jitters would be felt as a simple "blunder" which had no place. The "blunder" remembered our good memory regularly, but each time, she had the good taste to go, time to let us leisure occupy us alone serious matters, math - and at the same time to forget "what had no place to be. "I do not remember being stopped once, to ask me some questions about the meaning of the burr, and I@ sure he was the same on the side of my student and friend. nothing without doubt in what we had experienced both around us, from our earliest infancy, could in him or suggest me the idea of another vis-a-vis a troublesome thing, than **the rule** in possible, so that it constantly interfere. In this case it was entirely possible and even easy, and we were perfectly willing to have seen nothing felt nothing heard nothing.

In many echoes and overlaps returning me for two or three years, I realize for-
As what was dismissed as having no place to be, has not been ceasing to be, and to
manifest. This sometimes came back to me did not "instead of" - yet "it is", and now do
can be brushed aside with one hand. . .

8.4. (28) The unfinished harvest

Until the first "awakening" in 1970, relations with my students as my relationship with my
own work, was a source of satisfaction and joy, a tangible basis, unimpeachable a sen-
BUILDING harmony in my life was going to give it meaning, whereas elusive destruction
rampant in my family life. At that time, there was no evidence to my eyes in apparent conflict
these relationships, none of which were then at no time even fugitive, because of frustration or punishment.
This is something that may seem paradoxical that the conflict in the relationship

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so of my students became p. 64

apparent after the famous clock, after a turn so that gave my life it had an opening
not known before, and my person a little early flexibility perhaps - qualities so that you could actually
think, should be such as to resolve or prevent conflict, not to cause or exacerbate.

If you look more closely, however, I see that the paradox is only apparent, and it disappears under
whatever angle you look at it. The first that comes to me for a conflict has a chance to resolve it
must first of all it is manifested. The stage of conflict is manifested ripening compared
than the conflict hidden or ignored, which also events do exist, and are even more
"Effective" that the conflict is expressed by them remains unknown. Also: for a conflict can manifest
recognizably, you first that **distance** will be reduced or disappeared. Changes
which are made in my life for almost fifteen years, during "awakenings" successive particular have
all was change, it seems to me likely to reduce a distance, to erase isolation. A conflict
which is struggling to express themselves vis-à-vis a prestigious patron, admired, takes over his vis-à-vis comfortable
someone robbed a position of power (voluntarily in this case), who was exiled to some
middle holder of authority and prestige, which is less and less perceived as an incarnation or
special representative of any entity (such as mathematics), and more and more like a person
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8. Teacher and students

like the others: a person not only attainable but, more is less
and less prone to hide from injury or sentences. And thirdly and most importantly: the evolution that has been
mine since the first revival, especially in this time and in the years that followed, was such
to raise (or wake maybe) question, a concern, a "challenge" in the universe
orderly of my former students. I had ample opportunity to realize that he was not well
only for them but also among my old friends and companions in the mathematical world,
even among scientific colleagues who know me only by hearsay.

It must be said that the resolution of conflict as either shallow is a rarer thing. most
often, notwithstanding all truces and reconciliations surface, the growing procession of our conflicts we
without following

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not leave us an inch during life, eventually we will drop between them

p. 65

sullen hands of undertakers. It was given to me sometimes to see a conflict unravel so slightly, and
sometimes even see the resolve in knowledge - but until now such a thing does not happen
during and on the occasion of my relationship with one of my students, or one of my old friends in the world
mathematical. And I know also that it is not sure that such a thing ever happening, although
I still had to live a hundred years.

It is remarkable that the very moment of my break with a past, I mean
Episode I left the IHES (the institution so that was a bit like the "matrix" of
mathematical microcosm that had formed around me) - this decisive episode was simultaneously
the first time that a deep antagonism to one of my students to me spoke. It©this
surely circumstance that made this particularly painful episode, particularly painful, as
a birth or a birth that would be made in difficult conditions. Good

Sure, I could then see this episode, whose meaning escaped me, in the light where I learned to see
since. Even long after this painful surprise remained. Yet by the summer of that
year, starting in bitterness was revealed as a liberation - like a door suddenly
was wide open (it was enough that I shoot!) on an unsuspected world, calling me to find out.
And each new awakening since then has also been a new release: the discovery of a liability,
an indoor obstacle, and the rediscovery of the presence of a huge unknown, hidden behind the appearance
familiar with what was supposed to "known". But also throughout these fifteen years and until today

Similarly, this obstinate antagonism, discreet and seamless followed me like one big sustainable source frustration that I have known in my life mathematician s (23 © I could say maybe she was the price I paid for this first release, and for those who followed. But I know that liberation and inner maturity are foreign to a "price to pay", they are not about "profits" and of "losses". Or to put it differently: when the harvest is brought to completion, when it is completed, there no loss - the very thing that seemed "lost" has become "profit". And it becomes clear that I did not know yet lead to its ter

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me this crop there remains, at the moment even as I write these lines, unfinished.

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8 (23 ©

There was however the last seven or eight years another "frustrating" chronic mathematician in my life, but which was expressed over the years much more discreetly. It eventually became apparent by a repetition effect, stubborn accumulation of the same type of situation "frustrating" in my teaching activity, and finally bursting into a kind of "ras-le-bol", making me stop almost any known activity "research direction." I touch this issue once or twice in my thinking, only to examine at least so slightly at the very end. I describe at least this frustration, and examines the role which played in my "back to the math" (see para. 50. "Weight of the past").

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8.5. (29) The enemy Father (1)

8.5. (29) The enemy Father (1)

The kind of students who started working with me after the turn of 1970, in the middle completely different from a provincial university, was very different as students before. There are over had two who worked with me at a state doctoral thesis. The work of others has located at the Master or PhD graduate theses. I should still include lots students who strongly clinging to some "course" Introduction to Research, which provided the opportunity for them to ask mathematical questions often unplanned and sometimes imagining methods originales to solve them. I met the most active participation in certain "option during" for freshmen. Among students by cons who have already undergone the university atmosphere during few years, a certain freshness, a capacity of interest, personal vision are already more or less off. Among the elective courses students, many were visibly fabric to make an excellent mathematician. Given the situation, I kept myself to encourage any to embark on that path, which Yet could attract them and where they could excel.

With students who were like my "course" to prepare master©degrees, relations were not prosecuted, usually beyond the year. Each time, I had the impression that they are quickly became cordial and relaxed, overall. Except in a distressed student a "stage fright" pervasive 9 9 (23 ") Fear play

This student had worked with me on a "course work" DEA for a year, and remained "contracted" in its working relationship with me until the end. It was a frank friendship, crossed by mutual sympathy that could be no doubt. Yet there was this "stage fright"; this fear, the true cause was surely no fear before my person, even though it was taking appearance. I would have felt perhaps not even look at the thing, if the student does told me about himself, probably to "explain" more or less the result of a nearly complete blockage in his work during the year.

As has happened with other students who, like him, faint at first some geometric substance, blocking manifested from the moment it was to make a "work room", so put in black and white statements in form, or only grasp the meaning and significance of those that I provided and I proposed to admit as foundations of a language, such as "rule of the game." Reflexes "school" almost always grow the student faced with a situation where is supposed to "do research" to adopt as a "given" to both blur and imperative "rules of the game" which implied are transmitted by the Master, and that it is certainly not to try to explain, much less understand. The form concrete that take these implicit rules are the "recipes" semantics or calculation on the model of Mole books say (or any other current instruction book). The student expects more from a master form task "show than. . . "That was the only form of" reflection "mathematics that he encountered in his past experience. (I do not think Besides the provisions of most professional mathematicians, and other scientists also are essentially different - except that the "master" is replaced by "consensus" that sets the rules of the game of the moment and sees it as a given immutable. This consensus also sets what the "problems" that this is resolved, between which everyone feels free to choose his liking, even for changing the course of his work, even even invent others. . .). I noticed the completely different attitude of mine vis-à-vis a substance mathematically it is to fathom, and therefore also vis-à-vis the student almost certainly trigger disarray, one of signs is anxiety. Like any anxiety, it will tend to have a face to project a "reason" external, plausible or not. One of the most common faces of anxiety is precisely fear.

Such difficulties are not are presented in the first period of my teaching activity, except perhaps in two cases where a "teacher-student" does not continue beyond a few weeks, and maybe (I can not say)

in the case of "student sad," perhaps felt "riveted" on a topic that not inspired, although he had yet all latitude to change. In the case of the student (which I have also spoken) which remained afflicted with some jitters for a long time

it is clear that the reason is elsewhere. It was by no means stuck in his work, but rather perfectly comfortable with the theme he had chosen, on which he made a major foundation work. Most of my students this period were also former students of the Ecole Normale, and their contacts with Henri Cartan had already shown them the example another "mathematical approach. At the opposite end (so to speak) thereof, in my second period as teacher at the University of Montpellier is among freshmen that anxiety which I spoke the least interfered with a process of reflection. For many of these students, amazement before a different approach caused neither anxiety nor closed, but to open and go to, for once, interesting things! From my observations, the effect of several years of college on student creativity provisions is radical and devastating. It is a strange thing that in this respect the effect of long high school years seems relatively harmless. The reason perhaps is that

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(23"), it was the same with the students who were supposed to formally prepare a research project under my direction, at one level or another. A difference (among many others!) With my students before, is that our relationship was not as merely a common mathematical work. Often the exchange between student and I involved our people under superficially 10 (23v). It is therefore not surprising that in this second period of my teaching activity, conflicting elements in relation to certain students have appeared in a clearer and more direct and even vehement. Among my former students in first period, there are two that appeared in later attitudes systematic antagonism

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unequivocal (I had the opportunity to discuss the way), yet remained at the unformulated and p. 67

perhaps even unconscious. In the second period, longer, there were three students with whom I was faced with antagonism. In two of them, this was manifested acutely.

In one of these students, antagonism appeared overnight in a relationship that had been most friendly, long years after the friend ceased to be my student. I suspect that the cause of conflict was not so much my behavior and my unspeakable personality, a long repressed dissatisfaction to have found his work (which was excellent) the reception he would have been entitled to expect. This was the reverse of the dubious privilege of having had me as patron "after 1970", and he was angry with me, without much recognize the same in his heart.

At the other student, a keen antagonism has already appeared at the end of a year and a half of work, in a atmosphere seemed very cordial. This is the first and only time a relational difficulties between a student and me has appeared at a time when he was still in a position of student. She made it impossible the continuation of joint work, which had yet announced auspiciously with an enthusiastic asm best omen for a theme wonderful reflection, I must say. I had the feeling that there had this young researcher insidious lack of confidence in his ability to do good work (ability which for me was no doubt), and that the event to tune acute antagonism was a kind of "headlong rush" to take the lead on a feared failure, and reject in advance the responsibility on the person of a heinous boss 11 (23 @)

years of college are placed at an age when the innate creativity we **must** end the purpose to express a personal work under penalty shipwreck forever, at least in terms of creative work of an intellectual nature. This is surely a healthy instinct that during my student years (college Montpellier also) I almost failed to feet courses, devoting almost all of my energy to a personal mathematical thinking.

10 (23v)

A particularly striking sign of this difference was manifested on the occasion of "episode of foreigners", which I had opportunity to talk (section 24). So I then received expressions of sympathy from many people I was completely foreign, I do not remember any of my students before 1970 is thought to occur in this sense, and even less to offer me any assistance in the action in which I had committed. By cons, it seems there is none of my students or former students of the second period which has expressed to me his sympathy and solidarity, and more

were actively involved in the campaign I was leading at the local level. Beyond this inner circle, the case of the order 1945 also created some excitement among many faculty students who knew me at most name, and he came a lot at the courthouse the day I quote, to show their solidarity. this last circumstance suggests, moreover, that the difference I found between the attitudes of my students "before" and "after" 1970 expresses perhaps less unlike the **relationship** between me and them, that a difference in **mentality**. Obviously, my students "before" had become important characters, and it takes a lot to the important people agree to move. . . But the episode I left IHES in 1970 and my involvement in militant action suggests it not just that. This was a time when none of them was still so important character figure, and

yet I do not remember any of them has shown any interest in the business in which I was getting into. I rather think it had to put uncomfortable, without exception. This goes much in the sense of a difference mentality, but that can not be blamed on the only difference in social status.

11 (23 " ©The two brothers

Antagonism in this student took the form from the outset a "class antagonism": I was the "boss" who had "power of life and death" on his mathematical future, which I could decide according to my pleasure ... Of course, the event could only confirm this view, since I did not take long to end my responsibilities (become painful) vis-à-vis

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8.5. (29) The enemy Father (1)

One aspect common to all these appearances of conflict between students and me, for soon twenty-five years I taught mathematician by trade, is a strong **ambivalence**. In all cases without exception, antagonism manifested afterwards, often insidiously in a sympathetic relationship that she does can be no doubt. I can even say that in all these cases, as in many others too or an openly antagonistic component has not manifested, my person has exercised and still exercises strong attraction. This is surely the very strength of that attraction which supplies the force of antagonism and ensures its continuity. It is still the case, surely, where the antagonism takes the form of a antipathy violent

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you, an outraged rejection; as also in another case, to the opposite extreme where the flag ^{p. 68} rigor of a friendly respect is expressed (when the opportunity is good) a casual disdain assignment and gently dosed. . .

Such situations of ambivalence, indeed, are not unique to my relationship with some of my students or former students. In fact, they abounded throughout my adult life, since at least the age of thirty years (that is to say, since the death of my mother). It was so as well in my love life or marriage, that in my relationship to men and, more precisely, especially men who are significantly younger than me. I have come to understand that something in me, innate or acquired I can not say too much, seems predispose me to father figure. I, should we believe, the ideal body structure and favorable vibrations make the perfect father of adoption! It must be said that the role of Father fits me like a glove - as if it had been that student. This put him in a difficult situation, for this day and age where it is not so easy to find a "patron" especially when the subject is already selected. At the other student, frustrated in their legitimate expectations, the antagonism has taken a form

similar. I felt like the "Mandarin" tyrannical, which can not tolerate contradiction on the part of those (students or lower-ranking colleagues) he considers his subordinates.

Such "class attitude" never manifested, however little it may be, in relation to my students the first period. The obvious reason is that in the situation before 1970, there was no doubt that the student, once his thesis passed, would have a lectureship position, and thus would enjoy a similar status to mine, that of "teacher university" loquacious figures. eleven students who started working with me before 1970 had postmasters conferences since completion of their work, while none of the twenty students who worked more or less under my Management has had access to such a position. It is true that only two of them were motivated enough to make a thesis State doctorate (also excellent for one and for the other).

It is therefore not surprisingly so in this second period, certain ambivalence (including deep origin remained obscured) took the form of a class antagonism, mistrust (presented and perceived as "visceral") vis-à-vis the "boss". For those who had more or less made figure of student friendly relations continued for a ten years without antagonist episode appearance, yet marked by the same ambiguity, speaking by distrustful attitude held "in reserve" behind a manifest sympathy. I have actually never been fooled by this "distrust" control, which appeared to me especially as a reason that this friend believes good to give himself not to venture out of the well-defined area that aa chosen as his own, in his professional life and in life itself - something that is free to do yet no one (except at most himself!) asks him to account. . .

These three cases are the only ones in all my teaching experience, where some ambivalence in the relationship between a student (or someone who more or less do figure student) and I will be expressed by a "class attitude". A This attitude is particularly ambiguous when it occurs between colleagues in a "body" where university they enjoy the both of exorbitant privileges in comparison to the situation of ordinary people, who are privileges show differences in rank (and wages) as relatively insignificant. I noticed also that these attitudes disappear as if by magic (and for good reason) as soon as the person concerned was promoted itself to the situation the day before

yet he complained to others.

I also detected a similar ambiguity in most, if not all, situations of conflict which I have been witness to Inside the mathematical world (and often beyond). Those "boxes", whose rank corresponds or not their expectations (justified or not), enjoy pretty incredible privileges that no other profession or career can offer. Those boxes are not aspire to the same security and the same privileges (which does not necessarily preclude them from an interest in math themselves, and sometimes do great things). For these times where competition is tight

to settle down and where non-cased often treated layabout: I have more than once felt the connivance between the one who Please humiliate, and one who is humiliated - and swallowing and crashed. The real object of his bitterness and his animosity is

not one that makes use of a power, but is none other than **himself** , who crashed and who invested any of that power he uses for pleasure. One who likes to humiliate is also one who takes his revenge and compensates (never erase...) A Long humiliation and long buried and forgotten. And he who grants his own humiliation is his brother and emulates that secretly envy and buried in the bitterness and humiliation, and the humble message itself it for him.

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my own birth. I will not try to count the number of times I walked into such vis-à-vis role another person, in a perfect tacit agreement of both sides. Most often this distribution Roles father-son or father-daughter remained in the unsaid, or even in the unconscious, but it arrived as it formulated more or less clearly. In some cases too have been a father figure without even entering in a game I think, in both ignorance in unconscious conscious of what was going on. I realized for the first time an adoption role of father in 1972 at the time of "Survive and Live "when I suddenly saw myself confronted with a violent rejection of attitude in a young friend. (Coincidence Interestingly, it was a math student at odds!) Something in my behavior vis-à-vis third persons had disappointed him. I would have been prepared without difficulty, I think, recognize that disappointment was founded, I had missed the generosity instance - but the violence of the reaction had me so literally blown. It was like a sudden wave of hatred vehement, which is also settled almost immediately, when it became clear that he had not really managed to unseat me. (It would not have taken little, but that I kept for myself. . .). Somehow I had the intuition while planning my person duly idealized, unresolved conflicts with his father. This sudden intuition, fell into oblivion, did not prevent pen

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ing years yet I continued to get into the role of father always

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same conviction, not wary at all. With of course always the same painful astonishment, not believing my eyes or else, when later I saw myself confronted with signs of conflict, insidious or violent.

It was after an intense solitary work six or seven months in the lives of my parents, making me see them person in an unexpected light, I understood what is illusory in this parenting adopted to replace (in better is understood in advance!) a real parent does exist, and that would be said (if only by tacit agreement) "failed". This is to help others avoid the conflict where it found in his relationship to his father say, to project a third person (myself in this case) which is entirely foreign. Since this meditation, which took place from August 1979 to March 1980, I am vigilant vis-a-vis myself, to not let me go to my eyes closed misguided paternal vocation.

That did not stop the false happening again (as in my relationship to the student with whom I had to stop work) - but now, I think, without connivance on my part.

If I put aside the case of the student frustrated such legitimate expectations, it is clear to me that in all other cases where I faced antagonism from a student or former student, it was the reproduction of the archetypal conflict to the father: Father both admired and feared, loved and hated - Human it@face, to conquer, to supplant, humiliate perhaps. . . but also one that is secretly would be, the strip of force to make it their own - another Self, feared, hated and fled. . .

8.6. (30) The enemy Father (2)

This is not the turning point of 1970, which created antagonism between some former students and me on the background of an idyllic past and cloudless. He only made visible antagonisms that could difficult to express in the most conventional part of a master-student relationship (or former boss - former student) typical. I suspect that such conflicts should not be rare in the scientific community, but they expressed most often in a more circuitous and less recognizable than in relationships

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which I was involved.

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Looking back, I do not feel ultimately that these relationships to my students, I have so much tended to get into a paternal role - and even I can not hang a single memory that goes

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in this direction or less. In terms of **my** person, it seems that almost all of the energy

I invested in a relationship with a student was the same one that I also was investing in mathematics, and the realization of a comprehensive program. In the first period, I see only one case where there is had in me an interest in the person of a student, in the nature of an affinity or sympathy, which have been a force comparable (if not equal) to that of mathematical interest. But even in this case, I do not have the impression I entered vis-à-vis him in a paternal role. As for the influence that I could exercise on his person or that of other students, at one level or another, it is the kind of things which I do doing no attention in my relationship with my students. (Even still, I tend not to be careful, or with students who have worked with me in the last few years, or even with other people.) Of course, in all these cases, the relationship between student and I was in no way "symmetrical", in meaning that during the time at least to the student-teacher relationship (and probably beyond, the often), the importance of a student in my life was not comparable to that I had to take in his, nor the mental strength that the relationship brought into play in my person and in his. except five or six cases where these forces have arisen by antagonism clearly recognized signs, I realize that the nature of relations with me from different students and former students for over twenty years of teaching activity, remain for me a complete mystery! It is also not so much my job to probe these mysteries there, rather than each of them for its own share. But as to take an interest in his own person, he may be most pressing things to look at the ins and outs of his relationship with his ex-boss. . . Anyway, even though I was expressing no propensity vis-à-vis my students to enter a paternal role, it has not been unusual that I nevertheless more or less done these is adopted father, saw my "profile" particular psychic I mentioned earlier, and seen as the dynamics inherent in a situation where I could not fail to figure eldest, to say the least.

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In any case, in many cases I have mentioned, this particular coloration of the relationship between a p. 71 student and I do not for me doubts. Apart from my professional life there were many other cases where, with or without the connivance of me, I obviously did figure foster father-vis vis men or younger women attracted to me and related to me first by a sympathy mutual, but not by kinship. As for my own children, paternal fiber in me vis-a-vis them was strong, and from an early age they have had an important place in my life. By a strange irony, he found yet none of my five children have accepted the fact of having me for Father. In the lives of four of them I have known closely, particularly in recent years, this Division in their relationship to me is a reflection of a deep division in themselves; including a refusal all this in them that exposed them to me, their father. . . But this is not the place to probe the roots of this division, plunging both in a torn childhood in my childhood and that of my parents as also in the infancy of the mother and that of her parents. Or the place to measure the effects in their own lives or those of their children. . .

8.7. (31) The power to discourage

To conclude this brief tour through the relationships that I have had in the mathematical middle between 1948 and in 1970, I have to talk about my relationships with younger mathematicians, more or less beginners consequently without status "colleague" to speak of, without that I play vis-à-vis their role "boss". So this young researchers I met for a year or two in my seminar to IHES, or during such course or seminar at Harvard or elsewhere, or sometimes, during a 179

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correspondence, such as when I received a work of a young author for which it was awaiting comments, and surely also an encouragement.

Relations novice researchers are part of a less visible role than "boss" of such students, but equally important, as I noticed since. At that time, I did not go account, as I do in six or seven years, that that role for a mathematician to represents a **power** considerable. It is first the power **to encourage**, stimulate, which exists both in If tra

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Vail visibly brilliant (but possibly served by presentation or clumsiness

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failure of "business"), than in a merely solid work; it exists even in the case of a work which is only a contribution very modest or negligible or even zero following criteria an elder in full possession of powerful tools, proven experience of the subject, and information extended. The power to encourage present, as long as the work before us was written with seriously - usually discernible thing in the first pages.

And the power to **discourage** exists as much, and may be exercised discretion whatever the job. It is the power of Cauchy used vis-à-vis Galois Gauss and vis-à-vis Jacobi - this is not new there and eminent men and feared make use! If history has brought us these two cases, it is because

that men who had made the charges had faith and sufficient insurance to continue their way, despite the authority without benevolence of those who were then rain or shine in mathematical world. Jacobi found a newspaper to publish his ideas, and Galois leaves its last letter, acting as "newspaper".

Today, for an unknown or little-known mathematician, it is certainly more difficult than century last to come forward. And the power of the mathematician to do is not just in psychological but also in practice. It has the power to accept or reject a job, that is, say give or refuse support for a publication. Rightly or wrongly, it seems to me that "my time" in the fifties and sixties, the refusal was not without appeal - if the work presented results "Newsworthy", he had a chance to find the support of another hill. Today it is no longer and certainly, when it became hard to find even a single influential mathematician agrees to go (in the provisions he pleases to have) a job in his party, when the author has already gained notoriety, or is recommended by a colleague known him.

It happened to me in recent years to see influential and brilliant mathematicians make use their power to discourage and refuse, both vis-à-vis such a solid work that had to be visibly fact,

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vis-à-vis such extensive work indicating clearly the power and originality of their authors.

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Many times, one who wore so discretion was found to be one of my former students.

This is probably the most bitter experience that was given to me to live my life as a mathematician.

But I digress from my purpose, which was to examine how, in the days when I lent me conviction to the role of "mathematician for" I employed the power to encourage and discourage I dis-asking. I should add that more modest level where my scientific activity continued after 1970, as a teacher among many in a provincial university, this power has not ceased to exist, both vis-à-vis my students or students that (rarely it is true) vis-à-vis corresponding occasions. But for my purposes this is the first time in my life that one mathematician imported.

In terms of the relationship with my students, from the first that I had until today, I think power, without restriction of any kind I've done everything in my power to encourage
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in the work that they had chosen ¹² (23iv). It must be rare, even today, it otherwise in the relationship of "boss" to students, especially in the case of a boss who has the means to be able to train talented students and clear their support of vast expanses ready plowing. The thing almost incredible, and yet true is that there is even this extreme case the boss prestigious, enjoying extinguish brilliantly gifted mathematical passion that had himself busy in a younger age.

But again I digress! What is my relationship to young researchers who were **not** my students that is now considering. In such relationships, egotistic forces in the person of man view would be less likely to push it in the direction of encouragement, while successful young stranger who addresses him only bring little or nothing to his own glory. On the contrary, I think the only game of egotistical forces in the absence of true benevolence, would almost invariably tend pushing in the opposite direction, to use the power to discourage refuse. This, it seems, neither more nor Unless this general law, we can

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found in all sectors of society: the egotistical desire to ^{p. 74}

prove his own importance, and secret pleasure that accompanies his gratification t are generally more stronger and more appreciated, when the power of opportunity is available to cause disappointment of neighbor even his humiliation, rather than the reverse. This law is expressed in a particularly brutal way in some exceptional situations, such as war or the concentration camps, the prisons or asylums, or even just one hospital to all comers in a country like ours. . . But even in the most everyday contexts, each of us has had occasion to be confronted with attitudes and behaviors that attest to this law. The fixes to these attitudes are first patches **cultural**, from a consensus in a given environment, on what is considered behavior "Normal" or "acceptable"; that are otherwise non-ego forces of nature, such as vis-à-sympathy vis a specific person, or sometimes an attitude of independent spontaneous kindness of the same person to whom it is addressed. Such goodwill is probably rare, regardless of the environment where the seek. As for cultural fix in mathematical environment, it seems to me considerably eroded over the past two decades. It is certainly true, at least in the circles I

12 (23iv) Failed to education (1)

Since these lines were written, I had the opportunity to speak with two of my former students after 1970, to try to probing with them the reason for the failure of my teaching in research at the University of Montpellier. They told me the propensity that I had underestimated difficulty here could represent for them the assimilation of such techniques familiar to me, but not for them, had them a discouraging effect because they felt consistently below the expectation that I had vis-à-vis them. In addition (something that seems to me a greater range yet), they arrived they frustrated when I tell them "was selling wick" giving them a health statement I had in my sleeves, instead let them discover the fun of their own, at a time when they were already very close. After that, he just had to make them the "exercise" (not fascinated otherwise) to prove the statement in question. It is here if instead the "lack of sensitivity" in me that I had found in a previous note (Note 21) without extending me this subject. It is such setbacks, especially, represent my personal contribution in the disappearance of interest research at one and the other, after yet excellent start.

I realize that I was not more generous before 1970 than after. If I did not have the same problem then is no doubt that the kind of students who came to me at that time were motivated enough to find the same charm a "long period", which was an opportunity to learn the craft and many things along the way; and also, to a Startup statement that I "was selling" bit, to bring out their own a slew of others that went well beyond the first. When I changed instead of teaching activity, I made the adjustment that was needed in the choice of discussion topics that I proposed to my new students, through the choice of mathematical objects which could be seized by immediate intuition, regardless of any technical background. But this necessary adjustment was by himself insufficient, due to differences in **provisions** (in my new students compared to those of yesteryear), more important, your yet only difference **luggage**. It also joined the finding earlier (early par.25) on a some deficiency in me for the role of "master", which came out much more strongly in my second period as a teacher, as in the first.

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known.

Certainly I persist in away from my way, which was not a discourse on the century, but Meditation on myself and my relationship with roughly junior researchers who were not my students. I do not believe that the "law" to which I referred has found occasion to speak in these relations. For reasons that there is no need to consider here, it seems that the egotistic forces also strong in me than anyone else, did not take in my life that path to manifest the expense of others (With some cases going back to my childhood). I even think to say, having had the opportunity to review the deal, as the base-tone of my vis-a-vis others provisions is a benevolent tone, a therefore desire to help when I can help, relieve when I can relieve, encourage when I can encourage safe. Even in a relationship as deeply divided as vis-à-vis this "tireless friend" I got to talk, ever conceit in me not lost me to the point I would have thought (even by intention unconscious) to harm him. (I would have had the opportunity to fai

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re, and "with the best conscience of the world" well

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sure.) And I believe that in most cases these provisions general benevolence (even if they own a little on edge only) also scored my relationships in the mathematical world, including with beginners mathematicians who, although not among the students might need my support or my encouragement.

I believe that was the case, without exception, at least in the fifties and into the early sixties. It seems to me that in those days at least, this was not benevolence limited to visibly brightest young as Heisuke Hironaka or Mike Artin (while no fame still was no evidence of their means). But it is possible that it is cleared in a more or less measure in the sixties, under the influence of egotistic forces. I would be most grateful for any witness who successfully me about it.

My memory returns me that case, I talk, and beyond this case, the famous "fog" which condenses in any other case or precise, but rather that delivered me a certain inner attitude. I felt some irritation when he arrived another mathematician "walking on my flowerbeds" doing nothing of mine asked me, as if he was at home the young greenhorn! This was to be especially If young indeed, not too in the shot, which is to return into their heads, sometimes in special cases my faith, things that I had known for years and still top. It did not have to happen very often, I think, but maybe still two or three times, maybe four, I can not say too much. As I just said, I do remember a case, perhaps because the situation was repeated with the same young mathematician repeatedly in one form or another. I can say that all respects this young researcher, whose home was abroad university, was a perfect correction, by sending to me, which was supposed to be the person in the shot, the work he had done. AT Each time, I reacted very coolly, for the reason that I said. I can not even say with certainty

if I frankly told him that what he did was known me for a long time, and for that reason it bored me to publish it without at least give me a little bow in the introduction. Of course, if he had been my student, this author conceit would not have played so much, first because of a sympathetic relationship which was already established with the student, but also because it would

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self anyway that the student work

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also contained ideas of the boss, unless stated otherwise! I believe that the situation had to happen two, maybe even three times, with the same researcher, and each time I had a cool attitude also, also discouraging. I never accepted, if I remember correctly, recommending a work of this researcher to be published in that newspaper, or be part of a thesis committee (I seem to remember that the question arose). It almost as if I had decided to choose it as a scapegoat. The most beautiful,
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is that his work each time was perfectly valid - I think it was written with care, and I have no reason to suppose that he did not find himself the ideas he was developing there, which at that time did not so much running the streets, and were (more or less) "well known" that a handful of people in the shot, as Serre, Cartier, me and one or two others. What is incomprehensible to me is that this young colleague (he ended up having a course thesis and a well-deserved position) do not be tired to speak to me that "the cold was fighting" with each blow, and he apparently had never wanted me. I remember still surprise me that once before expressed my reluctance, clearly he understood not not what was happening. It would have been difficult, if waiting for my explanation! He had a beautiful head, a little to the Classical Greek, very young - rather soft features, peaceful, evoking an inner calm. . . Now I try first to identify the impression that exuded his person and countenance, I realize suddenly that he really looked a lot like this "tireless friend" I have had occasion to speak ; they could have been brothers, this friend of my age in the smiling tone, and this researcher, twenty years younger, rather in the tone a bit serious, but not sad. It is not impossible that this resemblance played, I have projected on a contempt that had not found opportunity to speak with the other, he was disarmed by the signs of such a loyal friendship! And it was indeed I have developed a very thick shell, not to be disarmed by the obvious good faith and will to do well in this young man certainly endearing, who never tired of returning to the charge, though I deign to gratify even what a smile!

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If I reported yesterday, now that I finally just taken

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worth noting the black on white, p. 77
seems to me far-reaching, more in some respects than the other three cases (probably ty-pikes well) previously reported, where conceit forces deeply disturbed within me natural attitude of kindness and respect. This time, using a real position of power (while I pretended like everyone to ignore the power), I used to discourage a researcher good will, and refuse work that deserved to be published. This is called an **abuse of power** .

It is less obvious, not to fall foul of an article of the penal code. It is fortunate that the conditions in that time was less harsh than today, so the researcher could, without too much difficulty I think, to publish his work with the support of a colleague more benevolent than me, and that his career mathematician was not seriously disturbed, let alone broken by my abusive behavior.

I am happy afterwards, but without seeking to make a "mitigating factor". It is possible in a harder situation, I would have been more careful - but this is a mere assumption, which has not much to do here. I think I still can say that there was no malice in me a se-Crete, a desire to harm caused by irritation of which I spoke. I reacted to this irritation in a "visceral" without the slightest hint critical to my own sake, let alone without the slightest inclination to look as little bit what was happening to me, or even that the scope that my reaction could have in life the other. I do not measure the power I had, and the thought of going with a responsibility that power (If only the power to encourage or discourage) never crossed my mind during that relationship. It was a typical case of **irresponsible behavior** , such as is found in every street corner in the world Scientific and elsewhere.

It is possible that the only case of its kind that I kept remembering is an extreme case among some like. What triggers an attitude without kindness is the irritation of vanity, impatient

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see "first come" to assume the right to walk in the turf and will take some menu game that only pertains to the masters of these places. . . This irritation rationalizations all found that were more noble bearing, one suspects. This is not my modest person who is involved but no, but love art and mathematics, the young man who did not even excu

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will be awesome genre rather clumsy

p. 78

it will damage any woe to us if he still did things better than I do know, but sunny schedules I had planned all had to have, to be a little inconsiderate frankly. . . ! Filigree constant, there is the leitmotiv méritocratisant: there are only the very best (like me) who have right of citizenship home, or those who put themselves under the protection of one of those! (As for the case where less power is fine and many other chef who walks in my flat strips, it is a different story - in each day at a time!) In this case, there was (I have little doubt about it) from another force in the same direction, it completely unconscious, which had already played strongly in my relationship to the tireless friend of my beginnings: a vis-a-vis automatic rejection of a certain type of person, do not match the canons of "manhood" I had taken my mother. But this circumstance, which has its meaning and interest for an understanding of myself, is quite irrelevant to my present purpose: to find myself in attitudes and behaviors that were mine to the time when I was still doing Part of a certain environment, the typical signs of a profound degradation that I see today.

If this case I just look seems to me of greater scope than others I@e missed

kindness and respect, it is because this is when is violated some **elementary ethical**

the mathematician in the art ¹³ (24). In the environment where I was greeted in my beginnings, middle Bourbaki

So close and Bourbaki, this ethic which I refer generally left implicit, but it was

nevertheless present, alive object (I think) an intangible consensus. The only person who has not expressed

in clear and unambiguous terms, as far as I remember, was Dieudonné, one of the first times probably

where I was his host Nancy. It is possible that there is income on other occasions again. Visibly

he felt it was an important thing, and then I had to feel the importance he attached to it for me

be remembered even today, thirty-five years later. By the mere fact of the moral authority of the group

my elders, and Dieudonné visibly expressed then a group consensus, I had to make my own

tacitly these ethics, yet without ever having granted him a moment of reflection, nor understand what

was important. Actually, the idea would not even occurred to me it might be useful that I grant

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reflection, convinced that I was long ago that my parents and my own person were representing,

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each a perfect incarnation (or nearly so) in an ethical attitude, head and all, and to all

test ¹⁴ (25).

13 (24)

The ethics which I refer is equally applicable to any other medium formed around a research activity, and which therefore opportunity to present its results and reap the credit; is a matter "of life or death" for social status any member or even "survival" as a member of this community, with all the consequences this implies for him and his family.

14 (25) ethical consensus - and control of information

Apart from the conversation with Dieudonné, I do not remember a conversation that I was participant or witness, during my life mathematician, where it was question of professional ethics, the "rules of the game" in relations between members of the profession. (I except here talks about the collaboration of scientists with military aircraft

which took place in the early 70s around the movement "Surviving and Living". They do not really concerned the Relations mathematicians them. Many of my friends in Surviving and Living, including Chevalley and Guedj, felt

Besides the emphasis that I put in the time, especially in the beginning, this question I was particularly

sensitized me away from more critical everyday realities, precisely the type of those which I examined in this

thinking.) There was never any question of these things between a student and me. The tacit consensus was confined to this one I think

rule, not to present as his own ideas of others in which may have knowledge. This is a consensus semble- me

he, who has existed since ancient times and has not been challenged in any scientific community until today. But in the absence

such other additional rule, which guarantees every researcher the opportunity to present their ideas and results,

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Dieudonné does not do besides me long speech - it was not more kind than that of any his friends in Bourbaki. He had me speak rather in passing, and as something that was supposed to go self. He simply insisted on a rule simpler, all seemingly innocuous, which is this:

anyone who is a result of interest must have the right and opportunity to publish it, to only that this result is not already the subject of a publication . So even if this result was experienced one or more people, as long as they have not bothered to put on black White and publish it in order to put at the disposal of (hm!) "mathematical community," any another person (meaning: including the famous "first come"!) which is the result of its own means (understood: whatever his means, his views and insights, and they seem or not "narrow" people expected more in the game than him. . .) Should have the opportunity to publish it, according to its own and lighting. I seem to remember that Dieudonné had added that if this rule was not respected, it opened the door to the worst abuses - it is possible that it was on this occasion and his mouth I just learned the historical event of refusing Gauss Jacobi©work, arguing that the ideas of Jacobi had known him a long time.

This simple rule was the essential corrective to the attitude "meritocracy" that existed in Dieudonné (and In other members of Bourbaki) like myself. Adherence to this rule was a guarantor **probity** . I am happy to say, for all that came to me until today, that honesty essential remained intact in each of the members of the original group Bourbaki 15 (26). I note that it will not so for other mathematicians who were part of the group or Bourbaki environment. She is not remained intact in my own person.

Ethics which spoke to me in terms Dieudonné all that down to earth was there, died as ethically a certain environment. Or rather, this medium

0 himself died along this honesty that made it p. 80

blade. This integrity is preserved in some isolated, and it reappeared or reappear in some others where it had deteriorated. His appearance or disappearance in such of us is part of crucial episodes of the spiritual adventure of the one and the other. But the scene which takes place this Adventure is profoundly transformed. An environment that had welcomed me, I had done my own, which I was secretly proud, not more. What was its price is death in myself, or at least has been invaded and supplanted by forces of another nature, long before the tacit ethic which is regulated openly repudiated in practices as in the professions of faith. If I have been astonished and offended me was by deliberate ignorance. What came back was this environment that mine had a message to bring me on myself, that I liked to evade until today.

first rule is a dead letter. In the scientific world today, men in position of prestige and power hold a discretionary control of scientific information. This control is more temperate in the middle I had known by consensus like the one spoke Dieudonne, which perhaps never existed outside the restricted group which he was the spokesman. The scientist in a position to receive virtually all the information it deems receive (and often beyond) and has power to much of that information, to prevent publication while keeping the benefits of information and dismissed as "irrelevant", "more or less well known", "trivial", etc ... I come back to this in note (27).

15 (26)

The "founding members" of Bourbaki are Henri Cartan, Claude Chevalley, Jean Delsarte, Jean Dieudonné. André Weil. They are all alive, except Delsarte away before the age in the fifties, at a time when so ethic business was still generally respected.

In reading the text, I have been tempted to remove this passage, in which I can give the impression of award Certificates of "probity" (or not clean) which concerned have nothing to do, and it is not for me to do. Provided that this passage may raise is surely justified. I nevertheless retains, to keep the authenticity of the testimony, and because it passing restores indeed my feelings, even if they are moved.

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9. Harvests

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9.1. (33) rating - or the new ethics

Certainly an ethics rule makes sense as an inner attitude, which is the soul. She does not not create the attitude of respect and fairness that it tries to express, at most it can contribute to the permanence of such an attitude, in an environment where this rule would have a consensus. In the absence of the inner attitude; notwithstanding that the rule would be professed by the lips, she loses all meaning; any value. No exegesis, so scrupulous, so meticulous as it is, no difference.

As my friends and former companions explained nicely lately by these days, Alas, with the enormous influx is known of the mathematical production, "it" is absolutely required, that the or not, to make a strict selection in the papers that are written and submitted for publication to publish an that just a small part. He said it a genuinely sorry, as if he himself was a little victim this inescapable fate - a little air he had to say as he was himself part, yes it is unfortunate but that how!, the "six or seven people in France" decide which items go be published and which not. Having become less talkative with age, I have limited myself to listen in silence. There was much to be said on this subject, but I knew it would be a waste. A month or two later I also learned that this colleague had refused it a few years ago to recommend the publication of a some note to CR,

0 the author as well as the theme (which I had offered there must be seven or eight per cent. 81 years) are important to me. The author had spent two years of his life to develop this theme, that is not fashionable it is true (as it always seems as current). I think he did a great job (as presented 3rd cycle thesis). I have not been the "boss" of this young researcher, brilliantly gifted he is (I do not know it will continue to apply his talents in mathematics, saw the reception. . .), And he did his job without any contact with me. But it is also true that from the developed theme could be no doubt; it was bad beginning poor, and without suspecting anything surely! This colleague has also developed forms is at least that and I should have expected no less from him, "sincerely sorry but you understand...". Two 187

9. Harvests

years of work of a junior researcher highly motivated, against a note to RC three pages - how would it cost to public funds? There is a glaring absurdity, this enormous disproportion between one and the other. Surely this nonsense goes, if one takes the trouble to examine the underlying motives. Only this colleague and former friend is able to fathom his own motivations, as I am only able probing mine. But without having to go far, I know that this is not the excessive influx of mathematical production you know, or public funds (or the patience of an imaginary "unknown player" CR) that it would act to spare ...

This same draft note to the CR had the honor already to be subjected to another of the "six or seven people in France ... ", which referred it to the "boss" of the author, because the mathematical" not amused not "(text!). (The boss, disgusted but cautious, itself rather precarious position, preferred both After crashing rather than displeasure ...) Having had the opportunity to talk about the thing with this colleague and former student, I learned that he had bothered to read carefully the notes subject and think about it (she was remind him many memories. . .), And had found that some of the statements could have been presented more helpful to the user. He has not yet deigned to waste his precious time to submit comments to the interested: fifteen minutes from the illustrious man against two years of work of a young unknown researcher! Math have much "fun" enough to take this opportunity to renew contact with the situation studied in the note (which could not fail to arouse in him, like myself, a wealthy tissue asso

0 various geometric sociations) to assimilate the description and without frowned his luggage p. 82

and means, detecting the clumsiness or gaps. He did not waste his time: his knowledge of some mathematical situation is clarified and enriched thanks to two years of conscientious work of a researcher making his debut; work that the Master would certainly have been able to do (in broad and without demonstrations) in a few days. This granted, we remember who we are - the cause is found, two years Working Mr. Nobody is good for the trash. . .

There are some who do not feel anything when blowing this wind - but today I am breathless. It was surely one of the desired effects in this case (as seen exquisite setting denial), but certainly not the alone. In that same interview, this former friend told me, with a modest air of pride, he accepted to present a note to the CR when "the stated outcomes astonished, or he would know how demonstrate the " 1 (27). This is probably one reason why it publishes little. If he applied to himself

1 (27) The "Youth snobbery" or defenders of the purity

Ronnie Brown told me of a reflection of JHC Whitehead (he was student), speaking of "snobbery of young people who

believe. that a theorem is trivial because the demonstration is trivial "Many of my old friends would do well to ponder these words. This "snobbery" - there is now no way limited to the young, and I know more than a mathematician Prestigious who practices fluently. I am particularly sensitive, because I did better in math (and elsewhere. . .), Concepts and structures that I have introduced that I find the most fruitful, and the essential properties I was able to identify a patient and persistent work, all fall under this description of "trivial". (None of these things would have had our chance to see day to accept a note to the CR, if the author was already a celebrity!) My mathematician ambition of my life, or rather my passion and my joy were constantly **find the obvious things** , and this is my only ambition also in this book (including in this introductory chapter...) The decisive thing often it is already seeing the **issue** that had not been seen (whatever the answer, and that it is already found or not) or release a statement (it was speculative) that summarizes and contain a situation that had not been seen or not range; if it is shown, regardless of whether the demonstration is trivial or not, entirely incidental thing, or even a hasty and provisional demonstration proves false. The snobbery which Whitehead speaks is that of jaded rake who deign to appreciate a wine only after ensuring that it was very expensive. More than once in recent years, taken over by access by my old passion, I offered what I had better to see it rejected by this complacency there. I felt a sentence that remains alive, joy found herself disappointed - but I am not on the street so far, and I did not try, thankfully for me to cram an item in my composition.

The snobbery which Whitehead speaks is an abuse of power and dishonesty, not only insensitivity or close to the beauty of things, when exercised by a man of power against a researcher in his thank you, which it has the discretion to assimilate and use the ideas, while blocking their publication on the grounds that they are "obvious" or 188

9.1. (33) rating - or the new ethics

its own criteria, it would not publish at all. (It is true that in the situation where it is, it do no need.) He is aware of everything, and it must be difficult to surprise, to find that thing demonstrable demonstrate he knows. (One or the other is hardly happened to me two or three times in the space twenty years, and yet the last ten or fifteen years!) He is obviously proud of his criteria of "quality" that the pose as the champion of the requirement pushed to its extreme degree in the exercise of the mathematician business. I saw a complacency to himself foolproof, and more than once unrestrained contempt for others, behind the appearances of a smiling modesty and good child. I could also see that there are large satisfaction.

If this fellow is the most extreme I have encountered among the representatives of the "new ethics". It is nonetheless typical. Again, as in the incident I have reported in the profession of faith that streamlines, there is a grotesque absurdity in terms of common sense - if the enormous dimensions this old friend the brain so outstanding, and surely many of his colleagues at least status prestigious (which will simply not address him to present a note to the CR) do see more. To see indeed, we must at least watch. When one takes the trouble to look at the motivations (and hers own in the first place)

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then the absurdities appear in full light, and they stop at p. 83 same time being absurd, delivering their humble and obvious meaning.

If in recent years he was often so painful point of view I faced some attitudes and especially to certain behaviors, it is surely that I dimly discerned as a caricature pushed to the extreme, to the grotesque or odious, attitudes and behaviors that were mine and returning on me by some of my former students or friends. More than once has been triggered in me the old reflex denounce, fight "evil" clearly designated finger - but it happened to me to yield to it, and here there was a split with conviction. Basically, I know that fight is still to keep skating surface of things is eluding. My role is not to denounce or even "improve" the world in which I am, or "improve" my own person. My vocation is to learn to know this world through me, and know me through this world. If my life can bring any benefit to myself or to others, is the extent I shall be faithful to this vocation, which I shall be in accordance with myself. It is time to remember, to cut short the old mechanisms in me, which to me here would push to advocate a cause (some say dead ethics), or convince (the character so-called "absurd" of such an ethic that replaced it, perhaps), rather than **probing** to discover and know, or **describe** as a means of probing. By writing two or three foregoing pages, About without more specific than to say something about current attitudes of today who replaced those of yesterday, I felt constantly on my vis-a-vis guards myself in the provisions that would be prepared for a moment to another to bar a great feature everything he comes write to throw it in the trash! I will always maintain that I wrote, which is not wrong but nevertheless creates a false position, because I mean others more than I had implies. I felt the background I learned nothing in writing, this is surely that created this uneasiness in me. Certainly it is time to return to a more substantial reflection, which instruct me instead of pretending to instruct or persuade others 2 (28).

"Trivial" and therefore "irrelevant". I do not think even here in the extreme situation of plagiarism aware sense, which must still be very rare in mathematical environment. Yet the practical point of view the situation is the same for the researcher making it fresh, and the inner attitude that makes possible does not seem to me not much different. It is simply more comfortable, then it is accompanied by the feeling of infinite superiority over others, and the good conscience and the intimate satisfaction of one who poses as intransigent defender of the intangible purity of mathematics.

2 (28)

In writing the preceding pages, I had initially been divided between the desire to "off my chest," and a desire to reserve or

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9. Harvests

9.2. (34) The stringer and the source

I think mostly I walked around what were my relationships with other mathematicians of all ages and all ranks, from the time

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I was part of their world, the world of mathematicians; and in

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same time and above all, from which I took, by my own attitudes and behavior, to a certain spirit that I see today, which certainly is not new. In this reflection, or journey rather, I met four times situations, which appeared to me to be typical of attitudes and ambiguities in my person, where spontaneous provisions of kindness and respect others vis-à-vis were disrupted, if not completely swept away by egotistic forces, especially (in three of these cases at least) by a **conceit**. This conceit is especially prevalent in the so-called superiority would have given me some brain power, and excessive investment I made in my business mathematical. She found confirmation and support in a general consensus that valued, virtually no reserve, this brain power and this enormous investment.

It is the last of the situations examined, that of "ill-mannered young walking on my flowerbeds" which seems the most important of the four for my present purpose. The first three are typical of my person, or aspects of my person, at one time (in some context too, it is true) - but, as I have had occasion to say and repeat, I do not consider typical for the middle including myself. I do not believe they are typical of the current mathematical environment in France say - it is likely that the kind of chronic delusion that has characterized the relationship I had with "the friend tireless, "for example, is unusual thing today as it must be so. My attitude and behavior in the case of "ill-mannered young", by cons, is typical of what happens daily today in the mathematical world, where we look. It is the attitude of benevolence, respect mathematician influence vis-à-vis the young unknown who is there rare exception, when said unknown has not the good fortune to be his student (and still...), or a student colleague of comparable status and recommended by him. This is probably what already was mine from the aftermath of my "awakening" of 1970, which had loosed the silent language - but the first-hand testimony that I heard then remained distant to me, because they do not directly concern my person, nor the friends who were dearest to me in my middle. I was touched more superficially from the time (circa 1976), where the echoes

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which ... me

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returned, or the facts I witnessed, were protagonists for some of these friends or former students become important, and even more when those who were subjected to ill people were I knew well, more than once students (students of "after 1970", it goes without saying!), whose fate So touched me. In some cases, it was becoming clear that the lack of benevolence or ostentatif an attitude of contempt, were reinforced at least, if not aroused by the mere fact that such young researcher was my student, or that he was taking the risk (but not necessarily my student) to do what my old friends and other colleagues also gladly call "Grothendieckeries". . .

The "young ill-mannered" even wrote to me in the early 70s, and asked me very politely (then he was under no obligation to ask me anything at all!) if I could see no downside to publish a demonstration he had found a theorem for which he had been told that I was the author, who had never published. I remember that I said in the same provisions as moody in the past, to say yes or no and I think by suggesting, without knowing his argument (that it was discretion. So I stayed in at nearly, which was probably the main reason for my discomfort, the feeling that "I learned nothing. "Since the lines noting that discomfort were written, I rewrote twice those pages that had left me on an inner discontent, involving myself more clearly and by going to the bottom of things. Along the way I have beautiful and many eventually "learn something", and I also believe at the same time I was able to put his finger on something important, which both exceed this case my own person.

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9.3. (35) My passions

obviously ready to tell me but I had treatment, I was busy with my activist work!) that it will surely bring nothing to mine (yet it would have brought to at least be written in black and white and available in the mathematical public, as well as the statement itself!). This shows how the famous "awakening" was still superficial, without affecting certain behaviors rooted in complacency and attitudes "meritocratic" I was surely about to denounce the same time in heartfelt articles of Living and Surviving in interventions in public debates, etc. . .

This responds to very concrete way to a question I had left open earlier. As much admit here this humble truth, that such attitudes are not conceited overcome "once for all" in my person, and I doubt that it will ever be if not my death. If there was transformation not by the disappearance of a vanity, but by the appearance (or recurrence) of a curiosity about my own person and the true nature of attitudes, behaviors, etc. . . home. It is by curiosity I became so slightly sensitive to manifestations of vanity in me. this changes deeply some dyna

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onomic interior, and changes by the same token the effects of the "vanity"; that is to say, p. 86 this force often pushes me to retract or counterfeit healthy and fine perception I have of. Actually, the purpose to expand myself and put myself above others while claiming the opposite. Perhaps such a player he feels confused, as I myself was one day before the contradiction apparent from the insidious and tenacious presence of **vanity** in my life mathematician (he may have been times in his interview), and what I call my **love**, and my **passion** for the mathematics (which may also awakens an echo in his own experience of mathematics, or some other person or thing). If he is confused indeed, it has in it everything you need to reconnect (As I once did) with the reality of things themselves, he can know first-hand, rather than turning a prisoner in an endless squirrel cage of words and concepts. Whoever sees a muddy water he will say that water and mud are one and the same? To know Water that is not mud simply mount at source and watch and drink. For the mud that is not water, just to get on the riverbank dried by the sun and wind, and detach and gin in his hand a ball of granular clay. The ambition, vanity can adjust more or less from that done in his life to such a passion, as mathematical passion can make consuming if returns the fill. But ambition The most consuming is powerless by itself to discover or know the least, well opposite ! At work, when gradually understanding begins taking shape, deepens; when in confusion gradually one sees an order, or when what seemed suddenly familiar takes unusual aspects and troubling, until finally broke a contradiction and upsets vision that seemed immutable - in such work, there are traces of ambition or vanity. What then leads the dance is something that comes from far beyond the "I" and munchies to enlarge constantly (it was to "know" and "knowledge") - much further surely as our person or even our species.

That is the source, which is in all of us.

9.3. (35) My passions

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Three passions dominated my adult life, besides other different natural forces. I finally p. 87 recognize these three passions profound expressions of the same impulse; Three-way has taken the drive knowledge in me, among an infinite number of paths available to it in our infinite world.

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The first to manifest in my life has been my passion for mathematics. At the age of seventeen, coming out of high school, dropping the reins to a simple inclination, it has expanded into a passion that led the course of my life for twenty-five years that followed. I@ "known" long before mathematics I know the first woman (apart from that I have known since birth), and now in my age mature, I see that it is still not consumed. She runs over my life, nor do I pretend to lead. Sometimes she dozed, sometimes to the point that I think turned off, only to reappear without warning, too feisty as ever. She no longer eats my life as before, when I gave my life to him to devour. She continues to mark my life a deep impression, as footprint in a lover of the woman he love.

The second passion in my life was the pursuit of women. This passion often presented itself to me in the features of the quest for mate. I have managed to distinguish one from the other as to the time that it is ended when I knew that I pursued only was nowhere, or also: I wore it in myself even. My passion for the woman could truly unfold after the death of my mother (five years after

my first love affair, which was born a son). Then, at the age of twenty-nine years, I founded a family, which produced three other children. The attachment to my children was originally part indissoluble attachment to the mother, some of this power emanating from the woman who drew me into it. It is a fruit of this passion of love.

I have not lived in the presence of these two passions me as a conflict or in the beginning, no more later. I have felt obscurely the profound identity of the two, which is clear to me much later, after the appearance in my life in the third. Yet the effects on my life of one and the other passion could be very different. The love of mathematics attracted me in a certain world, the mathematical objects, which surely

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has its own "reality" to him, but not one where life unfolds

p. 88

men. The intimate knowledge of mathematics things I learned anything about myself as well say, and even less on the other - the momentum of discovery to mathematics could only get away from myself and others. There may sometimes communion of two or more in the same vein, but this is a communion at a superficial level, making each and away from himself and others. It is Why the passion for mathematics was not in my life a maturing strength, and I doubt that such passion may promote maturation in anyone (29). If I gave up a passion also disproportionate in my life for a long time, it is surely also precisely because it allowed me to escape the knowledge of the conflict and to the knowledge of myself.

The sex drive, by cons, whether we like it or not, throws us right to meet others, and right the crux of the conflict in ourselves as in the other! The quest for "companion" in my life, it was the pursuit of happiness without conflict - it was not the knowledge instinct, the instinct of sex as me liked to believe, but an endless flight from the knowledge of the conflict in others and in myself. (It was then one of two things that I had to learn, that this illusory quest ends, and worry that accompanying as his inseparable shadow. . .) Fortunately, it was nice to flee the conflict, the sex charge we bring it back quick!

One day I gave up teaching stubbornly reject the conflict brought me through women I loved and that I loved, and through the children of these loves. When I finally started

3 (29) Fear & The brothers play

I speak here of intense investment and long-term in the mathematical, or other activity entirely-Intellectual surely. For cons, the deployment such a passion, that can be a way to get reacquainted with forgotten us strength, and the opportunity to compete on a reluctant substance and on the way too, to renew and enrich our sense of identity with something that we either really personal - such deployment may well be a step important in an internal route, in a ripening.

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listen and learn, and for years to come, it was that everything I learned, it is by women that I loved and that I loved what I was learning (30). Until 1976 at the age of forty-eight years is the quest of the woman who was the only major maturation force in my life. If this maturation only took place in the years that followed, so for seven years, it is because I am préservais (As I had learned to do by my parents and by entourages I know) by all means my disposal. The most effective of these means was my investment in mathematical passion. The day appeared in my life the third great passion - a cer

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tain night of the month of October 1976 p. 89

- faded the great fear of learning. It is also the fear of reality every beast, humble truths about myself all, or people who are dear to me. Strangely enough, I never had perceived fear in me before that night, at the age of forty-eight. I discovered the same night is appeared this new passion, this new manifestation of the passion for knowledge. It took, if can say, instead of the last recognized fear. There were years that saw the fear in people's property clearly, but by a strange blindness, I did not see in myself. The fear that prevented me to see the same fear that! I was strongly attached, like everyone else, to a certain image myself, who essentially had not changed since my childhood. The night that I speak of is also where, for the first time, this old picture then collapsed. Other pictures likeness took her away, now for a few days or months or even a year or two, thanks to stubborn inertia forces, to collapse in turn under scrutiny. Laziness often look delaying such new awakening - but afraid to look is never reappeared. Where there is curiosity, fear has no place. When there is in me a curiosity for me, no more fear of what I will find when I want to know the word of a mathematical situation end: then there is a happy expectant, impatient sometimes stubborn, yet, ready for anything that may wish to come to her, planned or unplanned - a

passionate attention on the lookout for signs that are unequivocally recognize the truth in the initial confusion false, half true and maybe.

In the curiosity to yourself, there is love, that no disorder fear that we look not is consistent with what we would see. And indeed, love myself was hatched in silence in the months that preceded already that night, which is also where the love has taken active form, enterprising if we can say, unceremoniously shoving costumes and scenery! As I said, other costumes and sets soon reappeared as if by magic, to be jostled in turn, without invectives or gnashing of teeth. . .

The manifestations of this new passion in my life in the last seven years have come to me ap- seem like moving up-and-down waves following each other like a breath breathing going

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you and peaceful. This is not the place to try to trace the winding and changing line or p. 90 that, in counterpoint, demonstrations of mathematical passion. I gave up wanting to regulate the course of one or the other - it is this double movement instead of one and one that now rule the course of my life - or rather, that is the course.

In the months already that preceded the appearance of the new passion - month gestation and fullness - the search for the woman began to change his face. She then began to separate from the anxiety which she had been impregnated as a "breath" again would have released an oppression which had weighed on him, and regain the magnitude and pace are his. Or like a fire that smoldered would be stuffy half breakaway fault, and under a cool air blown suddenly déployerait in crackling flames, agile

4 (30)

In recent years, these are my children who have taken over, to teach a sometimes reluctant student mysteries human existence. . .

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9. Harvests
and bright!

The fire burned to the full. A hunger that seemed unquenchable found herself satisfied. Two years or three, it seems that this quest is then burnt without ash residue, leaving free hand to singing and chant against two passion. One, the passion of my youth, I had served for thirty years for me separating a denied childhood. The other is the passion of my manhood, which made me find and child, and my childhood.

9.4. (36) Desire and meditation

The night I mentioned, where a new passion has taken the place of an old fear that faded forever is also the night where I discovered meditation. It is the night of my first "meditation", appeared in the pressure of a pressing need, urgently, while I was overwhelmed as in previous days by waves of anxiety. Like any anxiety perhaps this was an "off anxiety," which I pointed insistently takeoff from a humble and obvious fact about myself, and old picture of me forty years and never questioned by me. Surely there had to be a great thirst for knowledge, alongside considerable leakage strength and the desire to escape the anguish of being quiet like before. There was then an intense work, which continued for several hours until his denouement, without my knowing yet the sense of what was happening and even less where I was going. During this work, obfuscation were recognized one after the other; or rather, it is this work that made

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appear one by one these evasions, all in the guise of an intimate conviction that I finally took the p. 91

penalty black note on white as if to penetrate me, then she had remained until now in suitable blur. I wrote down all happy without me wary at all, she had to have something to me surely seduce - then the provisions of one who doubts nothing, and that the mere fact of writing black on white unformulated conviction was the irrefutable sign of its authenticity, proof that she was founded. If it had been me that desire indiscreet, if not indecent, the desire to know I mean, I would have stopped each time this "happy ending", and it is in these provisions of the happy ending that is finishing step. Then, woe is me! it took me fancy, God knows how, and why, look a little closer to what I had to write to my satisfaction: it was written there in black and white, there was to read! And by reading carefully, naively, I felt that it was wrong a little bit, it was not not so clear, like yours! Then, taking the trouble to look a little closer, it became clear that this was not it at all even, it was the can as well say, I@ just make me take bladders for lanterns! This partial discovery each time came as a famous surprise, "Gosh! it is not tapping into that one! "joyful surprise that relaunched reflection with a power surge new. Forward, we will eventually get to the bottom, surely it will come as late as now, there to continue the momentum! A small balance sheet to the point. . . and that@already up another inner conviction

with every appearance of the "end of the story", we are asked to believe that must be it this time we will still note for conscience and that the same pleasure to note things as sound and well felt, should really have a dirty mind not to agree, good faith as obvious, you can not beat it perfect like this!

This was the new end of the stage, the new happy ending, which I would have stopped all happy, if there had the bad boy prank to be that again began to act up, is advising, decidedly incorrigible, even put his nose in it "last word" and happy ending. There was no stop it, it was left for a new stage again!

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9.4. (36) Desire and meditation

Thus for four hours, the steps have followed a

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one, like an onion whose p. 92

I would have removed the layers one after the other (this is the image that came in late that night) to reach the end all to **heart** - the simple and obvious truth, a truth that was dying eyes Indeed, and yet I managed for days and weeks (and my life, to be honest) to retract under this accumulation of "onion layers" hiding behind each other. The appearance of the humble truth at last was a huge relief, an unexpected and complete deliverance. I knew at that moment that I had touched the anxiety node. The anguish of the past five days was indeed resolved, dissolved, transformed into knowledge that had just been formed in me. The anxiety had not just disappeared from my sight, as throughout meditation, and also several times during the five previous days; and understanding how it had changed was not in nature an idea, a concession that I would say to be made leaving and quiet (as it happened to me here and there during the same night); it was not an exterior thing I would then adopted or acquired for the add to my person. It was a **knowledge** in the full sense of the term, first hand, humble and obvious that now was part of me, like my own flesh and blood are a part of me. She was, of Additionally, formulated in clear and unequivocal terms - not in a long speech, but a little phrase every beast three or four words. This formulation was the final stage of the work had to continue, which remained ephemeral, reversible as long as this last step was not taken. Throughout this work, careful formulation, even meticulous, thoughts that formed, ideas that had had been an essential part of this work, each new departure was a reflection on the step I had just go, that was known to me by the written testimony that I had to do (without possibility of retracting in the mists of a failing memory!).

In the minutes that followed the time of the discovery and delivery, I also knew the full scope what had happened. I had just discovered something greater price even the humble truth in recent days. This thing, it was the power in me, as long as I

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Be interested to know p. 93

to the bottom of what is going on in me, in any situation of division, conflict - and thereby the ability fully solve on my own, any conflict in me that I would have known awareness. The resolution is not done by the effect of some **thanks**, as I tended to believe in the years earlier, but by **labor** intense, persistent and meticulous, making use of my ordinary faculties. Yes "Because" there is, it is not in the sudden and final disappearance of a conflict in us, or in the appearance an understanding of the conflict that we would all cooked (like chickens in the land of plenty!) - but she is in the presence or in the appearance of this desire to know 5 (31). It is this desire that guided me and conducted in a few hours in the heart of the conflict - like the desire for love makes us find infallibly the way to the depths of the beloved woman.

Whether self-discovery or of mathematics, in the absence of desire, while so-called "work" is only a grimace, which leads nowhere. In the best case, she "beat around the bush" without end one who revels - the pot content is reserved for the hungry to eat! As with all

5 (31)

I refer to as "yang" of the desire to know - he who searches, discovers, names that appears. . . It is being **Named** making appeared irreversible knowledge, indelible (even though it would come eventually to be buried, forgotten, it would cease to be active ...). The shape "yin", "female" desire for knowledge is an opening, a receptivity, in a quiet home knowledge appearing in the deeper layers of our being, where thought not access. The appearance of such an opening, and a sudden knowledge that for a time erases all traces of conflict still comes as a grace that touches deep while its visible effect may be short-lived. Yet I suspect that this knowledge without words that comes to us as well, in some rare moments of our life, is equally indelible, and action continues even beyond the memory that we can have.

9. Harvests

world, I sometimes that desire and hunger are absent. When it comes to the desire for knowledge of myself, so my knowledge of myself and the situations in which I am involved remains inert, and I act not knowingly, but at the option of simple inveterate mechanisms, with all the consequences that implies - a bit like a car that is driven by a computer, not a person.

But whether meditation or mathematics, I would not think to do mine "work" when no desire, when there are not that hungry. This is why it has not happened to me ponder if only a few hours, or do math if only a few hours 6 (32) without having learned something thing; and usually (if not always) something **unexpected** and unpredictable. This is not to do with the faculties that I would and others would not, but only just what I do not mine to work without really wanting. (This is the strength of this "desire" which in itself also creates this **requirement** I mentioned also that fact that in the work we are not only of a nearly but is not satisfied after going through an understanding, however humble it may be.) Where it is discover, without a desire work is nonsense and

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grimace, as well as make love without desire. To say

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True, I have not experienced the temptation to waste my energy to pretend to do something that I did no desire to do, so there are so many exciting things to do, if only that sleep (and dream...) when it@time to sleep.

It was in that night, I think, I understand that **desire** to know and **power** to know and discover are one and the same. As long as we do trust him and follow him, it is the desire that leads us to the heart of things we want to know. And it is also that we fact finding, without having to seek the most effective method to know these things, and best suits our person. For mathematics, it seems that the writing of all time was an indispensable means, regardless of the person who "do math": doing mathematics is primarily **write** 7 (33). It@the same no doubt in any work where discovery takes the intellect larger share. But surely this is not necessarily the case of "meditation", by which I mean the self-discovery work. In my case however, and so far the writing has been an effective and essential in meditation. As in the mathematical work, it is fixed that the Hardware Support 6 (32) **One hundred irons in the fire, or Nothing serves to dry!**

At the time when I was still doing the functional analysis, so until 1954 I happened to persist me endlessly on question that I could not solve, even though I had more ideas and content to turn around in the circle of old ideas that obviously does not "biting" more. It was so in any case for a full year, for "Approximation problem" in topological vector spaces in particular, that would be solved twenty years only later by methods of an entirely different order, which could only escape to the point where I was. I was moved then, not by desire but by a stubbornness and ignorance of what was happening in me. It was a year painful - the only time in my life when doing math had become painful for me! It took this experience to understand that no use of "dry" - that from the moment a work came at a stopping point, and soon stopped perceived, we must move on - and come back at a better time on the issue in abeyance. This moment almost always does not take long to appear - it is a maturing of the question, I make mine without touching them by the only virtue of a work done with gusto on issues that may seem to have no connection with that one. I am convinced that if I persisted then, I get anywhere even in ten years! It was in 1954 that I got used to math to always have many irons in fire there at the same time. I only work on one of them at once, but by a kind miracle which renews itself constantly, the work I do on one also benefits the others, waiting their time. he has been the same, without any deliberate on my part, since my first contact with meditation - the number of questions burning to examine went increasing by the day, as and as the reflection continued. . .

7 (33) **The "Youth snobbery" or defenders of the purity**

This does not mean that the moments of work where the paper (or the blackboard, which is a variation! Is absent, are important in mathematical work. This is so especially in "sensitive time" where a new intuition comes to appear when it comes to "get acquainted" with it in a more comprehensive, more intuitive than a "work rooms" that this informal stage of reflection prepared. For me, this kind of thinking is mostly in bed or walk, and I think it represents a relatively modest share of total time spent for work. The same observations also apply to the meditation work as I practiced so far.

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9.5. (37) The wonder

pace of reflection, and provides a benchmark and rallying for attention that otherwise tends home to scatter to the four winds. Also, writing gives us a tangible record of the work that comes to be) which we can at any time we see. In a lengthy meditation, it is often useful can also refer to the written traces of such a moment of meditation in day

previous or even years.

Thought, and meticulous formulation, play an important role in such meditation that I practiced so far. It is not limited so far to a work of thought alone. This alone is incapable of understanding life. It is most effective to detect contradictions, often enormous grotesquely, in our view of ourselves and our relationships with others; but often it is not enough not to understand the meaning of these contradictions. For one who is animated by the desire to know, thought is often a useful and effective tool, even essential, as long as one remains aware of its limits, although obvious in

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meditation (and hidden in the mathematical work). It is important that p. 95
thought known to fade and disappear on tiptoe to sensitive times when something else occurs - as perhaps a sudden and deep emotion, while the hand may continue to run on the paper to give it at the same time a clumsy and faltering speech. . .

9.5. (37) The wonder

This retrospective on the discovery of meditation came here completely unexpectedly, almost against my will - it was not at all what I intended to consider starting. I had want to talk about **the wonder**. Tonight so full of so many things, was also rich in wonder before these things. During the work already, there was a kind of incredulous wonder at each new subterfuge updated, as a rough sewn costume big white thread that I was well pleased, it was hard to believe! to take for the real thing most seriously of the world! Many times yet since in the years that followed, I found this same wonder as that first night meditation, before the enormity of the facts that I discovered, and the rudeness of the subterfuges that had me fact ignore before. It was by his side burlesque First I started to discover the world unexpected that I carry, a world that the days, months and years has proved a prodigious wealth. In that first night already, yet I had to marvel other topics as episodes of vaudeville. This is the night for the first time I reconnected with a forgotten power that slept in me, whose nature still eluded me, if not precisely that it is a power, and that is my disposal at any time.

And the previous months were already rich of a silent wonder of something I carried within me, always surely, with which I had only to find touch. I felt this thing not as a power, but rather as a secret sweetness, like a beauty both very peaceful and troubling. Later, in the exultation of the discovery of my power so long ignored, I forgot these months of silent gestation, only showed a few scattered poems - love poems, which may have detonated more often in the midst of my meditation notes. . .

It was only years later that I remembered those times

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wonder at the beauty p. 96
the world and one I felt in me rest. I knew then that this gentleness and beauty I had felt in me, and this power that I discovered soon after that profoundly changed my life, were two inseparable aspects of one and the same.

And I also see now that smooth appearance, collected, silent this thing called multiple créati-
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ness in us spontaneously expresses wonderment. And it is also in awe of indi-
Target beauty in itself revealed by the beloved, that man knows the beloved woman and she knows it. When wonder in the explored thing or loved one is absent, our embrace with the world of mutilated best that is in it - it is mutilated making it a blessing for himself and for the world. The embrace which is a wonder is a hug without strength, simple reproduction of a gesture possession. She is powerless to produce anything other than reproductions even in larger or bigger or Thick maybe, whatever, never a renewal s (34). It is when we are children and we ready to marvel at the beauty of things of the world and in ourselves, we are also ready for us renou-
Veler and loans as flexible and willing tools in the hands of the worker, so that by His hands and through us the people and things may recur.

I recall that in this group of friends without ceremony which for me represented the mathematical middle tick, in the late forties and in the following years, sometimes noisy environment and confident, where the tone somewhat peremptory was not so rare (but without yet slips in a sufficiency) - in this environment there was up at any time to wonder. One in whom awe was most visible was God-
given. Whether it that makes a statement, or is simply listener, when the crucial moment arrived where a sudden breakaway opened, we saw Dieudonné ecstatic, radiant. It was a wonder to the state pure, communicative, irresistible - where all traces of the "I" had disappeared. By the time I now evokes I realize that this wonder by itself was a power, he exercised an action immedi-

diate all around him, as he was a radiation source. If I saw a mathematician make use of a powerful and simple "encouragement power," it is him! I never re-thought before this time, but I remember now that it is in these provisions as it had already received

8 (34) embrace powerless

The word "embrace" is not for me just a metaphor, and the common language here is a reflection of identity deep. We can say, with some justification, that it is not true then that the hug without wonder is powerless - that earth would be depopulated if not deserted, were it so literally. The extreme case is that of rape, where wonder is certainly absent, then it happens that either be procreated by the raped woman. Surely the child born of such embraces not may fail to wear the brand, which will be part of the "package" it receives and shares its responsibility to assume; it not prevent a new being is indeed conceived and born. there has been **created** , a sign of **power** . And it is also true that Sometimes such a mathematician I have seen full of conceit, and found evidence of beautiful theorems, signs of an embrace that

has not failed to force! But it is also true that if the life of such a mathematician is stifled by its sufficiency (as happened to some extent in my own life, at one time), the fruits of those hugs with mathematics do are a benefit for himself or anyone. And the same can be said of the father as the mother of a child born of rape. If I speak of "embrace powerless" I mean primarily the inability to generate a **renewal** for one who believes: create, when he creates a **product** , something external to it, without deep resonance in itself; a product which, far from the free, to create harmony in it binds more tightly to the conceit in him that he is a prisoner, who constantly pushes him to produce and reproduce. This is one form of impotence at a deep level, behind the appearance of a "creativity" which is basically a **productivity** without brake.

I had ample opportunity also to realize that the sufficiency of wonder disability, is in the nature of a real blindness, a blockage of a sensitivity and a natural flair; blocking if total and permanent, at least manifest in some species situations. This is a state where such a prestigious mathematician sometimes proves, in the same things when he

excels as stupid as most stubborn schoolchildren! On other occasions it will do wonders technical virtuosity. I doubt yet it is still able to discover the simple and obvious that power to renew or discipline a science. They are too far below him that he still deigns to see them! To see what no one deigns see, you have an innocence he lost or banned. . . It is no coincidence surely, with the prodigious increase of mathematical production in the space of the last twenty years, and the bewildering profusion of new results which are sees submerged mathematician who would simply "keep current" so slightly, there has been little yet (for As far as I can judge by the echoes that come to me here and there) to **renew** true, vast transformation scope (and not only by accumulation) none of the major themes of reflection which I was so little familiar. The Renewal is not a quantitative thing, it is foreign to an investment amount, measured in a number of days-mathematicians devoted to that subject by such mathematicians as "level". A million days mathematicians is powerless to give birth to such a childish thing as zero, which renewed our perception of numbers. Only innocence this power, which is a visible sign wonder. . .

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9.6. (38) Pulsion back and renewal

my very first results in Nancy,

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solving questions posed with Schwartz (on spaces p. 97

(F) and (LF)). These were all modest results, nothing great or extraordinary indeed, one could say there was not a lot to enjoy. I have seen things different magnitude rejected by the disdain unanswerable colleagues who think they are great mathematicians. Dieudonné was not cluttered similar pretension, justified or not. There was nothing like this that prevented him from being happy even the little things.

There is rapture in this capacity a **generosity** that is a boon to those who want to leave well flourish in him, as his entourage. This benefit is without intention to please anyone is. It is simple as the scent of a flower, like the sun's heat.

Of all the mathematicians I have known, that Dieudonné is that this "gift" came to me of how the brighter, more communicative, more active perhaps, I can not say 9 (35). But no mathematicians friends I liked attending, that gift was missing. He found occasion to manifest, so maybe more restraint at all times. He manifested every time I came to one of them for him to share something that I had found and had enchanted me.

If I knew the frustrations and pains in my mathematician of life is above all not retrace-worm, in some of those I have loved, that generosity that I had known them, that sensitivity to beauty things, "small" or "large"; as if what had been simmering life of their being was extinguished without trace, stifled by the sufficiency of the one for whom the world is not good enough to deign rejoice.

There was also, of course, this other sentence, to see some of my old friends patronize or Such disregard of my friends today. But this penalty is imposed by the same closure, basically. that

which is open to the beauty of a thing, however humble it may be, when he felt that beauty can not help to also feel a respect for the person who designed or made. In the beauty of something made by hand man, we feel the reflection of a beauty in him that made it, for the love he has to do. When we feel that beauty, love, there can be no condescension or disdain in us, nor is there can be no condescension or disdain

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for a woman, in a time when we feel its beauty, and p. 98

power in it that this beauty is the sign.

9.6. (38) Pulsion back and renewal

The rapture that shone at times in the person of Dieudonné has surely touched me some something deep and strong, for a memorial me back now with such intensity, such freshness, as if I had just witnessed yet instantly. (While this is nearly fifteen years I hardly had the opportunity to meet Dieudonné, except once or twice in a rush.) Of course, I are not respite no special attention to the conscious level - it was just a peculiarity slightly touching by almost comical moments of expansive personality of my friend and colleague groin. What I cared for cons, it was to have found in him the perfect collaborator, dreamed I might say, to put black and white with meticulous care, loving care, which was to serve as foundations for the vast perspectives that I saw open before me. It is at this moment where I just evokes both that

9 (35)

This "gift" is the person of privilege, we are all born with. When it seems absent in me is that I myself even hunted, and it's up to me to welcome him back. At home or at such, this "gift" expresses so, different than another, so less communicative, less compelling, perhaps, but it is nonetheless present, and I can not whether he is acting less.

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link suddenly appears to me, which made Dieudonné servant dreamed of a great task, whether at within Bourbaki or collaboration that has been ours for another great work of foundations, was the **generosity**, without any trace of vanity in his work and in his choice of large investments.

Constantly I saw him disappear behind the tasks it is the servant, besides providing them inexhaustible energy, without seeking any return. No doubt without seeking anything, he was in his and work in the same generosity that put fullness and fulfillment, that all who know must have felt.

The rapture of discovering that I have so often felt to radiate from his person, associates immediately in me a similar rapture, which I happened to witness in a young child. There are two memories that crowd in me - both make me find my little girl. In the first image, it must have a few months, it had to be just that she was getting the four-legged. She had had to drag the piece of grass where he had been sitting around a gravel path. She discovered the little gravel, in silent ecstasy - and active, grabbing them with both hands to put them in his mouth - In the other picture she had to have a year or two, someone had just thrown granules in a jar goldfish.

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The fish were eager to outdo swim towards them, the loudmouth

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open to swallow the tiny yellow crumbs suspension coming down slowly in water the jar. The small had never made before account that fish eat like us. It was her like a sudden glare, speaking in pure rapture cry: "Look mom, **they eat**" There was a lot to enjoy in fact -. it had discovered a sudden flash large mystery: that our relationship to all other living beings. . .

There is in the rapture of a small child communicative force that escapes words, a force which radiates from him and which acts on us, so we do our best, mostly for us steal it. In inner silence moments, one feels that this force into the child at any time.

In times its share is higher only than others. It is in the newborn, in first days and months of life, this kind of "force field" around the child is the most powerful. The Most often, it remains sensitive throughout childhood into fray over the years through adolescence, where often already it seems no longer keep track. It can be found yet radiate around people of all ages, in privileged moments among some, or in rare other as a kind of breath or halo surrounding their person at all times. I was very fortunate to know such a person in my childhood, one man, now deceased.,

I also think of this other force or power that is sometimes feels radiate a woman, in the moments especially where it has flourished in his body, in communion with him. The word that often comes to me is "beauty" which evokes an appearance. It is a beauty that has nothing to do with beauty guns or so-called

"Perfection", it is not the privilege of a youth or maturity. It is rather the sign of agreement deep in the person. This agreement is often fragmentary, yet it is manifested by this radiation, sign of power. It is a force that draws us to the center from which it emanates - or rather, it calls in us a deep urge to **return** in the body of the Woman-Mother we went out at dawn to our life. Its action is sometimes an irresistible force, upsetting when it emanates from the woman Anted. But for those who do not deliberately close to, el

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it is sensitive to any woman who leaves blossom

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in it this beauty, this profound agreement.

The force that radiates the child is closely related to that force which emanates from the woman who loves his body. One constantly comes from the other, as constantly born child of the Mother. But nature the child strength is not that of an attraction, not more than a repulsion. The humble action

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9.7. (39) Beautiful night, beautiful day (or: the stables of Augean)

discreet than the force exerted on those who do not shirk it, is an action **renewal** .

9.7. (39) Beautiful night, beautiful day (or: the stables of Augean)

The memory of the wonder in one of my children is all in the late fifties and all early sixties. If it does not stay like me remember the other children who were born thereafter, may be that my own sense of wonder was blunt, I had become too distant to commune in the rapture of one of my children, or to be only witness.

I never even thought to follow the vicissitudes of this ability in my life, from my childhood until today. Surely there would be a common thread, a "detector" of great sensitivity. If I never thought to follow this thread, it is surely that this capacity is a humble nature of insignificant appearance almost, that the idea came to me there would hardly pay particular attention, absorbed as I was discover and fathom what I called "the great forces" in my life (which continue today to show it). Yet this humble appearance capability provides a sign between all of the presence or the lack of "strength" in us the rarest and biggest prize. . .

I've never been completely cut off from this force throughout my adult life. arid by some also may have been become my life, I found love in the wonder of the child, the rapture of the discovery. Through many deserts, the passion of love has remained alive and strong link with some thing I had left, an umbilical cord still in silence to feed me a hot blood and generalized generous. And for a long time as the wonder in the beloved woman was inseparable from wonder in the new people she brought forth - all these new beings, infinitely delicate and intensely alive that attested and inherit his power.

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But my point here is mainly to follow so slightly vicissitudes of the "strength of innocence" through p. 101 my life mathematician, at the time I was part of the "world of mathematicians", from 1948 to 1970.

Surely, the wonder has never impregnated my mathematical passion at a comparable point as the in the passion of love. Strangely, if I try to remember a special moment of rapture or wonder, in my mathematical work, I found none! My approach to mathematics, since the age of seventeen when I started to invest myself fully, was asking me great **tasks** .

It was always, from the beginning of tasks of "ordering" large cleaning. I saw an apparent chaos, confusion of disparate things or sometimes imponderable mist, which were visibly have a common essence and conceal an order, a harmony still hidden that it was clear by patient work, meticulous, often lengthy. It was a job to mop often and balais-brush for the big task that already absorbed considerable energy, before coming to the finish duster, that interested me less but also had their charm and, in any case; obvious utility.

There was in the day-to-day intense satisfaction to see gradually emerge that this order guessed that always proved more delicate, a richer texture than had been foreseen and guessed.

The work was rich constantly unexpected episodes, appearing mostly examining what might seem a tiny detail and we had previously overlooked. Often the fine tuning of such "detail" cast an unexpected light on the work done years before. Sometimes, it led to insights news, including deepening became the subject of another "great task".

Thus, in my mathematical work (except for the "difficult year" about 1954 which I had occasion to speak), it There was a continual suspense, attention was constantly kept going. Loyalty to my "Tasks" forbade me elsewhere too distant vistas, and I gnawed my brake in a forward to being

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happened after all and finally leap into the unknown, the real - while the size of these tasks was already become such, as to lead to a good end, even with the help of good will that had come to the rescue, the rest of my days there would not be enough!

My main guide in my work was the constant search for a perfect consistency, harmony

Complete I guessed behind the surface

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turbulent things, and I tried to clear patiently

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ment, without ever getting bored. It was a strong sense of "beauty", surely, that was my intuition and my only compass. My greatest joy was, under the gaze when she appeared in full light, that to see her gradually disengage from the shadow cloak and mists where he liked to shirk constantly.

Admittedly, I had to stop when I was able to bring up the clearest light. I have known then sometimes the fullness of contemplation, when all audible sounds contribute to the same and wide harmony. But more often, which was brought to light once became motivation and means a new dive in the mists, in pursuit of a new incarnation of one who remained forever mysterious, unknown - calling me constantly, to know Again. . .

The pleasure and delight of Dieudonné was mostly, I think, to see the beauty of things manifest in full light, and my joy was primarily to pursue in the dark folds of mist and of the night. This is perhaps the profound difference between the approach of mathematics at Dieudonné, and home. The sense of the beauty of things for a long time at least, has not been less strong Dieudonné me that, while he may be blunted in the sixties, under the action of a fatuity. But it seems that the perception of beauty, manifested in the wonderment Dieudonné ment, took home various forms: less contemplative, more entrepreneurial, less obvious also at the emotion felt and expressed. If it is so, my intention would be to follow vicissitudes of this opening in me the beauty of mathematics things, rather than the mysterious "gift wonder".

9.8. (40) Sport mathematical

It's pretty clear that the opening to the beauty of mathematical things never really went away in me, even in the sixties until 1970, when the conceit gradually took a growing place in my relationship to mathematics and other mathematicians. Without a minimum of openness to beauty things, I would have been unable to "work" as a mathematician, even to a regime more modest - and I doubt that anyone can do useful work in mathematics, if he remains alive in him, so slightly, the sense of beauty. It's not so much me it seems a Preten

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due "brain power" that

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the difference between such mathematician and another, or between such work and another of the same mathematician; but rather the quality of finesse, more or less delicacy of this opening or sensitivity, of a researcher to another or from one moment to another in the same researcher. The deepest work, the fruitful is that as attesting to the most untied sensitivity to grasp the hidden beauty of things ¹⁰ (36).

If it is so, we must believe that this sensitivity had to stay alive in me until the end, for all times

10 (36)

Such delicate sensitivity to beauty seems to me intimately linked to a thing I had occasion to speak in the name of "requirement" (itself vis-à-vis) or "rigor" (in the full sense of the term), which I described as "attention to something delicate in ourselves", attention to quality understanding of the survey thing. This quality of **understanding** a mathematical thing can not be separated from a perception more or less intimate, more or less perfect "beauty" Particular to this thing.

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9.8. (40) Sport mathematical

at least, since it is in the late sixties ¹¹ I began to see and so little free

the thing most hidden mathematics, the more mysterious it was given me to discover - this thing I have called "reason." It is also one that has exerted the greatest fascination for me in my life

mathematician (if I except some thoughts the past few years, also closely linked to the reality Memorandum). No doubt if my life had suddenly taken an entirely unexpected way, causing me far beyond the serene world of mathematical things, I would have ended up following the call for this fascination powerful, leaving out the "tasks" that had previously kept me prisoner!

Maybe then I say that in the solitude of my work room, the sense of beauty has remained equal to itself until my first "awakening" in 1970, without being really affected by that conceit so often marked relations with my peers? A certain "flair" even had to refine over the years,

the daily and intimate contact with the mathematical things. The intimate knowledge that we can have things that sometimes allows us to understand beyond what we know in the moment and penetrate further into the knowledge - this knowledge or this maturity, and "flair" which is the most visible sign, is closely related to the opening of the beauty and truth of things. It promotes it stimulates such an opening, and is short and fruit of all opening times of all "moments truth" that preceded.

What remains for me to consider is how spontaneous sensitivity to beauty was more or less deeply disturbed, at times when she had opportunity to manifest my relation to a particular colleague.

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What book my memory about it does not condense in a very tangible and specific, I could here p. 104 report in a more or less detailed. The memory again merely a blur, which nevertheless give myself an overall impression, that I must try to understand. That is the impression that has left me a certain **inner attitude**, which had eventually become second nature, and manifested whenever I received a mathematical information on something that was more or less "my alley." Actually, by a relatively benign appearance, this attitude had to be mine always, it is part of a certain temperament, and I had the opportunity to touch in passing. It is about This reflex, not to agree first to read as a **statement**, never in his demonstration, to first try to place it in what is known to me, and see if in terms of this known statement becomes transparent, clear. Often this leads me to rephrase the statement more or less profoundly, in the direction of greater generality or more accurately, often both at once.

Only when I can not "cram" the statement in terms of my experience and my pictures, I am ready (almost against my will sometimes!) to listen (or read...) the ins and outs that sometimes give "the" reason of the thing, or at least a demo, included or not.

This is a feature of my approach to mathematics, which distinguished me, I think, of all Other members of Bourbaki at the time when I was in the group, and that made me almost impossible insert them like in a collective work. This feature has surely made as a disability in my teaching activity, disability which has been felt by all my students until today when (Age helping) she eventually soften somewhat.

This trait in me is probably already in the direction of an opening defect. It involves a partial opening only ready to welcome only what "is timely", or at least very hesitant in welcoming everything else. In my choice of mathematics investments, and the time I am willing to spend

11 (8 August) After verification, it appears that the beginnings of my reflection on the grounds are placed at the beginning, not the end of the sixty.

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such unexpected information or such others, deliberate of "partial closure" is now more stronger than ever. It is even a necessity, if I want to follow the call of what fascinates me

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most,

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without giving further "my life to devour" in mathematical lady!

The "fog" yet renders me more than this particular, I have come to realize since several years (better late than never!). At some point, it became like a reflex

point of honor; it would be the devil if I do manage to "get" this statement (assuming it was me already well familiar) in less time than it takes to say! If it was a stranger who was illustrious author the statement, there was also this difference: it would certainly more than that, that I (who am supposed to be in So, after all!) not already have it all in my sleeves! And often, in fact I had, and beyond - then my attitude would tend then to go in the direction: "Well, you can go get dressed - you come back when you have done a little better".

That was exactly my attitude in the case of "callow youth who had walked in my flower beds." I would not even know swear in what he did, there was no interesting details that were not covered by what I had done in my "secret notes" - this is something accessory elsewhere. Finally, this episode also illuminates the question I examined here; that of a profound disturbance of this opening the beauty of mathematics things. It was like that from the time I was "done" such a thing, her beauty was gone for me, and they only had a vanity which claimed credit and profit. (Without I deign yet take the time to publish it - it is true that there would have been too) It was an attitude. typical of ownership similar to that of a man who knew a woman no longer feels its beauty and Short hundred others without suffering as much as another for the know. This was an attitude that I disapproved in the love life, believing myself far above such vanity, while taking care not to see this

obvious, it was definitely there my attitude to mathematical!

I feel like these gross provisions of competition, the "sports" provisions if can say, which I have just put your finger in my person, should start to become common in "my" math environment, about the time they were common in me. I would be well worth locate in time the time of onset, or where they have become such an intimate part of the air we breathe in this medium

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place, or that my students were breathing in contact with my person. The only

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thing I think I can say is that it must be placed in the sixties, can be from the beginning sixties or late fifties. (If it is so, all my students there were right - it was for them to take it or leave it!) To situate, I would have other case, which right now totally escape my memory.

This humble reality of course was in complete contrast to the noble image that I had of my relationship to mathematics, and young researchers in general. The coarse trick that I used to I fooled myself, was meritocratic inspiration for this picture, all I was holding was the relationship with my students (who contributed to my prestige, which they were the finest jewels!), and young particularly brilliant mathematicians, I had been able to recognize the merits and I treated on equal as my students, without waiting for their head is crowned with laurels (which of sure was quick - it was the "flair" or you do not!). When young people who had the good fortune not to be among my students, or among those of one of my friends, or be young geniuses, I was concerned about what not was my relationship to them. **They did not count** .

I think that reality was mostly relaxed, temperate, when I was put me in touch

12 (8 August) It occurred to me since this thing is not so "accessory" than that, it is the pass line "attitude sports "to dishonesty first line that I find perhaps come to pass...

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9.9. (41) Krishnamurti, or release become hindrance

personal with the young researcher, is that I met my seminar, whether he had spoken to me by letter. It may be that the case of the "young greenhorn" is of this view one case a little apart, exceptional.

It seems that for researchers I have spoken, I had to consider almost like being put "under my protection," and that should awaken in me a more caring attitude. In this case too, my desire to put myself forward could find an outlet, making my comments to the applicant and making suggestions to resume work in optics may be more extensive, or by going the bottom of things. In such a case. there are chances that the young researcher, who for a limited time taking a bit of an student there too, found his account, and he kept a good memory of his relationship to me.

(Any response in one direction or the other who successfully me on this would be welcome.)

I thought here especially in case of young researchers, while at

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titude "sport" was not at p. 107

limited to my relationship with them, it goes without saying. But it is in relation to young researchers, surely, the impact both psychological and practical for a mathematician tends to be the strongest, busiest consequences for their future professional life.

9.9. (41) Krishnamurti, or release become hindrance

I stopped that night on a sense of relief, satisfaction, contentment

one who has not wasted his time! I suddenly felt light and happy - a somewhat mischievous joy

times, fusing into mischievous laughter - a laughing urchin joker. Yet I had not done much to

Basically, I had just watched an episode already "known", that of the famous "greenhorn who...", under an angle little different. An angle showing **my relationship to mathematics itself** , in certain circumstances, not only my relationship with mathematicians. It did not take more of a myth that was dear to me go up in smoke.

Actually, this is not the first time I looked at my relationship with mathematics. There are two years

half I was already led to dedicate a few weeks or months. I realized then (between

other things) the importance of egotistic forces, forces autoagrandissement in my invest-

ment passed in math. But last night I had to pinpoint one aspect that had me so

escaped. Now I come back on it, I realize that this aspect, so the appearance of **the attitude**

jealous in my relationship with math, come discover "any beast" that came in the denouement

first night I "meditated" (while meditating without knowing it, as Monsieur Jourdain spoke prose...).

It is well possible that it had its share in this joyous exultation that followed. Although it was not perceived consciously, it was like reconfirmation, in a new light, something I had

once discovered - and then the fun is the same in mathematics, without having sought when one falls,

by an entirely different way, something we know, we found may be years before.

Each time it is accompanied by a feeling of intimate satisfaction, while again reveals himself the harmony of things, and at the same time is renewed more or less the knowledge we have.

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Also, I think this time, I have indeed "made the rounds!" It's been days that I felt it p. 108 still had something to shoot the day, though I would have known it very clear what. I have not tried to force, I felt that there had to let go, leaving freely unwind the thread I was following at through landscapes both familiar and unexpected. Unexpected, because I had never bothered to Now look at them. This is not to walk as I approached the "hot spot" was left.

And I believe that this is the last, in the which I have done and which comes to an end.

And I felt, soon arrived at this point, the one who comes to a gazebo, where he sees deploy

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landscape he has traveled, which every moment he could still receive a portion. And there now this perception of scope and space, which is a release.

If I try to express in words what my book landscape before me, it is this: everything that is me come, and often inappropriate and unwelcome in my mathematician living in recent years is harvest and message that I planted, the time when I was in the world of mathematicians.

Of course, this thing, I've told and retold many times over the years, and in these notes as I just wrote. I am told, by analogy with some other crops that came to me insistently, I have long *récusées* and I finally welcome and make my own. As soon as the first I well received, even before I know meditation, I realized that any harvesting should have its meaning, and was reluctant not begs one direction and back the maturity of a denouement. this knowledge I was valuable because it has often kept pity me, and righteous indignation that often is a disguised form. This knowledge is in me like a half-maturity, which does not put an end still ingrained reflex to refuse the crops when they appear bitter. When I say "there is no point to balk, "the harvest is not received so far. I do not take pity on me nor indignant perhaps, and yet I "reluctant"! As long as the dish is not eaten, it is not allowed - and not eating; it is complaining.

To receive and eating is a **work** : a certain energy

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"Work", work is done openly or

p. 109

shadow, something is changing. . . While complaining is a waste of energy that disperses

- to "fuss"! And we can make the economy work to eat, digest, assimilate. Merely pass through events, to "make" or "buy" experience, has nothing to do with work.

It is simply a **material** possible for a work that is free to do or not to do. Since thirty-six years that I met the world of mathematicians, I made use of this freedom that I have, in **eluding** a job, while the material, the substance to eat and digest increased from year to year. This feeling of joyful liberation that I feel since yesterday is surely a sign that the work that was before me, that I pushed constantly for work or other tasks; has finally been done. It was time Indeed!

It is too early to be assured that this is so, that there is not some obscure and tenacious corner which would have escaped my attention, where it will take me back. But it is also true that this sense of release no mistake - every time I've felt in my life, I saw later that he was although a sign of **liberation** , indeed; something sustainable, *acquis*, the fruit of understanding, a knowledge that has become a part of myself. I am free, if I please, ignore this *connaissance*, bury it where I want and how I want. But it is not the power of me or anyone to destroy, any more than we can destroy the maturity of a fruit, make it back to a state of greenness that is no longer his.

It is a great relief to see confirmed, once again, I've not "better" than the other. Of course, this too is something I repeat fairly often - but **repeat** and **see** not like, really! Failing innocence and mobility of the child, seeing as he breathes, often to see evidence must work - and voila, it's done, I finally **see** this: I've not "better" such as colleagues or former students there a few days ago, I "cut the breath!" That judge weight with this freed me! It may be rewarding in a way to believe that the best other, but also very tiring. It is a waste of energy even extraordinary - as always it is to maintain a fiction. This becomes

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rarely account, but it already takes energy, nothing

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to maintain the fiction against the odds, while the evidence at every step crying in my ears carefully bites it's the can, just look silly! It may be sometimes work to see,

9.9. (41) Krishnamurti, or release become hindrance

but when it is done it is done. It's the economy once and for all to walk like that
by stopping me every turn eyes and ears, must do that too! and grieve as a

intolerable outrage whenever something falls on me that I had put there by mistake.

Ras-le-bol of this ride! When we saw the arena, it is already out. We paid, okay, I have the right

to shoot there in the boonies, and even the duty that does not matter, everyone will tell me: right, duty - to head

client. It is very tiring as all these rights are duties and these duties are duties,

that stick after me when I think I'm better than others. This is normal after all, when one is

best, we discreetly cash (that's the "rights") and "pays" is doing its duty to honor

of the human mind and mathematics - it's beautiful it's true, honor, mind, math that says

better, bravo! bis! It's beautiful, yes, but it is also very tiring, it ends up giving a stiff neck. I have

had my stiff neck and now enough is enough - I leave room for others to stand straight.

This is normal too (since I spoke of students) that the student surpasses the teacher. I was offended by, I

of energy to waste! Finish this!

What a relief !

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10.1. (42) Children

It is even sure there must have corners where the brush has not happened. It's okay, they go well
report to my attention and there will be time then to handle it. But in terms of my famous
"Mathematician past" big cleaning is done, no doubt.

Now that I have seen once again that I am not better than the other, it should

not that I fall into the eternal panel to take me to **better myself** ! To take me

best for **now** , out of the arena and everything, that I was there fifteen years, or fifteen

days. I learned some

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something during those fifteen years, that's for sure, and also during the fortnight and even p. 111

since yesterday. When I learn something I matured, I'm not quite the same. I'm not

"Best" when I learned something, that when this thing to learn was still before me. A

ripest fruit is not "better" than a less mature fruit, or green. A season is not "better" than

preceding it. The taste of the ripest fruit can be more enjoyable or less enjoyable, it depends on taste.

I feel better about myself from one year to another, we must believe that the changes that are in me

are "for my taste" - but they are not to the taste of my friends or relatives. Whenever I'm back

to do math, I get compliments on all sides, on the tone: "What an idea as he had to do

something else ! Everything falls into place, it was time! ". It worries to see someone change...

I learn, I matured, I change - to the point that sometimes I hardly recognize myself in that I was and

I rediscovered by a memory or the unexpected testimony of others. I change, and there are also some

thing that remains "the same". It was always, since I was born probably, and perhaps even before. he

I think I can recognize the last few years. I call it "the child". For this thing,

I am no better now than at any other time in my life; he was there, even though it would have been

often difficult to guess his presence. For this thing too, I'm better than anyone, and

is better than me. In certain times or in certain individuals, the child is present. And it is a

something that a lot of good. That does not mean that someone is "better" than someone else, or

he himself at another time.

Often when I do math, or when I make love, or when I meditate, it is the child who plays. he

is not always the one to "play". But when it is not there, there is no math, no love, no meditation. It is

10. The Child has fun

There is not that the child is safe. There is the "I", the "boss" or the "great leader", as they call you will. Surely it is essential, the boss, the running of the company. If there is a pattern that must well be for something. It ensures stewardship, and like all bosses, it has an unfortunate tendency to become invasive. It takes incredibly seriously

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and for any purpose wants to be better than the boss in

p. 112

face. Invasive or not, he is the boss, he's not the worker. It organizes it controls, and cash

It's certain! - it cash earnings as his due, and suffered losses as contempt. But it creates nothing.

Only the power to create worker, and the worker is none other than the child.

It's rare, the company where the boss and worker agree. Most often, we see traces of the worker, shut up God knows where. This is the boss who pretended to take his place in the workshop, with the results we guess. And often, when the worker is in fact, the boss makes war, violent war or skirmish - this workshop does not go out much! Sometimes there in the boss tolerance suspicious with respect to the worker, he let him grumbling, and without leaving the eye. It's like a constantly renewed truce in a war that never stopped. And the worker can work for so little favor of the truce.

It is not at all sure that by the virtue of meditation that I just made, in the attitude of possessiveness

I overlooked the mathematical disappeared as if by magic! It would take me at least watch

much more closely the events of possessiveness, which I have only to touch a calling

by name. This is not the place in this "introduction", which has become an "introductory chapter", which in

turn already starting to get along! One thing, however had "tilt" that night, on which I want

back so little now, one thing I noticed with some surprise there are two or three

years.

I was launched on a mathematical question, I can not say anything, and at a time (by some

what circumstances) it turned out that the question as I watched was perhaps already been viewed, it could well be treated black and white in such a book, it was up to me to check out at the library.

The evocation of this single event has had a withering effect, which amazed me: from one moment to another,

the desire was gone. Suddenly, the issue on which I had perhaps spent weeks, and me

preparing to live without others, had lost interest for me! It was not a spite, it was a

lack of interest sudden and total. If I had the book in my hands, I would not bother open.

In fact, the event was not confirmed, and suddenly the desire is

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income and I kept my momentum

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as if nothing had happened. I stood still puzzled. Of course, if I really had **need** of it

I was doing to do **something else**, there would have been a dramatic fall of interest.

It happened to me often to redo things known, knowing or suspecting they were without me

worry at all. Then I was on a roll when it was more economical, and more interesting

above all, to do things my way, in the context where they occurred to me that to search in

books and articles. I was doing so "in stride" towards something else, towards what was my desire. Well

Sure, I was pretty "in the know" to know what was the end no one was in any book or article.

This brings to my attention that the mathematical work, even though it would in solitude

for years, it is **not** a purely personal work, individually, as is meditation - at least

not at my house. "The unknown" that I pursue in mathematics, for it draws me with such force, do

be not only unknown to me, but unknown to all. What is written in mathematical books

is not a stranger, even as myself would never have heard of it. Read a book or article

never attracted me, I avoided it whenever I could. What he can say is never the unknown, and

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10.2. (43) The killjoy boss - or the pressure cooker

the interest I give him not the quality of desire. It is an "interest" of circumstance, the interest in

information that can be useful to me, as an instrument of a desire which it is not the object.

On reflection, it does not seem to me that the event that I reported is the sign of jealous provisions,

possessive, a sign of vanity that was disappointed. There was no spite in me, no disappointment,

simply the sudden disappearance of a desire that, the moment before again was intense. It was a when I thought absolutely not to publish anything, or that one day he would take me fancy even publish something. This desire was not expression of vanity, the accumulation munchies knowledge, titles and credits - it was indeed a true desire, the desire of the child and passionate game. suddenly - nothing! Figure it, I do not understand. . . Sorry!

10.2. (43) The killjoy boss - or the pressure cooker

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I feel I have finally finished this retrospective of my life mathematician. Of course, I have p. 114 not exhausted my subject - it would take volumes, assuming that such a subject could be "exhausted". It was not my point here. My purpose was to get to the bottom whether I had been involved and co-actor in the appearance of a certain "air" that I feel today in puffs, and if so, how. I have the Net heart now, and it feels good. It could be exciting to go further, to deepen the was glimpsed or touched. There are so many exciting things to see, to do, to discover! For which is my past mathematician, I think it **was necessary** that I look to take on this past, been seen.

Surely, pursuing this meditation, I would not fail to learn many things inte-ressantes on my present. One thing this job has made me feel already at almost every step, is how Point I remained attached to that past, the importance it has had until today in my image myself, and also my relationship to others; especially in my relationship to those I have, in a sense, left. Surely my relationship to that past has turned in this work, in the sense of detachment ment, or lighter weight. The future will tell me. But it is likely that a commitment will remain, as long as will not be burned and assuaged my mathematical passion - as long as I "will Math. "And I have no desire to want to guess or predict whether it will go out before me...

For over ten years I had grown this extinct passion. It would be truer to say that I had **decreed** she was off. That was the day I stopped for a while to do math, and where I rediscovered the world! For three or four years I was so absorbed by an intense activity that my former Passion did not have to find any gap through which to slip to manifest. These were the years intense learning, at some level remained fairly superficial. In the years that followed celles- there mathematical passion manifested by sudden access, totally unexpected. These lasted access weeks or months, and I persisted in ignoring their yet clear enough sense. I decided a good Once the munchies do math, really good for nothing, was now outdated thing, period! The "good for nothing" yet did not hear it that way - and I for my part, I remained deaf.

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Something that may seem paradoxical, it is after the discovery of meditation (in 1976), with the entry p. 115 in my life in a new passion, the reappearance of old have made particularly strong, almost violent - as if every time a lid jumped as a result of too much pressure. It is Only five years later, under the pressure of events it is the case to say that I bother to examine what was happening. It was the longest meditation that I made on a matter of appearance well defined: it took me six months of stubborn and hard work to go around with a kind of iceberg

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10. The Child has fun

whose visible summit had ended up becoming quite embarrassing to oblige me, almost against my will, for there visit. It was thus clear a situation of **conflict**, which of all appearance was the conflict of two forces or desires: the desire to meditate, and the desire to do math.

During this long meditation, I have not learned to not only the desire to do math, I was dealing with disdain, was, like the desire to meditate, I valorisais to bottom, a desire of the child. The child has nothing to disdain nor the modest pride of the great leader and boss! The child's wishes are followed, over the hours and days, like the movements of a nascent dance each other. Such is their nature. They do not preclude more than precluding the verses of a song, or successive movements of a cantate or fugue. This is the boss bad conductor who said that such a move is "good" and another "Bad" and that creates conflict where there is harmony.

After this meditation, the boss has calmed down, it is less mine put his nose where it does not belong. The work was long this time, so I thought it would be done in a few days. Once the job done, the "result" appears as obvious, and formula in a nutshell 1 (37). But someone insightfully would have said those words before or during labor, it would have probably advanced me in anything. If work has been so long is that the resistance was strong and deep. The boss took it on the chin for that matter, and he never mufti because it happened in an environment where there was no way he gets angry. What is certain is that it's been six months well spent, and I could not have done the economy; no more than woman can not do without the nine months of pregnancy to finally give birth to something also to "clear" a brat.

10.3. (44) is re-reverses steam

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Here it would be a year and a half I have not meditated, with a few hours in December to p. 116

see clearly in an urgent matter. And it[©]been a year since I spent the bulk of my energy to make math. This "wave" -There came as the others, math-waves or wave-contemplation: they come without announce their arrival. Or if they advertise, I never hear! The boss keeps a slight preference for meditation, should we believe: every time the wave-meditation is already followed by a wave-math; so I saw it last forever; and the wave-math that (it seemed to me) was a matter of a few days or at most weeks, lingers and goes on for months and maybe, who knows, for years. But the boss has come to understand that it is not he who makes these rhythms and has nothing to gain by wanting the adjust.

But perhaps there he finally got a descent into "slight preference" boss, since it makes almost a year that is something heard and decided, I left for a few years at least to "remake math,"officially, so to speak: I even submitted my application for a position at CNRS thing more! important and completely unexpected there another year, I commit myself to publish. Even after the meditation 1981 I mentioned earlier, when the urge to do math stopped being treated poor relation, the idea I would not come that I might defer to publish math. Another thing to a pinch, a book where I talk of meditation or the dream and the dreamer - and again, I was too busy with what I was doing for 1 (37)

It is hardly necessary to add, I think that this long process has revealed, day to day, something else yet the "result" I just indulge in pithy form. It is no different for work of meditation for mathematical work motivated by a particular question that was intended to look. Often the events followed the road (leading or not leading to a more or less complete clarification of the original question) are more interesting that the original question or the "end result".

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10.3. (44) is re-reverses steam

want to write a book on it! And why do ? !

So there was a sort of fairly important decision that commits the course of my life for years to come, and that was taken a bit by the band, I can not even say too much when and how. One day when he began to be a bunch of typed notes (like yours! previously

I confined myself to write my cogitations math by hand. . . 2 (38), on the fields and templates Homotopic etc. . . , He found that it was decided thing: we publish it! And for that matter, much to the package and start a small series of mathematical thinking, whose name was found while it was enough to uppercase "Reflections Mathematics"! That[©]more or less what renders me this:

when the famous "fog" which so often takes the place of memory. Remember surely very hot in

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case. The remarkable thing, in any case, is that this thing was done without even a pause p. 117 to **watch** where I was going, what was pushing me or bore me. . . This is why I would even want to do on the momentum of this unexpected meditation, to be able to really feel complete.

The question that immediately comes to mind: this "remarkable" that I have seen, Is a sign of the (so-called?) "discretion" of the boss, who for the world does not want to interfere (was it a prying eyes. . .) In a spontaneous movement so beautiful that has no need of him etc. . . ; or is it the sign instead he took part altogether, and that the so-called "slight preference" makes the push down in the math direction?

It was enough to put the issue black on white to appear the answer! It[©]not the kid who went there in a game more lengthy than others, perhaps, who decreed that he was so far X continue for years without firing a shot, and blacken wisely during the time it took the number of Page wanted to make a reasonable number of volumes of a beautiful series uppercase titles! This is the boss who has foreseen everything organized, the kid has just run. Maybe the kid he not ask him better, we can not know in advance - but that[©]a side issue. The kid[©]desires depend Moreover, to some extent at least, of the **circumstances** , which depend mainly on the boss.

The boss decided is clear. It is also to show some flexibility, since there more than a month a meditation continues under his watchful eye. It is also true that his benevolence is not disinterested, since the tangible product of meditation, the notes I[©] write, will be the most beautiful cornerstone of the tower he sees himself building with stones gracieu-ment carved by the worker-child apparently willing. Really, it[©]a bit early for him compliment "flexibility"! A few hours of meditation there three months, all in all in one year and a half, it would even rather thin!

Yet I do not feel that there was, all this time

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a meditation desire would have been p. 118

repressed, frustrated. In the few hours in December, I made the point and saw what I had to do; that was enough to transform a situation that was not clear. I picked up the thread of the interrupted mathematical work, without having to cut short on. It does not seem to be a conflict reappeared on the sly, I hear; one who was determined there more than two years and which would form reappeared this time reversed. That the boss has preferences, it is in its nature and it is his right - it would be foolish if he does mine ban (still happens things more stupid than that one ...). This is not the sign of a conflict, although often it is the cause. At the point where things are, it really seems that there is at 2 (38)

These notes were in fact a continuation of the long letter. . . , Who became the first chapter. They were typed Machine to be legible for that friend of old, and two or three others (especially Ronnie Brown) I thought they might be interested. This letter also never received a response, and it has not been read by the recipient, who nearly a year after (my question if he had received good) showed genuinely surprised that I could even think of a time he could read, seen the kind of mathematics that we should expect from me. . .
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blame for lack of flexibility!

This saw, it remains to try to identify the "motives" of the boss, for this vapor reversal who got the most discreet of the world, and yet, look closely, is quite spectacular.

10.4. (45) The Guru-not-Guru - or three-legged horse

This immediately brings me back to this meditation which had continued from July to December 1981, after a four months I had spent in a kind of mathematical frenzy. This time a little insane (very fruitful elsewhere in math standpoint 3 (39)) was over, overnight, following a dream. It was a dream that described, with a parable of a wild irresistible force, which was in the process happened in my life - a parable of this frenzy. The message was of a dazzling clarity, I had Yet two days of intense work to accept the obvious meaning 4 (40). That done, I knew what I had to do. I am not back on that dream during my work during les six months that followed, but I was not doing anything yet that penetrate deeper into its meaning and fully absorb his message. Two days after the dream, this message was understood at a level that remained superficial and coarse. What me had to deepen, especially, it was "my" relationship; the boss I mean, at one and the other of the two desires presence, which seemed to me antagonists.

So many things have happened in my life for this meditation, that it appears to me as a very distant past. If I try to formu

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I what I understood from what she taught me about motivation

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tions of the "boss", it is this: during the twelve years that had passed since then the "first alarm" (1970), the boss had bet on what obviously was the "wrong horse": **between mathematics and meditation** (he liked to oppose to each other) **he opted for meditation** .

This is a way of speaking, since the thing and the name "meditation" were entered my life in In October 1976, five years earlier. But the image dear to me who in 1970 had seen newly painted, meditation was timely, six years later, enhancing its glow a certain attitude or pose, Spotted long discussed but never until this meditation 1981. I désignais as the the "master of the syndrome," and some have also called (correctly), my "raises Guru". If I adopted the first designation rather than the second, that probably it favored confusion about the nature of the thing in which he liked to keep me. There was in me since my childhood already, spontaneous pleasure to teach, who had no objection to the spontaneous fun to learn, and who had 3 (39)

This is the period, among others, the "Long March through Galois theory", discussed in "Sketch of a Program "(para. 3:" number field associated with a child drawing ").

4 (40) The visit

The work on this dream is the subject of a long letter in English, a friend and colleague who had visited me in gale the day before. Some of the materials used by the Dreamer, to bring out of apparent nothingness that dream of a striking realism,

were obviously borrowed from this short episode of the visit of a dear friend that I had not seen him for almost ten years. Also, the first day of work and against my past experience, I thought I could conclude that the dream that came to me concerned my friend, does it concern me - it is him who should have that dream and not me! It was a way of evading the message of the dream, that (I should have known from the start by my past experience) only concerned no one but me. I ended up

realizing the hurt that followed this first phase, superficial work; I returned the next day in the same letter. I have not received since that memorable letter; sign of life from this friend, one of the closest I have had. This work was the only meditation that took form letter (and English to boot), and which thereby I

have no paper trail. This episode struck me particularly, among many others that demonstrate how signs a work that goes beyond a certain facade, and brings to light all simple facts, but that is generally a duty to ignore - how any such work inspires unease and fear in others. I come back to that later (see para. 47, "The solitary adventure").

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10.4. (45) The Guru-not-Guru - or three-legged horse

nothing a pose. It was that strength above all was at stake me in my relationship with my students; this relationship was superficial, but she was strong and good alloi, by which I mean: without laying. It was after this I called my "awakening" of 1970, while a universe that was familiar to me retreated almost to the point of disappear, and with it also the students and the opportunities that I had "taught" to share things I knew who to me made sense and value - that is when "the boss" took revenge as he could: instead of teaching math, just good thing for a living, but otherwise unworthy of my new greatness I see myself teaching in my life and example some "wisdom". I took good care of course nothing formulate such neither I nor the other, and when I received echoes in this, surely I should recuse myself, grieved so much misunderstanding on the part of such friends relatives. Though I explain to them, they persisted in not understanding, students distressing if there ever was! I had read a book or two Krishnamurti who had greatly impressed me, and the head had assimilated a snap and a certain message

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certain values s (41). But it was enough to believe that everything was p. 120

5 (41) Krishnamurti, or release become hindrance

It would be inaccurate to say that the only thing I learned from this reading is a certain vocabulary, and a propensity for the to mine and to substitute finally, just as in reality. If reading the first book of Krishnamurti I had hands so struck me (and still have I had time to read a few chapters), it is because he said totally hustled number of things for me were the self, which I reported to me as soon as it was of **commonplaces** who has always been part of the air that I breathed. At the same time, this reading attracted my attention for the first bec, on facts of great significance, especially that of the flight from the reality, as a conditionings of the mind the most powerful and universal. That gave me an essential key to understanding situations that previously were incomprehensible and therefore (without my noticing before the discovery of the Meditation five or six years later) generating anxiety. I could immediately see the reality of this trailing everywhere around me. This unwound some anxieties, but without changing anything essential, because I did not see this reality in others, while appearing to me (for granted) that it did not exist in myself, that I was in fact the exception that proved the rule (and without asking any further questions about this truly remarkable exception). In fact, I was no curious or others or myself. This "key" can **open up** in the hands of the lively desire to enter. In my hands it became exorcism and poses.

It was in early 1974 that for the first time I went to the evidence that the destruction in my life, following me step by step, could not come **as** the others, there was something **in me** that attracted him, the fed, the perpetuated. It was a moment of humility and openness, conducive to a renewal. This remained so even peripheral and ephemeral, lack of a **working** depth. That "something in me" was still vague. I could see that it was the lack of love, but the very idea of a work that would identify more closely where and how there had been a lack of love in me, how he manifested, what were its practical effects, etc. . . - such an idea could not come to me or any media or people I had hitherto known or Krishnamurti. (Instead, K. likes to emphasize the futility of any work, he automatically equates with "munchies becoming" of me.) So, with "wisdom" of borrowing for any compass, I saw nothing else to do but wait patiently for "love" down in me like a grace of the Holy Spirit.

Yet the humble truth that I had learned in the hollow end of wave sparked the rise of a powerful wave new energy, comparable to that which was to carry two and a half years later my first launched in meditation. This energy then has not remained completely unutilized. A few months later, then! I was immobilized by an accident providential, she wore a reflection (written) where, for the first time in my life, I was examining the worldview that was the unspoken basis of my relationship to others, and that came to me from my parents especially my mother. I realized then very clear that this vision had failed, she was unable to account for the reality of relationships, and promote development of my person and my relationships with others. This reflection is marked by the "style Krishnamurti", and also by the taboo krishnamurtien on any real **work** toward an understanding. But she has made tangible and irreversible knowledge born a few months before, remained first fuzzy and elusive. This knowledge, any book or any other person in the world could then bring it to me.

For quality of meditation was missing especially in this reflection The look on my own person and my **vision myself**, and not only on my worldview, a system of axioms so I do not really figured "in the flesh and bone. "And also missing there, look at myself in **the moment**, at a time of reflection (which fell short a real work); look that would identify me as anything a borrowed style, a certain complacency in appearance literary of these notes, so a lack of spontaneity, authenticity. Any insufficient as it is, and reach relatively limited in its immediate effects on my relationships with others, yet this reflection seems to me a step, probably necessary because the starting point, to the deepest renewal to be held two years later. Then finally

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happened (while claiming the opposite of course). I had no need to read more, I was able to improvise the purest Krishnamurti in speech as in writing, in a speech coherence without faults. But the speech was beautiful to be beautiful and flawless, at no time did he seem to be used for anything nor me or to others. It lasted for years without me to do mine to take seed. With the discovery of meditation, jargon rebelled against me overnight without trace. I knew then the whole difference between discourse and knowledge.

Grand Chief has corrected this immediately: Krishnamurti the wayside, meditation hairpin! Discreetly, he Needless to say, it was now that he plays with a different skill. Times had changed, with this kid now ran between his legs, and had the eye a bit lively at times. It seems that the kid was otherwise occupied. Still, it only five years later, while some had pot exploded and the boy was rushed to see what was happening, the arena of the great chief was drilled to date. That was not so long finally, it just over two years, the Guru-in-in-have- the air was stale finally - a disguise over the hatch! The poor boss, he would end up naked nearly. Or to put it differently: the horse "Meditation," which took the place of the horse with no name (it was unwise to call "krishnamurtien"!) is really ridiculous set of returns, especially when the Returns quaint compared to the "mathematical" horse to ancient times where the boss still counted on him. If he kept up the bad for so long, it was through pure inertia - had already changed up Once again, it not too common and it was necessary for it all the impact of a powerful event 6 (42). The bosses they dislike so much change up - and there was even a sort of flashback, the previous bet.

This is from 1973, when I retired to the country, the returns from the new horse have begun to get really lean in comparison with that of yesteryear. The unexpected appearance of meditation three years later has just relaunched. There was even the episode of dizzying peak from March to July 6 (42) **The hard salutory**

punchy "Event" "in question was the discovery at the end of 1969, the fact that the institution which I felt part was partially financed by funds from the Ministry of hosts, something that was incompatible with my basic axioms (and is in fact even today). This event was the first in a string of other (more revealing as each other) who: had the effect; I left IHES (Institute of Advanced Scientific Studies), and needle wire medium radical change and investment.

During the heroic years of the IHES, Dieudonné and I have been the only members, and only as to give credibility and audience in the scientific world, Dieudonné by editing the "Publications Mathematics": the first of which volume appeared in 1959, the year that followed the founding of the IHES Motchane by Leo) and me by "Seminars Algebraic Geometry. "In those early years, the existence of the IHES remained more precarious, with funding uncertain (by the generosity of a few companies acting as sponsors) and with only a local paid room (with a visible bad mood) by Thiers Foundation in Paris for the days of my seminar [*A recent brochure published by IHES on the occasion of the anniversary of twenty-five years of its foundation (including Nico Kuiper was kind enough to send me one copy) no mention of these difficult beginnings, considered perhaps unworthy of the solemnity of the occasion, celebrated in great pump last year.*] . I felt a bit like a "scientific" co-founder with Dieudonné, my home institution, and I intended to end my days there! I finally identify myself strongly at IHES, and my departure (as a result of the indifference of my colleagues) was experienced as a kind of tearing another "home", before revealing as a liberation.

Looking back, I realize that I should already be in me a need of renewal, I can not say for when. It is surely no coincidence that the year before I left IHES, there was a sudden tilting my energy investment, leaving out the tasks the day before were burning my hands, and questions that fascinated me the most, to launch me (under the influence of a biologist friend, Mircea Dumitrescu) in biology. I threw myself in terms of a long-term investment in the IHES (which was in line with the multidisciplinary vocation of this institution). Surely it was just one outlet in need of renewal much deeper, which could not be accomplished in the mood of "scientific incubator" of IHES, and who made during this "Awakenings cascade" to which I have already alluded. There were seven, the last of which took place in 1982. The episode of "funds military "was providential triggering the first of these" awakenings ". The Ministry of hosts, like my ex-colleagues IHES, finally had the right to my gratitude!

10.4. (45) The Guru-not-Guru - or three-legged horse
1979 on which I will not elaborate here, where again I pre
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nais FIG apostle, apostle this time a sa- p. 121

pea immemorial and new at once, sung in a poetic work of my composition and I
am finally refrained from entrusting the hands of an editor 7 (43). But two years later, with the Guru definitively
ment off, it was a bit like the Meditation horse had broken a leg (for what was the
Returns to the boss) - there was even meaner, fingering fingering or not, play the Gurus!
After that, it does not have much dragged - the three-legged horse to the trap, with the Apostle poet Guru-Pas
Krishnamurti and Guru-that-dare-say-his-name. Long live the Mathematics!

We look forward to further events. . .

7 "The poetic work of my composition" contains a lot of things that I know first-hand, and today
strike me as equally important in my life, "in life" in general, that when it was written, with
the intention to publish it. If I abstained in me is mostly because I realized later that the account form
was afflicted by a deliberately "making poetic," so that its overall design built too, and many
passages, lack spontaneity, to the point at times of stiff or painful swelling. This form, by bombastic
times, was a reflection of my provisions, which definitely is the "boss" often leading dance - heavily it goes
itself. . .

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11. The solitary adventure

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11.1. (46) The forbidden fruit

I had to interrupt for two days in the notes. After careful reading, it seems to me that the scenario The foregoing is, in a nutshell, a description of reality, a description that should now be a bit more. I would need to focus more closely on the respective merits of the two "horses" meditation and mathematical ; and also try to understand what events or circumstances eventually triggered the "tipping" in the patron@bet, against the forces of inertia that would rather push him to keep indefinitely an even losing bet.

Perhaps one should also probe the preferences of the kid. It@a thing now heard, he wants to change game from time to time, and the boss apparently has a minimum of flexibility to not force him whatever the cost, always playing this and never at that. In recent years he has learned to take into account the to cope with him, without waiting for pots to explode. It@not complete harmony, but it is no longer war, a sort of cordial agreement rather, that occasional tensions would tend to soften, not harden.

When it is not countered too hard, the child is quite flexible in his preferences. (It is not like the boss, who ended up learning a minimum of flexibility to his only defending body and on his old days. . . But the fact that the child is flexible does not mean that he, too, has be attracted more strongly by one thing than by another.

It is not at all obvious often to see clearly, to distinguish between

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desires and preferences of the same p. 122

boss, or even what the boss decided once and for all. When I said to myself:

meditation is better, more important, more serious and everything and everything that mathematics, for such and such reasons (the most relevant, we suspect), it was the boss who gave himself good reasons after the fact to convince himself that the bet he was making was indeed "the good". The kid he does not say that such thing is "better", "more important" than any other. It is not focused on the speech. When he wants to do something goes there if nobody prevents it, without asking any question if this thing is "important" or "best". His desires are more or less strong from one thing to another and from one moment to another. To find preferences, there is no point in listening to the explanatory speeches of the boss, when he claims to speak on behalf of the even when he can speak only of himself. It is only by observing the child in his games that

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may perhaps detect his predilections. And even then it@not so obvious: when he plays this with enthusiasm, it does not always mean that he would not play anything else with delight, if the boss did not put his shot of thumb to him.

Obviously that before anything else draws is **the unknown** - is continuing in the nebulous folds of the night and bring to light, what is unknown and of him, and of all. And I feel that when I added "and of all", this is the desire of the child, not a vanity of the boss, who wants impress the gallery and himself. It@a thing heard as well as what the kid brings back to each shot of the half-dark granaries and inexhaustible cellars are "obvious", childish things. More they appear obvious, more even he is happy. If they are not, it@because he did not do his job until the end, he stopped midway between darkness and day.

In math, things "obvious" that also are those on which sooner or later someone **must** fall. This is not are not "inventions" that can be done or not done. These are things that have always been there forever, that everyone rubs shoulders without paying attention, even make a great detour around, or to go over stumbling every time. After a year or a thousand, infallibly, someone ends up paying attention to the thing, to dig around, to dig it up, to look at it from all sides, to clean it, and finally

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give him a name. This

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kind of work, my favorite job, another each time could do it, and what@more, another **could not fail to do it** one day or another one (44).

It is not at all the same for the discovery of me, in the game by no means collective "meditation". What

I discover, no other person in the world, today or at any other time, can discover it at my square. This is mine alone that discover it, that is to say **also: assume**. This stranger is not I do not promise to be known, almost by force of circumstance, whether or not I take the trouble to interest myself in it. If he waits in silence for the moment when he will be known, and if sometimes, when the time is ripe, I hear him who call, there is only me, the child in me, who is called to know him. He is not a stranger in suspension. Of course, I am free to follow his call, or to shirk it, to say "tomorrow" or "someday". But it@mine and to no other than the call, and none but me can hear, no one else can follow him. Every time I followed this call, **something changed in the "business"**, more or less. The effect was immediate, and felt on the spot as a blessing - sometimes, as a sudden release, a immense relief, a weight that I carried without even realizing it often, and whose reality is manifested by this relief, by this liberation. On a smaller scale, such experiences None of these are common in any discovery work, and I have had the opportunity to talk about it. The thing though who distinguishes the work of self-discovery (whether it is open or underground) from any other work of discovery, it is precisely that it really changes something in "the company" itself. he This is not a quantitative change, an increase in yield, or a difference in size or even in the quality of the products coming out of the workshop. This is a change in the **relationship between the boss and the worker-child**. Maybe there is even a change in the boss himself, if it can to have a meaning other than for his relation to the worker, the child. For example he may look less at the production - but it is also an aspect of his relationship with the worker, by the appearance of a concern or a respect perhaps who previously were strangers to him. In all cases where I meditated, the change was in the 0 sense of a **clarification** and an **easing** in relations between boss and worker. Except in some cases p. 124 where the meditation remained superficial, meditations "of circumstance" under the only pressure of a need immediate and limited, the clarification has lasted until today, and appeasement too. 1 It goes without saying that I do here aside from the assumption, not improbable to say the least, the sudden irruption of a atomic war or another kind of rejoicing, of a nature to end suddenly and once and for all collective called "Mathematics", and much more with. . . 220

11.2. (47) The solitary adventure

This gives the self-discovery work a **meaning** different from any other work of discovery, then that many essential aspects are common. There is a dimension in self-knowledge, and in the work of self-discovery, which distinguishes them from all other knowledge and work. Can-be is this the "**forbidden fruit**" from the Tree of Knowledge. Perhaps the fascination exerted on me meditation, or rather that of the mysteries of which it has revealed to me the existence, is it the fascination of the fruit defended. I crossed a threshold, where fear has disappeared. The only obstacle to knowledge is inertia, inertia sometimes considerable, but finite, by no means insurmountable. This inertia, I felt it almost at every not, insidious, omnipresent. She exasperated me sometimes, but never discouraged. (No more than in the work where it is also the main obstacle, but of incomparably less weight.)

This inertia becomes one of the essential ingredients of the game; one of the protagonists to say better, in this game delicate and in no way symmetrical which has two - or three to say better: on one side the child who rushes, and the boss (inertia) who brakes everything he can (while claiming not to be there), and on the other the interviewing form of the beautiful unknown, rich in mystery, both near and far, who at one and the same time and call. . .

11.2. (47) The solitary adventure

This fascination with me about "meditation" was of considerable power - as powerful as it was the attraction of "the woman", which she seems to have taken the place. If I just wrote "was", that does not mean not that this fascination is extinguished today. Since a year that I invest in mathematics, she only passed in the background. Experience tells me that this situation can be reversed from day to day. next day, just as this situation itself is the effect of a completely unforeseen reversal. In fact, during each of the four long periods of meditation I spent (one of which was extended for almost a year and a half), it was something that for me was self-evident that I would continue on my launched up to my 0

last breath to probe as far as I can go the mysteries of life and those p. 125 of human existence. When the notes have accumulated in impressive stacks to the point of threatening to overwhelm my work room, I even ended up making a piece of furniture tailored to fit, in predicting wide (by a quick calculation of arithmetic progression) to also include those that would soon not to add to it over the years; I had planned a margin of fifteen years if I remember well (which was already starting to do!). There the boss had done things well, for stewardship it was the beautiful stewardship! That, and a large-scale storage of all personal papers closely related or

far from the work of meditation, was besides his last task undertaken and led (almost) to good end, just before the switchover preference and bets. It is to wonder if he had any ulterior motive head, and if he did not already see volumes of "Mathematical Reflections" fill the so-called empty rays for future "Notes".

Certainly, the passion of meditation, the discovery of me is vast enough to fill my life until the end of my days. It is also true that the mathematical passion is not consumed, but perhaps this hunger will she end up satiating in the coming years? Something in me wants it, and feels the mathematical as a hindrance to follow a solitary adventure that I alone can pursue. And I think that "something" in me is **not** the boss, nor the whims of the boss (which, by nature, is divided). It seems to me that the mathematical passion still bears the mark of the boss, and in any case, that following it moves my life in a closed circle; in the circle of a **facility**, and in a movement which is that of **inertia**, surely not renewed.

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I wondered about the meaning of this persistent persistence of mathematical passion in my life.

When I follow her, she does not really fill my life. It gives joys, and it gives satisfaction, but it is not of a nature in itself to give real fulfillment, a fullness. As any purely intellectual activity, the intense and long-term mathematical activity has an effect rather **stultifying**. I see it in others, and especially in my own home every time I do it again.

This activity is so fragmentary, it only implements a tiny part of our faculties of intuition, sensibility, that these are dulled to

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force not to serve. For a long time I did not go

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account, and obviously most of my colleagues do not realize it more than me in time.

It©since I©e been meditating only, it seems to me, that I©e become attentive to this thing. For little one pays attention, it blindingly obvious - **math with large doses thickens**. Even after meditation two and a half years ago, where mathematical passion was recognized as a passion indeed, as an important thing in my life - when now I give myself to this passion, it remains a reserve, a reluctance, it©not a total gift. I know that a so-called "total donation" would actually be a kind of abdication, this would follow an inertia, it would be a leak, not a gift.

There is no such reserve in me for meditation. When I give myself, I give myself totally, he there is no trace of division in this gift. I know that by giving myself, I am in complete agreement with myself and with the world - I am true to my nature, "I am the Tao". This gift is beneficent to me and to everyone. he open to myself as to others, resolving with love what in me remains tied.

The meditation opens me to others, it has the power to untie my relationship to him, even though the other one remains-would be tied. But it is very rare that there is an opportunity to communicate with others so little about the work of meditation, of this or that thing that this work made me know. This is not because he would be things "too personal". To take an imperfect picture, I can not communicate on maths that interest me at a given moment, that with a mathematician who has the necessary baggage, and who at the same time is willing to be interested in it too. It happens that for years I am fascinated ciné by such mathematical things, without meeting (nor even trying to meet) other mathematician with whom to communicate about them. But I know that if I looked for it, I would find it, and even if I could not find any, it would be simple question of chance or conjuncture; that things that interest me can not fail to interest someone and even some, whether in ten years or in a hundred years no matter basically. This is what gives meaning to my work, even if it is done in solitude. if there were no other mathematicians in the world and there should not be any, I do not think that maths would keep meaning to me

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- and I suspect that this is not the case for any other mathematician,

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or any other "seeker" in any way. This ties in with the observation made earlier that for me "the mathematical unknown" is what nobody else knows - it©something that does not depend on my only person, but of a collective reality. **Mathematics is a collective adventure**, continuing for millennia.

In the case of meditation, to communicate about it, the question of "baggage" does not arise; not at the point where I am at least, and I doubt it will ever arise. The only question is that of a interest in others, which responds to the interest that is in me. It is therefore a curiosity with regard to what really passes in oneself and in others, beyond the facades of rigor, which do not hide much as long as we are really interested in seeing what they cover. But I learned that the moments when in a person such an interest appears, the "moments of truth" are rare and fleeting. It is not uncommon, well

11.3. (48) Donation and welcome

luggage that they carry with them, more or less heavy or light, what is called a "culture". He belongs of the image that they have of themselves, and reinforces this image, that they never examine, exactly like another who is interested in maths, flying saucers or angling. This is not that kind of "baggage", or that kind of "interest," that I wanted to talk about earlier - while the same words here designate things of a different nature.

In other words: **meditation is a solitary adventure**. His nature is to be lonely. Not only ment the **work** of meditation is a lonely job - I think this is true of any work of discovery, even when it fits into a collective work. But **knowledge** born of meditation work is knowledge "lonely", knowledge that can be **shared** and even less "communicated"; or if it can be shared, it is only in rare moments. It's a job, an acquaintance that goes against the current of the most inveterate consensus, they worry everyone. This knowledge certainly expresses simply, with simple and clear words. When I express myself, I learn by expressing it, because the expression

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is part of a job, driven by intense interest. But these simple words p. 128

limpid people are powerless to communicate meaning to others when they come up against the closed doors of indifference or fear. Even the dream language, of a totally different strength and infinite resources, renewed constantly by an indefatigable and benevolent dreamer, can not cross these gates. . .

There is no meditation that is solitary. If there is the shadow of a concern for approval by anyone, of a confirmation, of an encouragement, there is work of meditation nor discovery of oneself. The same thing is true, one will say, of any real work of discovery, at the very moment of the work. Certainly. But outside of the work itself, approval by others, be it a relative, or a colleague, or a whole milieu of which one is a part, this approbation is important for the meaning of this work in the life of the man who gives himself to it. This approval, this encouragement are among the most powerful incentives, which make the "boss" (for take this picture) gives the green light unreservedly so that the kid gives himself to heart joy. They are the ones especially that determine the investment of the boss. It was not different in my own investment in mathematics, encouraged by the kindness, warmth and confidence of people like Cartan, Schwartz, Dieudonne, Godement, and others after them. For the work of meditation on the other hand, there is no one such incentive. It's a passion of kid-workers that the boss is nice background tolerate more or less as it **not "reports" nothing**. It is fruitful, certainly, but it is not those that a boss aspires. When he does not borrow himself about it, it is clear that it is not in meditation that he will invest, the boss is gregarious!

Only the child by nature is solitary.

11.3. (48) Donation and welcome

Speaking yesterday of the solitary essence of meditation, I was touched by the thought that the notes I write for almost six weeks, which ended up becoming a kind of meditation, are nevertheless intended for the publication. This has, of course, influenced the form of meditation in many ways, including by the desire for a conciseness, and also that of a discretion. One of the essential aspects of meditation, namely constant attention to what is happening to me at the very moment of my work, only occasionally, and superficially. Surely all this had to

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creep on during labor and its p. 129

quality. I feel, however, that he has meditation quality, above all by the nature of his fruits, by the appearance a knowledge of myself (in this case, that of a certain **past** mostly) I had to pre-
feel evaded. Another aspect is spontaneity, which has meant that for any of the soon fifty "sections" or
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"paragraphs" in which spontaneously reflection has grouped, I could not have said by starting it in it would be the substance; each time it revealed itself on the way only, and each time the work brought new facts to light, or shed new light on previously neglected facts.

The most immediate meaning of this work was that of a dialogue with myself, of a meditation, therefore. Yet the fact that this meditation is destined to be published, and moreover, to serve as an "opening" the "Mathematical Reflections" which must follow, is by no means an accessory circumstance, which would have been dead letter during work. It makes for me an essential part of the meaning of this work. If I suggested

yesterday that the boss surely finds his account (he who is master to "find his account" in all, or almost!), this does not mean that its meaning is reduced to that - to a "return" late, posthumous almost, the famous three-legged horse! More than once I have felt that the deep meaning of an act exceeds sometimes the motivations (apparent or hidden) that inspire him. And in this "return to mathematics" I guess yet another meaning than to be the result-sum of certain psychic forces that have found themselves in presence in my person at that time and for such reasons.

This "meditation" that I am pursuing to offer to those whom I have known and loved in the mathematical world - if I feel that it is an important part of this glimpsed meaning, it is not in the gift will be accepted. Whether he is welcomed or not does not depend on me, but on whom only he is speaking to. That he is welcomed is not indifferent to me, certainly. But that is not my responsibility. My only responsibility is to be true in the gift I make, that is to say, to be myself.

What makes me aware of meditation are humble and obvious things, things that do not pay off mine. These are also the ones that I will not find in any book or treat, so scholarly, deep, awesome as it is - those that no other can find for me. I questioned a "fog", I

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bothered to listen to it, I learned

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a humble truth about a "sports attitude" and its obvious meaning, in my relation to mathematics as in my relationship to others. I would have read "in the text" the Holy Scriptures, the Qur'an, the Upanishads, and again Plato, Nietzsche, Freud and Jung over the market, I would be a prodigy of vast and profound learning - that this would have made that **move away** from that truth, childlike truth evident. And I would have repeated a hundred Christ-words "happy are those who are like little children, for the Kingdom of Heaven belongs ", and will have commented on them finely, that it would have only served to keep me away from the child in me, and humble truths that bother me and that the child alone sees. It is **these things**, the best that I have to offer.

And I know that when such things are said and offered, in simple and clear words, they do not are not welcome so far. To welcome is not simply to receive information, with embarrassment or even with interest: "So, who would have doubted ...", or: "It is not so surprising after all ...".

To welcome, often, is to recognize oneself in the one who offers. It is getting to know oneself through the person of others.

11.4. (49) Statement of a division

This short reflection on the meaning of this work, and on the gift and the welcome, comes as a digression in the thread of reflection; or as an illustration rather of some aspects that distinguish "meditation" any other work of discovery, including mathematical work. I realized yesterday that these aspects have a dual purpose, namely two **opposite effects**: a unique fascination for "the same" and a total lack of interest for the "boss". It seems that this double effect is in the nature of things, that it does not can not be mitigated by any compromise or arrangement. Whatever we do, when the kid

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11.5. (50) The weight of a past

follows his true predilection, the boss does not find his account, but not at all!

There is no doubt that this is the meaning of the change that has taken place, which could well make a clean sweep of meditation

in my life in the coming years (with the exception of "circumstantial meditations", as there are three month). I do not think that these must be years completely sterile for that, nor the year past has been sterile. But it is also true that

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what I learned (outside math) is minimal, if I p. 131

compare to what I learned in any of the previous four years. The strange thing is that each of the four long periods of meditation that I lived were times of great fullness, without anything to suggest that something in me was frustrated. Yet, if cooking pots have exploded is that somewhere there was pressure, and this pressure was not to be the same day; she has had to be there, somewhere out of sight, for weeks or months, while I was intensely and totally absorbed in meditation.

But here I am carried away by the impetus of the pen (or rather, the typewriter). The reality is that (except in the last meditation period, which was cut off in full swing by an event competition and circumstances), the intensity of the meditation decreased gradually from a moment, as a wave just to be followed by another preparing to take his place ... The feeling of fullness, to tell the truth, followed the same movement, with the difference that it was only present waves-meditation, and not waves- "mathematical".

The situation I am trying to identify is no longer, it seems to me, a situation of conflict, but it becomes apparent that it still contains the germ, the potentiality of the conflict. She is now for me the sign perhaps the

more visible through its influence on the course of my life, **division** in me. This division is none other than boss-child division.

I can not stop it. All that I can do, now that it is well detected, in this manifestation- there, it is to be attentive, to continue the signs and the evolution during the months and years which are in front of me. Maybe this passion for maths, a bit unfortunate it must be said, will it be consumed by force to burn (as has already been consumed another passion in me ...), to give place to the only passion of the discovery of me and my destiny.

This passion is vast enough, I said, to fill my life - and surely my entire life will not be enough to exhausting.

11.5. (50) The weight of a past

It has been a few days since I finished putting the finishing touches to "Harvests and Seeds" - after having believed, for over a month, that I was

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about to finish in the next few days. Even this time- p. 132

here, having put "the last hand", I was not entirely sure yet if I had indeed finished - there remained a question indeed that I had left in suspense. It was to "understand what events or conjunctures ended up triggering the "swing" in the setting "of the boss" ", in favor of mathematics instead of meditation, against considerable forces of inertia. Without deliberate purpose my thoughts came back with some insistence to this question, in these last days where yet I had already begun to encroach on others of any other order, including mathematical questions (from conformal geometry). Much to enjoy again this "end of launch" meditating, to dig a little bit and leave room clean.

Several associations appear, when I try to answer "the pif" why "I go back to maths"

(in the sense of a significant investment and planned to be long-term, of the order at least of

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a few years). Perhaps the strongest of all is the feeling of chronic frustration that I have ended up feeling in my teaching activity for six or seven years. There is this feeling stronger and stronger to be "**under-employed**" and even, in many cases, to get involved and give the best of myself for morose students who have nothing to do with what I have to give.

I see everywhere beautiful things to do and just waiting to be done. Often, just one derisory baggage to address them, it is these things themselves that blow us what language to develop to identify them, and what tools to acquire to dig them. I can not help but see them, just because of regular contact with maths (at a very modest level) from a teaching activity, even in the periods of my life when my interest in math is very marginal. Behind every thing interview, so little that one searches, other beautiful things still, which cover and reveal others in their turn. . . that whether in maths or elsewhere, wherever you look with real interest, you will see a wealth, to open a depth that one guesses inexhaustible. The frustration I am talking about is not to happen so little that it is to communicate to my students this feeling of richness - of depth - would be only a Spark of desire to go around at least what is right at their fingertips, to give it to their heart content during the few months or years they are in any case decided to invest in an activity called "for the purpose of

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prepare a particular diploma. Except for two or three of the students I had since

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ten years, it seems that the idea to "give their heart" frightens them, they prefer for months and years stay arm dangling to trample, or difficulty do work taupe which they know the ins nor outs, as long there after graduation. There would be much to say about this sort of paralysis of creativity, that has nothing to do with the existence or non-existence of "gifts" or "Faculties" - and it joins the very beginning of my thinking, where I flicked through the root cause of such blockages. But it is not my purpose here, which is rather to note the chronic state of frustration these situations, constantly repeated throughout the last seven years of teaching activity, have ended up creating in me.

The obvious way to "solve" such frustration, at least insofar as this is the "mathematical ticien "in me and not that of the teacher is to make myself at least some of these things

I was desperate to see the end to grab purposes by any of my students. This is what

I have done so little here and there, whether by occasional reflection of a few hours or even few days on the sidelines and on the occasion of my teaching activity, or during periods of heavy frin-mathematical mange (which sometimes occurred as real explosions...), which may last for weeks or months. Such casual and jerkily could lead more often than a brand

first rough of a question, and a vision of more fragmentary - it was more a vision more

clear the work ahead, while the work itself is still to do and to be better seen, only seems hotter. I gave it two months ago an overall sketch of the main themes I started so slightly to take the measurement. This is the "Outline of a Program", which I have already had occasion to allude, and which will eventually be attached to this reflection, to build together Volume 1 of "Reflections Mathematics".

It's pretty clear that this alone prospecting work ("private" so to speak) was not enough to solve my frustration. This feeling of "underemployed" surely reflected the **desire** (of ego origin, I believe, that is to say desire "the boss") **to perform an action**. This is less than the action on others (my students say them

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moving them "to communicate something," or help them to have such a degree that

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could allow them to apply for such positions, etc ...) that the action "mathematician": contributing to the discovery of such unexpected events, the outbreak of such a theory, etc. . . This joins the immediately

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11.5. (50) The weight of a past

observation made above, from the fact that mathematics is a "collective adventure". If I am interrogated on my arrangements when I did the math over the last ten years, a period in my life when the idea would not come to me that I could get back one day to publish, and when it was more or less equally clear that none of my present or future students would have no use of my work prospecting - it seems to me as soon as they were not yet of someone's provisions

do something for his own personal pleasure or pushed by an inner need which concerns only itself, without relation to others. When I do math, I think somewhere inside me there is of course these maths are made to be shared with others, for being part of a larger thing I

competition, something which is not of an individual nature. This "thing", I could call "the mathematician" or better "our knowledge of mathematics things. "The term" we "here refers doubtless

first, concretely, the group mostly mathematicians I know and with whom I have common interests; but there is no doubt also that exceeds this select group as much as it exceeds

my person. This "us" refers to **our species**, as this, by some of its members through ages, became interested and is interested in the realities of the world of mathematical objects. I have never before

Right now as I write these lines, thought of the existence of this "thing" in my life, let alone wonder about its nature and its role in my life as a mathematician and teacher.

The desire to perform an action to which I have referred, seems to me at home in my life mathematician, follows: out of the shadows to which is **unknown to all**, not only to me (as

I saw above), and this, again, for being put **at the disposal of all**, so to enrich a "patrimoine" common. In other words, the desire to contribute to the expansion, enrichment

this "thing" or "heritage" that goes beyond my person.

In this desire, of course, the desire to extend myself through my work is not absent. For this aspect, I find the munchies "growth"

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expansion, which is a characteristic of the self, the "boss"; p. 135

this is its intrusive appearance and, ultimately, destructive (see note 44 § 13.1.1 p. 260). Yet I go also has the desire to increase the number of things that (for a short or long time) will more

or less my name is far from exhausting, to cover this desire or this larger force, which makes me want help enlarge a common heritage. It seems to me that such a desire may find satisfaction (if not

"In my business", where the boss is still quite pervasive, at least among mathematicians for more maturity) while the role of himself remain anonymous. It might be a form

"Sublimated" the trend towards larger ego by identifying with something beyond it. AT

Unless this kind of force is no ego by nature itself, but more sensitive and

deeper, it expresses a deep need, independent of any packaging, certifying link

deep between the life of a person and that of the entire species, a link that is part of the meaning of our existence individual. I do know, and that is not my intention here to probe such questions, of vast scope.

My purpose is rather to examine (in a smaller optical) a concrete situation regarding my

person: a situation of frustration, then, with a partial and temporary outlet by a mathematical activity sporadic tick. The logic of the situation, therefore, was to get me sooner or later to **communicate** what I

found. Because until last year I was not prepared to consent to my mathematical passion

the large investment and long-term that would have been required to "use" for purposes

publication by a "work room" circumstantial, mines that I put in day, I had the alternative to communicate to some mathematicians enough friends "in the know" things at least to me

held most dear.

I think if I had found over the past ten years a mathematician friend who plays vis-à-vis

11. The solitary adventure

me a role **of contact** and source of information (as was the case in Serre very large extent for years in the 50 and 60), in conjunction with **Relay** for transmit "information" that I could send it (role Serre had not had to play once, because I me was loading myself!), my desire "to exert math in action" would have found sufficient satisfaction to solve my frustration while contenting myself with an in

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vestment and episodic moderate energy

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in mathematics, leaving the largest part of my new passion. The first time I addressed a mathematician friend with such expectation (at least implicit in me) was in 1975, and last time in 1982, there is a year and a half. Funny coincidence, both times it was trying to "place" (For it is passed and, who knows, developed at the end of ends!) The same "program" algebra homologic and homotopical, the first germs back to the fifties, and was perfectly "Mature" (according to the firm conviction that I had) before the end of the sixties; a program that Preliminary development and broadly is precisely this theme Continued Champs I@ supposed to now write the Introduction! Still, for reasons probably pretty different from one case to another, my attempts to find a "point of contact" as there had been (before 1970) with Greenhouse, and then with Deligne, petered out. A common circumstance Yet is the relatively limited availability that I was willing to grant the math. This surely contributed on both occasions I spoke (in 1975 and 1982), making the lame communication. In fact, I was looking especially to "put" something without too much worry about making the necessary effort "(Re) aware" to be on my side a satisfactory contact for my correspondent, many more "in the know" than me (to say the least!) for common in homotopy techniques.

I might consider the "Letter to ..." which serves as the first chapter Continued Fields (letter February last year, there is little more than a year) as my last attempt to find an echo with one of my old friends, some of my ideas and concerns now. Continuation

started thinking (or rather, resume) in this letter would become (but I doubt even for me weeks) the first mathematical text since 1970 promised a publication. It is almost a year only later I received an indirect response to this substantial letter (compare Note 2 (38)). That- This was more eloquent than any other letter received to date a mathematician colleague to make me feel some vis-a-vis my modest person provisions become common among my mathematician friends since I left the middle which I belonged with them. There is in this letter from someone which I addressed as a friend, in warm sympathy arrangements, a deliberate of

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derision, which reminded me of a particularly violent way thing I finally realize

p. 137

increasingly clear in recent years. Previously, I had the opportunity especially note taking a distance with regard to my person himself, in the "big world" mathematical, and before all others, including those who were my friends more or less close (45). Here it is not over focusing distances at the people, but rather a consensus in nature and as a fashion she posing as matter of course, between people "in the know" so little: the kind of math by bundles of a thousand pages, and concepts with which I turned down people@ears for a decade or two (46,47), are not very serious on the whole good; that there is not much to bombinate much worthwhile, and that apart from toast to "general non-sense" around the notion of schema and

2 These notes were in fact a continuation of the long letter. . . , Who became the first chapter. They were typed in machine to be legible for that friend of old, and two or three others (especially Ronnie Brown) that I thought might be interested. This letter also never received a response, and it has not been read by the recipient, who almost a year after (my question if he had received good) showed genuinely surprised that I could even think of a time he could read, seen the kind of mathematics that we should expect from me. . .

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11.5. (50) The weight of a past

étale (who agreed their utility sometimes, alas, we want to be acknowledged), it is more charitable forget at least the rest; that those who would nevertheless mine still sing that kind of trumpet grothendieckienne, despite the obvious good taste and guns seriously, are put in the same bag their Master, admitted or not, and they have only to blame themselves if they are treated as they deserve. . .

Surely, the many echoes in this sense (I have just transcribed "in the clear") that reached me since 1976 (50), and especially the last two or three years, eventually awaken in me a fiber combativity was somewhat dormant over the past decade. They have raised, as a reflex, the urge to me throw into the fray, to close the spout these greenhorns who did not understand anything - a reflex completely silly in short, the bull who just show a piece of red cloth and shake in front of his nose, for that as soon as he starts fresh and in motion, forgetting the way that he was to keep quiet and that was his! I still think it is quite epidermal reflex, and he would not have been enough to him only make me shake me. Moreover, and fortunately, do math is much more charm than zeroing in on a piece of cloth by being larder all sides. But do math, and continuing to against all working style approach} things that are mine, it also a little "jump into melee ", is to affirm my face for signs of contempt, rejection - that come in no doubt, in response to the disdain that my old friends felt or grew feel me, if not for them, at least respect of a

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environment they continue to identify wholeheartedly. So too, so slightly, keep p. 138
After red fabric, instead of following **my** path.

That idea was presented to me several times in recent weeks, and that perhaps to be an examination of this aspect especially if is routed reflection today. Along the way, a Another aspect appeared, which forces me surely have a large part also, but which is not connected not a simple combative reflex. Rather, a desire that is in me, and that right now I can discern yet clearly the nature, make sense of the mathematical work that I did in the last ten or twelve years, or to see him take all meaning; which direction (I am convinced) can not be reduced that of a private pleasure or personal adventure. But even if the nature of this desire is not understood, while I have not taken the time to examine it more closely, this reflection is enough to show me that it is there, in that desire, that really is the strength that weighs on me and my hand strength, so say, for a mathematical investment - the power of "tipping". It would be just as much. fabric red or not. If it is a sign of attachment to the past is the past of the past decade, the past "Post-1970" therefore, not the past already written things in black and white, things done, those before 1970.

Basically, there is no me worry about these things, about the fate the future, "posterity" reserve them (while it is doubtful that there is even a posterity...). What interests me in this past, this is not what I have done (and fortune has or will own), but rather what did not was made in the comprehensive program that I then before the eyes, which only a small part found himself carried by my efforts and those of friends and students who sometimes were willing to join me. Without having planned or sought, the program itself is renewed, along with my vision and mathematical approach things. Over the years, the focus has shifted to both themes, as About my same: instead whether accomplishing major **tasks** of meticulous foundation, my first about now is to probe the **mysteries** that have fascinated me the most, such as that of "patterns" or the description "geometry" of the Galois group of Q over Q . Along the way, certainly,

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I can p. 139
at least help to sketch the foundations here and there, as I started to do (among others)
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11. The solitary adventure

in "The Long March through Galois theory", or as I am trying to do in Pursuit the fields. The purpose yet changed, and style that expresses it.

In other words: I glimpsed in the last decade mysterious things and great beauty in the world of mathematics things. These things are not personal to me, they are made to be communicated - the same sense of having interviews and I feel it is to communicate, to be included, understood, assimilated. . . But communicate, if only to himself, but also the deepen, develop so slightly - it a **job** . I know, of course, it is not question

I live after this work, even if he still had a hundred years to spare. But this was not to be my concern Today, how many years or months I will devote to this work then the time I have left to live and discover the world, so that **other** work waiting for me that only I can do. It is not in my power, and it not my role, to settle my life seasons.

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12.1. 0

Note 1

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 (Added March 1984) There is no doubt unfair to say that my "style" and my "method" of work p. 141 have not changed, while my mathematical style of expression has changed profoundly. Most Much of the time spent for a year in "The Pursuit of Fields" was run on my machine write to type reflections that are to be published almost as is (in addition near relatively short notes added later for ease of reading with references, corrections errors, etc ...). No scissors or glue to painstakingly prepare a manuscript "definitive" (which especially should not let show through the process that led there) - it©the same when changes of "style" and "method"! Unless separate mathematical actual work of writing work, presentation of results, which is artificial because it does not match the reality of things, work mathematical being inextricably linked to writing.

12. NOTES for the first part of "CROP AND SEMAILLES"

12.2. 0

Note 2

(Added March 1984) On reading the last two paragraphs, I had a sense of discomfort due to the fact that writing them, I involve others and not myself. Obviously the thought that my own person might be concerned not touched by writing me. I certainly did not learn anything when I thus merely put black on white (probably with some satisfaction) things since the years I have seen in others, and views will confirm in many ways. In the following reflection I am led to remember that attitudes vis-à-vis others contempt have not failed in my life. It would be strange that the link I grasped between contempt for others and self-contempt is absent in the case of my person; sound reason (and also the experience of similar situations of blindness to my own respect, which I ended my reporting) tell me it must surely not be so! This is just yet, for now, a simple deduction, the only possible use would be to make me see for myself what is happening and see and consider (if does exist, or existed) contempt of myself still hypothetical, so deeply he completely buried so far escaped my eyes. It is true that things do not look to missed!

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It suddenly strikes me as one of the most crucial, precisely because it is so much

p. 142

hidden. . . 1 .

12.3. 0

Note 3 I refer particularly to conjectures feues Mordell, Tate, of Shafarevich, who found all three demonstrated last year in a forty-page manuscript Faltings at a time where consensus established people "in the know" ruled that these conjectures were "out of range"! he is that "the" fundamental conjecture that serves as a cornerstone program of "algebraic geometry anabelian" which is dear to me, is just near the Mordell conjecture. (It would even seem that it is a consequence of this, which showed that the program was not a story for people serious. . .)

12.4. 0

Note 4 Even today besides, we meet "demonstrations" of uncertain status. It was so for years the demonstration by Grauert the finiteness theorem that bears his name, that person (And goodwill have not failed!) Do manage to read. This confusion has been resolved by other demonstration transparent tions, some of which went further, who took over from the demonstration initial. A similar situation, more extreme is the "solution" of the problem called "four-color" which, the computational part was settled with blows of computer (and a few million dollars). It therefore is an "Demonstration" which is no longer based in the firm conviction from understanding a mathematical situation, but in the fact that credit to a machine devoid of the ability to understand and whose mathematician User ignore the structure and operation. Even if the calculation is confirmed by other computers, according to other computer programs, I do not consider so far as the problem of the four colors is closed. He will have only changed its face in the sense that it is more not to seek against-example, but only a demonstration (read it of course!).

1 (August 1984) See, however, about the reflection of the last two paragraphs of the note "massacre", n ° 87.

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12.5. Ø

12.5. 0

Note 5 This fact is even more remarkable that until about 1957, I was regarded with some reserve by more than one member of the group Bourbaki, who eventually co-opt me, I think, with a certain reluctance. A good-natured joke tidying myself among the "dangerous specialists" (Analysis Func

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tional). I sometimes felt Cartan unexpressed reserve more serious - for a few years, p. 143

I had to give the impression of someone ported to Free and superficial generalization. I saw it surprised to find in the first (and only) writing a little longer than I did for Bourbaki (on the differential formalism on varieties) thinking so little substantial - it was not good hot when I proposed to handle it. (This thought I was useful again years later, developing the formalism of residues from the viewpoint of coherent duality.) I was also the most often dropped during the Bourbaki Congress, especially during public readings of essays, being although unable to follow lectures and discussions at the rate they were continuing. It is possible that I

Ⓒ not really for collective work. Still, this difficulty I had to put myself in the joint work or the reservations that I could create for others reasons for Cartan and others not I have at no time brought sarcasm or rebuke, or only a shadow of condescension aside all at most once or twice at Weil (really a special case!). At no time does Cartan divested with equal kindness toward me, cordiality footprint and also this touch of humor all his own that for me is inseparable from his person.

12.6. My friends Surviving and Living

Note 6 Of these friends, I should probably count as Pierre Samuel, whom I had known previously especially in Bourbaki, as Chevalley, and who (like him) played an important role within the group Surviving and Living. It does not seem to me that Samuel had been so focused on this illusion of superiority scientist. He especially contributed much, I feel, common sense and good humor he put smiling in the common work, discussions, relations with others, and also to carry through with the role of "Reformist awful" in a group brought to the analysis and radical options. He remained in Survive and live some time after I removed myself, acting director of the Bulletin of the same name, and he left with good grace (to join the Friends of the Earth) when he felt that his presence in this group had ceased to be useful.

Samuel was in the same environment that restricts me, which did not prevent it belongs to friends these bubbling years I think I learned something (anything bad student that I was...). These manners

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being, like those of Chevalley while they resemble little, was a better antidote p. 144 for my "meritocratic" inclinations, that the most striking analysis!

It now appears to me that for all the friends of this period I have learned anything, it is more by their ways of being and different sensitivity of the mine, and which "something" ended up communicate, by explanations, discussions, etc ... I remember above all about this, and more Chevalley and Samuel, Denis Guedj (who had a great influence on Surviving and Living Group) Daniel Sibony (which is kept away from the group, while continuing its evolution from a corner half disdainful eye, half-mocking) Gordon Edwards (who was co-actor of the birth of the "movement" in June 1970 in Montreal, and who for years has made energy wonders for maintaining "edition American "newsletter Surviving and Living in the English language), Jean Delord (a physicist about my 235

12. NOTES for the first part of "CROP AND SEMAILLES"

age, man fine and warm, who had taken me affection and the survivrien microcosm), Fred Snell (At another physicist based in the United States, Buffalo, which I hosted in his country house for spending several months in 1972).

Among these friends, five are mathematicians, physicists are two, and all are scientists - which suggests that the closest midst of me in those years remained a scientific environment, and especially mathematicians.

12.7. 0

Rating 7

The preceding paragraph is the first in the introduction that is heavily crossed out on my manuscript initial and provided many overloads. The description of the incident, the choice of words came first against the grain, against the tide - a force apparently pushing to pass on the quick incident, as a matter of conscience, to "get serious". These are the familiar signs of

resistance here against the elucidation of this episode, and its scope as revealing an inner attitude.

The situation is quite similar to that described at the beginning of this introduction (para. 2), the time of "crucial" the discovery of a contradiction and its meaning in a mathematical work: that is when **the inertia** of the es-took his reluctance to part with incorrect or insufficient vision (but where our person is not engaged), which acts as

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resistance". It is active in nature, inventive necessary to achieve

p. 145

walnut same fish without water, while the inertia I mentioned is just a passive force. In the case, much more than in the case of a mathematical work, the discovery that just appeared in all its simplicity, in all its evidence, is followed in time by a sense of relief

a weight, a sense of **liberation** . This is not just a feeling - it is rather a perception

Acute and appreciative of what just happened, which **is** a liberation.

12.8. 0

Note 8 As will become clear in the following, this ambiguity did not "cleared the aftermath awakening 1970 ". There is a typical strategic retreat of the " me ", who leaves the profit and loss period "before awakening", which immediately becomes the dividing line for "after"

perfect!

12.9. 0

Note 9 This is not entirely accurate, there is at least one exception among my closest colleagues, as will appear later. There was then a "lazy" typical of memory, which often tends to "Move to as" the facts that "stick" not with a vision of things familiar and ingrained long.

12.10. 0

Note 10

For example, I can not count the number of letters on matters both mathematics as practical or personal, sent to colleagues or former students whom I considered friends, and who have never received a response. It does not seem that it is only special treatment reserved

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12.11. Aldo Andreotti, Ionel Bucur

my person, but a sign of a change of manners, from echoes in the same direction. (These concern, indeed, cases where one who sent a letter mathematics was not known to the recipient, mathematician in sight. . .)

12.11. Aldo Andreotti, Ionel Bucur

Note 11

Of course. it is not impossible that there is oversight on my part - besides my arrangements particularly "polar" in those days were not much encouraged to talk with me about this stuff, nor bring me remember a conversation in this direction that might have occurred. What is certain, is that it should be very exceptional to say the least that the issue of fear is addressed (without call it by that name. . .), And it should be just as today, especially in the "beautiful people".

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Among my many friends in this world, except Chevalley, who had become aware of this am- p. 146
biance fear, at least in the sixties, the only other of which it seems he has caused me
the levy is clearly Aldo Andreotti. I had met him, and that of his wife Barbara
and their twin children (still small), in 1955 (at a party at Weil in Chicago, I think). We
stayed very connected until the "turning point" of 1970, when I left the middle that was
ours and have a little lost touch. Aldo had a very keen sensibility, which had not blunted
by trade with mathematics and with "thrillers" like me. There was in him a sympathy gift
Spontaneous those he approached. This set him apart from all the other friends I have known the
mathematical community, or even outside. At his friendship always took precedence over the interests mathe-
Common matic (not missing), and that one of the few mathematicians who I have so little
about my life, and he hers. His father, like mine, was Jewish, and he had to suffer in Italy
Mussolini, like me in Hitlerite Germany. I saw him always available to encourage and
support young researchers, in a climate where it was difficult to be accepted by the establishment.
His spontaneous interest was always the first to the person, not to a "potential" or mathematical
to a reputation. It was one of the most engaging people I had the chance to meet.
This evocation of Aldo brings out the memory of Ionel Bucur, also won unexpectedly and before
age, and as Aldo, even late (I grow) as the friend we love to find that as
partner mathematical discussions. One felt in him a kindness, next to an unusual modesty,
a propensity to constantly disappear. It is a mystery how a man as little inclined to take
for important or to impress anyone, has eventually found Dean of the Faculty of Sciences in
Bucharest; probably because the idea never occurred to him to challenge the charges he was far from coveting,
but his colleagues and political authority rested on his shoulders, tough it must be said. He was son of
farmers (something that had to play in a country where the "class test" is important), and had the good sense and
simplicity. Surely he must be aware of the fear surrounding the notoriety of man, but surely
as the thing must have seemed to him for granted as the natural attribute of a position of power. I
But do not think that he himself

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ever inspired fear in anyone, or certainly his wife Florica or p. 147
their daughter Alexandra, nor his colleagues or students - and the echoes that I could have go far in this
meaning.

12.12. 0

Note 12 The word "day" is here to be taken literally, not as a metaphor.

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12. NOTES for the first part of "CROP AND SEMAILLES"

12.13. 0

Note 13

It is clear that the above description has no other claim than to try to restore both Somehow, through concrete words that betrays me this "fog" of memory, which is condensed in no case so little accurate, I could here give a description so little "realistic" or "objective". It would distort my argument that to say to this passage that colleagues who are reluctant to sit in the front rows, or who have not star status or eminence, are necessarily tied anxiety by talking to one of these. This was obviously **not** the case for most of the friends I known in this environment, even among those who happened to haunt symposia and seminars. What is true without reservation is that the status of "eminence" creates a barrier vis-à-vis ditch those without similar status, and it is rare that the gap vanishes, were that the space for discussion. I added that the subjective distinction (which seems to me quite real) between "front row" and "swamp" can not not be reduced to sociological criteria (social position, positions, titles, etc...) or even "status" renowned, but it also reflects the psychic peculiarities of temperament or more provisions difficult to define. When I arrived in Paris at the age of twenty, I knew I was a mathematician, I had **done** the math, and despite the scenery which I had the opportunity to speak, I felt the bottom "One of them", while only one to know, and not even be sure first that I would continue to make mathematics. Today I am inclined to sit in the last row (on the rare occasions when the question arises).

12.14. 0

Note 14 One might think that this contradicts the assertion of lack of leadership, then it is not. For former Bourbaki, it seems to me Weil was seen as the soul of the group, but never as a chef". When he was there and when he pleased, he became "playmaker" as I said, but

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it was

p. 148

not the law. When he was cranky it could block the discussion of such a subject he disliked, even to resume quiet about another conference when Weil was not there, or even the next day when he was no longer obstructed. Decisions were taken unanimously by the members present recital that it was not excluded (or even rare) that a person is in the real against the unanimity of all others. This principle may seem absurd to group work. The extraordinary thing is that it walking yet!

12.15. 0

Note 15 I have not felt this "allergy" style Bourbaki has given rise to difficulties communication between mathematicians and I or other members or supporters of Bourbaki as it would have been the case if the spirit of the group had been parochialism, elite among the elite. Beyond styles and fashions, there were in all members of the group a keen sense for mathematical substance, where whether it comes. It was during the sixties I remember only some of my friends, calling of "troublemakers" as mathematicians whose work did not interest him. As for things I did: knew practically nothing otherwise I tend to take for granted such assessments, impressed by so many casual insurance - until I discovered that this "troublemaker" was a original and profound spirit, which had not had the good fortune to please my brilliant friend. It seems to me that in some

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12.16. 0

Bourbaki members, an attitude of modesty (or at least reserve) to the work of others, when we ignore this work or imperfectly understands, has eroded first, while still remained this "instinct mathematical "who felt rich substance or solid work, without having to refer to a reputation or a reputation. By the echoes that come to me here and there, it seems to me that one as the other, modesty as instinct, have now become rare things in what was my mathematical environment.

12.16. 0

Note 16 In fact, several of Bourbaki members had surely their own microcosm "to them" more or less extended, besides or beyond the bourbakien microcosm. But it is perhaps no coincidence that in my own case, such a microcosm not occurred around me after I stopped doing Part of Bourbaki, and all my energy was invested in tasks that were personal to me.

12.17. 0

Note 17

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This is especially outside the scientific community that I met warm echoes action p. 149 in which I committed, and a driving aid. Besides the friendly support of Alain and Roger Lascoux Godement, I must also be noted here especially that of Jean Dieudonné, who moved to Montpellier the Correctional hearing, to add a warm testimonial to other testimonies in favor a lost cause.

12.18. 0

Note 18

I think this lack of discernment was not from negligence on my part in these twice, but rather a lack of maturity, of ignorance. It is only ten years Later I started to pay attention to locking mechanisms, both in my own person in my family or among students, and to measure the enormous role they play in the lives of everyone, not just at school or university. Of course, I regret not having had both occasions the discernment of a more mature, but not to have clearly expressed my impressions based or not. When I noted in this case a job done without serious, the naming of these things for what they are seems a necessary and beneficial thing. If in another case also, the conclusion that I was shooting was hasty and unfounded, I was not the only one yet whose responsibility was engaged. The student and shaken again had the choice either to take a leaf (maybe that what happened first time) or be discouraged, and perhaps then to change jobs (which is not necessarily a bad thing either!).

12.19. Jesus and the twelve apostles

Note 19 Since 1970 until today still a student, Yves Ladegaillerie, prepared and passed a thesis with me. Students in the first period are P. Berthelot, M. Demazure, J. Giraud. Mrs. M. Hakim, Ms. Hoang Xuan Sinh. Illusie L., P. Jouanolou. M. Raynaud, M. Raynaud, N. Saavedra, JL Verdier. (Six of them have also completed their thesis work after 1970, thus at a time when my availability

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mathematics was more limited.) Among these students, Michel Raynaud takes a special place, having found by itself the key issues and concepts that are the subject of his thesis, he more developed entirely independently; my role of "supervisor" itself has thus merely read the thesis completed to constitute the jury and take part.

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When it was me who was proposing a subject, I took care to limit myself to those I had a p. 150

relationship strong enough to feel able, if necessary, to support the work of the student. A notable exception was the work of Ms. Michèle Raynaud theorems of local and global Lefschetz for the fundamental group, expressed in terms of 1-fields on suitable slack sites. That question seemed (and has indeed proved) difficult, and I had no idea for demonstration conjectures tures that I proposed (which could also little doubt). This work continued to early 70s, and Ms. Raynaud (as was previously the case for her husband) developed a delicate and original method without any assistance from me or from elsewhere. This excellent work opens Besides the question of an extension of Ms. Raynaud results to the case of n-field, which seems duty to represent the natural outcome in the context diagrams, theorems like "theorem Lefschetz weak. "The wording of the relevant conjecture here (which can little doubt either) However uses in an essential way the notion of n-field, whose prosecution is supposed to be the main object this volume 2 , as the name "In the Fields of Pursuit" suggests. We definitely in its place,

Another case is quite apart from Ms. Sinh, whom I had first met in Hanoi in December 1967 on the occasion of a seminar-month course that I gave at the University of Hanoi evacuated. I offered the following year his thesis. She worked in the strenuous conditions of the times war, his contact with me merely episodic correspondence. She was able to come to France 1974/75 (on the occasion of the International Congress of Mathematicians in Vancouver), and then pass his thesis Paris (before a jury chaired by Cartan and comprising Schwartz, Deny, Zisman and me). Finally, we must mention me even Pierre Deligne and Carlos Contou-Carrère, who both have a little figure rises, the first to the 1965-1968 years, the second to the 1974-1976 years. One and the other obviously had (and still have) unusual ways, they used very differently and with very different fortunes too. Before coming to Bures, Deligne was a little student Tits (in Belgium) - I doubt he was student of someone in mathematics aware sense. Contou-Carrère was student Santalo (in Argentina), and for a while Thom! little

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or less). Mon

p. 151

and the other had the stature of a mathematician when the contact is established, except that Contou-Carrere lacked method and craft.

My role with mathematical Deligne has simply let him know, by the week, the little that I knew in algebraic geometry he learned as one listens to a tale - as if he had always known; and making way too, to raise questions that most often it was response on the field or

in the following days. These are the early work of Deligne I have known. Those after 1970 (for him as also for my "official students") are known to me only by very scattered and distant echoes 3 . My role with Contou-Carrère, following what he says to himself early in his thesis, was limited to introduce the language patterns. I have followed that by far in any case the work he has prepared as State doctoral thesis in recent years on a topic of the current that escapes my ability.

2 This is in fact the volume of 3 Reflections Mathematics, not of this volume 1 Crops and Seeds - see Introduction, p. (v).

3 I have had occasion to browse a few reprints of Berthelot and Deligne, they were kind of send me.

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12.20. Ø

It was after a few mishaps in the vast world that Contou-Carrère has been ultimately leads recently, in extremis and (to me it seems now) unwillingly, to call on my services for act as supervisor and form a jury. (This exposed him to the risk of figure student Grothendieck "after 1970" in a Guess where this can present serious drawbacks. . .). I have accomplished this task as best I could, and it is likely that this is the last time I will exercised this function (at a state doctorate). I am particularly happy in this rather special circumstances, the friendly competition of Jean Giraud, who also took his time on one month or two to make a careful reading of the voluminous manuscript, which he has made a full report and warm.

12.20. 0

Note 20

This makes me think about Monique had taken Hakim, who was not more engaging to true say, I wonder how she did it to keep the morale! If she has struggled at times, it was not in Anyway the point to make sad or gloomy, and work us has been in a cordial atmosphere and relaxed.

12.21. 0

Note 21

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It might be more accurate to say that for the temperament of mine, is the **maturity** p. 152 necessary that failed me yet to fully assume a teaching role. My temperament acquired has long been marked by excessive predominance of "male" traits (or "yang"), and one of the aspects maturity is precisely balance "yin-yang" dominant "female" (or "yin").

(Added later.) Even more than a mature, I see that it is a certain **generosity** me lacking in my life as a teacher until today - a generosity that is expressed more delicately by availability of time and energy, and that is essential. This lack has not expressed visible (by an accumulation of situations of failure say) in my first teaching period, probably mainly because it was offset by a strong motivation in the students who chose to come work with me. In the second period against from 1970 to today, it seems that this lack is at least one reason, and that in any case that involves me most directly to the overall failure I see in my teaching at research (from the level of an AED so). See to it subject "Outline Program" para.8 and para 9 "Review of teaching activity", where the feeling comes through frustration which left me in this business for seven or eight years 4 .

12.22. 0

Note 22 Plus for a long time, perhaps, since I decided to apply for admission to National Center for Scientific Research, and end as a teaching activity at university silence, which in recent years has become increasingly problematic.

4 Compare also footnote (23iv) added later.

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12.23. 0

Note 22

Even after 1970, when my interest in math became sporadic and marginal in my life, I do not think there has been used i@e challenged myself, when a student was using me to work with him. I can even say that apart from two or three cases, the interest of my students after 1970 for the work they did was far short of my own interest in them, even in the periods where I was concerned about little math on days when I set foot in college. Also the kind of I had to availability

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my students before 1970, and the extreme demands in work that was a sign

p. 153

Main, would they have had no vis-à-vis the meaning of most of my future students, who were math without conviction, for a continual effort they should have done on themselves. . .

12.24. The child and the master

Note 23 The term "pass" here does not really match the reality of things, which reminds me a more modest attitude. This rigor is not a thing that can be transmitted, but at most wake or encourage, as she is ignored or discouraged from an early age, the family environment also although by the school and the university. As far as I can remember, this rigor was present in my quests, those of an intellectual nature, at least, and I do not think she was sent by me my parents, let alone master, school or mathematicians among my elders. It seems to me be part of the attributes of **innocence** and thus, things that are assigned to each birth. This innocence very early "to see green and not ripe", which it is obliged to plunge more or less deep, and often it does appear hardly trace in the rest of life. At home, for reasons I have not yet thought to sound, a certain innocence survived relatively innocuous level intellectual curiosity, while elsewhere it plunged deep, seen or experienced! as in all world. Perhaps the secret, or rather the mystery, of "teaching" in the full sense of the term, is to find contact with that innocence disappeared appearance. But there is no question of finding this contact the student, if it is already present or first found in the person of the teacher himself. And what is "Transmitted" then the teacher to the student is not at this rigor or innocence (innate in the one and the other), but a respect, a tacit appreciation for this thing commonly rejected.

12.25. 0

Note 23

He had yet there for seven or eight years another "frustrating" column in my mathematician of life, but that is expressed over the years much more discreetly. She eventually become apparent by a repeat because of persistent accumulation of the same type of situation "frustrating" in my teaching activity, and finally burst into a kind of "ras-le-bol", making me stop virtually any said activity of

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"Research direction." I touch this issue once or twice

p. 154

During my reflection, to finally examine at least so slightly at the very end. I describe at least frustration, and examines the role which played in my "back to the math" (see para 50. "weight of the past").
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12.26. Fear play

12.26. Fear play

Note 23 "

This student had worked with me on a "course work" DEA for a year, and is remained "contracted" in his working relationship with me until the end. It was a frank friendship, crossed by a mutual sympathy that could be no doubt. Yet there was this "stage fright"; that fear that the real cause was certainly not a fear to my person, even though it was taking appearance. I do not maybe would@ even seen the thing, if this student had told me about himself, presumably to "explain" more or less the result of a nearly complete blockage in his current job year.

As has happened with other students who, like him, faint at first some

Geometric substance, blocking manifested from the moment it was to make a "work room"

So put black on white forward-fit, or just grasp the meaning and significance of those

I provided and I proposed to accept as the basis of language, such as "rule of the game." The

reflexes "school" almost always grow the student faced with a situation where it is supposed to "make search "to adopt as a" given "to both blur and imperative" rules of the game "that are implied transmitted by the Master, and that it is certainly not to try to explain, much less understand.

The concrete form taken by these implicit rules are the "recipes" semantic or calculation, on the

model Mole books say (or any other current instruction book). The student expects more of

a task master of the form "show that...", which was the only form of "reflection" that mathematics

has encountered in its past experience. (I do not also believe that the provisions of most

professional mathematicians, and other scientists, too, are essentially different - to

except that the "master" is replaced by "consensus" that sets the rules of the game of the moment and consider the

as some immutable. This consensus also sets what the "problems" that this is resolved,

between which everyone feels free to choose his liking, even for changing over

of his

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work, or even invent others. . .). I noticed that the entirely different attitude p. 155 is mine vis-à-vis a mathematical substance that it is sound and therefore also vis-à-vis the student, triggers almost certainly disarray, one of the signs is anxiety. Like any anxiety, it will tend to have a face to project on a "reason" Outside, plausible or not. One of the faces The most common anxiety is precisely fear. Such difficulties are hardly presented himself in the first period of my teaching activity, except Perhaps in both cases where a "teacher-student" does not continue beyond a few weeks, and maybe (I can not tell) in the case of "student sad," perhaps felt "glued" to a topic that inspired the way, while he yet was free to change. In the case of the student (Which I have also spoken) which remained afflicted with some jitters for long, it is clear that the reason is elsewhere. It was by no means stuck in his work, but rather perfectly comfortable with the theme he had chosen, on which he made a major foundation work. Most of my students of this period were also former students of the Ecole Normale, and their contacts with them Henri Cartan had already shown the example of another "mathematical approach. At the opposite end (so say) of these, in my second time as a teacher at the University of Montpellier is among freshmen that anxiety which I spoke the least interfered with a process of reflection. For many of these students, the surprise at a different approach did not cause anguish or neither closure, but to open and go to, for once, interesting things! According to my observations, the effect of several years of college on student creativity provisions is radical and devastating. It is a strange thing that in this respect the effect of long high school years seems relatively

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trivial. The reason perhaps is that years of college are placed at an age when the innate creativity we **must** end for purposes to express a personal work, otherwise wrecked forever, at least at a creative work of an intellectual nature. This is surely a healthy instinct for my student years (college Montpellier also) I almost failed to set foot in course, devoting almost all of my energy to mathematical thinking per

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sonal.

p. 156

12.27. The two brothers

Note 23 "

Antagonism in this student took the form from the outset a "class antagonism": I was the "Patron" who had "power of life and death" on his mathematical future, which I could decide according to my have fun. . . Of course, the event could only confirm this view, since I have been quick to put end my responsibilities (become painful) vis-à-vis the student. This put him in a difficult situation, in these times where it's not so easy to find a "boss", especially when the subject is already selected. At the other student, frustrated in their legitimate expectations, the antagonism took a similar form. I felt like the "Mandarin" tyrannical, which can not tolerate contradiction from those (Students or lower-ranking colleagues) he considers his subordinates.

Such "class attitude" never manifested, however little it may be, in relation to my Students of the first period. The obvious reason is that in the situation before 1970, it was no doubt that the student, once his former thesis, would have a lectureship position, and thus would enjoy an identical status to mine, that of "university professor". loquacious figures: the eleven students started working with me before 1970 had completed soon lecturers positions their work, while none of the twenty students who worked more or less under my leadership had Access to such a position. It is true that only two of them were motivated enough to make a thesis State doctorate (also excellent for one and for the other).

It is therefore not surprisingly so in this second period, certain ambivalence (whose origin remained hidden deep) took the form of a class antagonism, mistrust (presented and felt as "visceral") vis-a-vis the "boss". For those who had more or less out as an student of friendly relations continued for a decade without antagonist episode appearance, yet marked by the same ambiguity, speaking through an attitude of mistrust, held "in reserve" behind a manifest sympathy. I have actually never been fooled by this "suspicion" command, which appeared to me especially as a reason that this friend believes good to give himself not to venture out of the well-defined area that has

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has chosen as his own, in his professional life as in his life all

p. 157

Short - (! except at most himself) thing he is free to do yet no one asks him

accounts. . .

These three cases are the only ones in all my teaching experience, where some ambivalence in the relationship between a student (or someone who more or less do figure student) and I will be expressed a "class attitude". This attitude is particularly ambiguous when it occurs colleagues in a "body" university where they enjoy one another and exorbitant privileges comparison of the situation of ordinary people, privilege which show differences in rank (and wages) as relatively insignificant. I noticed also that these attitudes disappear like by magic (and for good reason) as soon as the person concerned was promoted itself to the situation the day before yet he complained to others.

I also detected a similar ambiguity in most, if not all, situations of conflict which I

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12.28. Failed to education (1)

have witnessed within the mathematical world (and often beyond). Those "boxes" that their rank or may not correspond to their expectations (justified or not), enjoy pretty incredible privileges, no other profession or career can offer. Those boxes are not aspire to the same safety and the same privileges (which does not necessarily prevent them from interest in math themselves, and sometimes make beautiful things). For these times where competition is tight to squeeze and where non-cased often treated layabout: I have more than once felt the connivance between the one who Please humiliate, and one who is humiliated - and swallowing and crashed. The real object of his bitterness and his animosity is **not** one that makes use of a power, but is none other than **himself**, that crashed and who invested the other of the power he uses to pleasure. One who likes to humiliate it is also taking it and compensates hand (without erasing it...) a long humiliation and long buried and forgotten. And he who grants his own humiliation is his brother and rival, who secretly envy and buried the bitterness and humiliation, and the humble message itself it for him.

12.28. Failed to education (1)

Note 23 iv Since these lines were written, I had the opportunity to speak

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with two of my former students p. 158

after 1970, to try to probe them with the reason for the failure of my teaching at re-looking at the University of Montpellier. They told me that I had the propensity to underestimate difficulty there that could represent for them the assimilation of such techniques familiar to me, but not for them, had a discouraging effect on them because they felt constantly short of the expectation that I had vis-a-vis them. In addition (something that seems to me a greater range yet), they arrived they feel frustrated when I tell them "was selling wick" giving them a health statement I had in my sleeves, instead of letting them discover the fun of their own, at a time when they were already nearby. After that, he did them remained to do "exercise" (not the passion otherwise) of prove the statement in question. Here stands the "lack of sensitivity" in me that I had found in an earlier note (Note 21) without extending me more about it. It is such disappointments, above all, represent my personal contribution in the disappearance of research interest in one and the other, after yet excellent start.

I realize that I was not more generous before 1970 than after. If I did not have the same difficulties then it is probably the kind of students who came to me at that time were quite motivated to find the same charm to a "long period", which was an opportunity to learn the craft and many things along the way; and also, for a start statement that I "was selling wick" to generate their own a slew of others that went well beyond the first. When I changed place of teaching activity, I made the adjustment that was needed in the choice of discussion topics that I proposed to my new students, through the choice of mathematical objects which could be seized by immediate intuition, regardless of any technical background. But this adjustment was essential for itself insufficient, due to differences in **provisions** (in my new students compared to old), more importa1, yet your only difference **luggage**. This ties besides finding made earlier (early par.25) over a failure in me for the role of "master", which is emerged so much stronger in my second period as a teacher, as in the first.

12.29. 0

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Note 23v

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A particularly striking sign of this difference was manifested on the occasion of "episode

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foreigners", which I have had occasion to speak (section 24). So I then received sym testimonials
pathy from many people who were completely foreign to me, I do not remember any
my students before 1970 is thought to occur in this sense, and even less to offer me assistance
in any action in which I had committed. By cons, it seems to me that there are none of my
students or ex-students of the second period which has expressed to me his sympathy and solidarity, and many will
are actively involved in the campaign I was leading at the local level. Beyond this inner circle, the case
the 1945 law also created some excitement among many students of the Faculty
who knew me no more than name, and he came to many Courthouse Day
my quote to show their solidarity. The latter circumstance suggests, moreover, that the difference
I found between the attitudes of my students "before" and "after" 1970 expresses perhaps the least
Unlike the **relationship** between me and them, that a difference in **mentality**. Obviously, my students "before"
became important people, and it takes a lot to the important people agree
to be moved ... But the episode of my departure from the IHES in 1970 and my commitment in action
activist suggests that there is not it. This was a time when none of them was still
figure so important person, and yet I do not remember any of them have expressed a
any interest in the business in which I was getting into. I think rather that it had to put trouble
comfortable, without exception. This goes further in the direction of a different mentality, but can not
be blamed on the only difference in social status.

12.30. 0

Note 24 Ethics which I refer is equally applicable to any other medium formed around an activity
research, and where therefore the opportunity to present its results and reap the credit; is a
question "life or death" for the status of any member or even "survival" as a member
this environment, with all the consequences this implies for him and his family.

12.31. ethical consensus - and control of information

Note 25

Apart from the conversation with Dieudonné, I do not remember a conversation that I have
been involved or witnessed during my life math

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matician, where it was question of professional ethics,

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"rules of the game" in relations between members of the profession. (I except here the discussions about
the scientists working with military aircraft, which took place at the beginning of the 70 round
the movement "Surviving and Living". They do not really concerned relations between mathematicians
them. Many of my friends in Surviving and Living, including Chevalley and Guedj, also felt that
I was putting the emphasis at that time, especially in the beginning, this question I was particularly
awareness, m @way from more critical everyday realities, precisely the type of those I examined
in this thinking.) There was never any question of these things between a student and me. The tacit consensus
I merely believe in this one rule, not to present as his own ideas of others which could have
knowledge. This is a consensus, to me it seems, that has existed since ancient times and has been challenged in
No scientific community until today. But in the absence of that other complementary rule, which
guarantees every researcher the opportunity to express their ideas and results, the first rule is letter
dead. In the scientific world today, men in positions of prestige and power hold

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12.32. 0

discretionary control of scientific information. This control is more temperate in the middle that
I had known, by consensus like the one spoke Dieudonne, which perhaps never existed
outside the small group of which he was the spokesman. The scientist in a position to receive prac-
cally all the information it deems necessary for receiving (and often beyond) and has power to a
Much of this information to prevent the publication while keeping the benefit of information
and dismissed as "irrelevant", "more or less well known", "trivial", etc. . . I return to this situation
Note (27).

12.32. 0

Note 26 "founding members" of Bourbaki are Henri Cartan, Claude Chevalley, Jean Delsarte, Jean
Dieudonné. André Weil. They are all alive, except Delsarte, carried away by the age in years
fifty at a time so that professional ethics was still generally respected.

In reading the text, I have been tempted to remove this passage, in which I can give the impression
to issue certificates of "probity" (or not clean) which concerned have no use, and he
not my responsibility

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to do. Provided that this passage can raise is surely justified. I nevertheless retains, p. 161

to keep the authenticity of the testimony, and because this way restores indeed my feelings, even if thereof are moved.

12.33. The "snobbery of youth" or advocates purity

Note 27 Ronnie Brown told me of a reflection of JHC Whitehead (he was student), speaking the "snobbery youth who believe: that a theorem is trivial because its proof is trivial." Many of my old friends would do well to ponder these words. This "snobbery" - there is today not limited to the young, and I know more than a prestigious mathematician who practices fluently. I am particularly sensitive, because I did better in math (and elsewhere too...), The concepts and structures that I have introduced that I find the most fruitful, and essential properties I could identify a patient and persistent work, all fall under this description of "trivial". (None of these things would have had our chance to see day to accept a note to the CR, if the author was already a celebrity!) My ambition mathematician my life, or rather my passion and my joy were constantly **find the obvious things** , and this is my only ambition also in this book (there included in this introductory chapter. . .) The decisive thing often is already seeing the **issue** that had not been seen (whatever the answer, and that it is already found or not) or to reach a statement (it was speculative) that summarizes and contain a situation that had not been seen or not understood; if it is shown, regardless of whether the demonstration is trivial or not, entirely incidental thing, or even that early and provisional demonstration proves false. The snobbery of which is that Whitehead speaks the jaded rake who deigns not enjoy a wine only after ensuring that it was very expensive. More than one time in recent years, taken over by access my old passion, I offered what I had better, for see it rejected by this complacency there. I felt a pain that stays alive, joy found herself disappointed - but I am not on the street so far, and I did not try, fortunately for me, to cram an item in my composition.

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The snobbery which Whitehead speaks is an abuse of power and dishonesty, not only insensitivity or closure to the beauty of things, when exercised by a man of power against a researcher at the sea

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, on which he has discretion to assimilate and use the ideas, while blocking their publication pretext that they are "obvious" or "trivial" and therefore "irrelevant". I do not even dream

By the extreme situation of plagiarism in the usual sense of the term, which must still be very rare in the middle mathematics. Yet the practical point of view the situation is the same for the researcher who made the fresh, and the inner attitude that makes possible does not seem to me not much different. It is simply more comfortable, then it is accompanied by the feeling of infinite superiority over others, and good conscience and the intimate satisfaction of one who poses as intransigent defender of the intangible purity mathematical.

12.34. 0

Note 28 In writing the preceding pages, I had initially been divided between the desire to "off my chest," and concern reserve or discretion. So I stayed in at nearly, which was probably the main reason My uneasiness, the feeling that "I learned nothing." Since the lines were noting that discomfort written, I rewrote twice those pages that had left me on an inner discontent, involving me clearer and more by going to the bottom of things. Along the way I have indeed come to "learn from thing," and I also believe at the same time I was able to put his finger on something important, which both exceed this case my own person.

12.35. 0

Score 29 I am talking here of intense investment and long-term in the mathematical, or another entirely intellectual activity. For cons, the deployment of such passion, which can be a how to get reacquainted with a forgotten us strength, and the opportunity to compete in a substance reluctant and along the way also to renew and enrich our sense of identity with something that we either really personal - such deployment may well be an important step in a route indoors in a ripening.

12.36. 0

Note 30

In recent years, these are my children who have taken over, to teach a student sometimes reluctant mysteries of human existence. . .

12.37. 0

Note 31 I refer to as "yang" of the desire to know - the one that probe,

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discovers, names what

p. 163

appears. . . It is being **called** makes the irreversible appeared aware indelible (even she would subsequently to be buried, forgotten, it would cease to be active. . .). The shape "yin", "Feminine" the desire for knowledge is an opening, receptivity, in a quiet home a

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12.38. Hundred irons in the fire, or Nothing serves to dry!

knowledge appearing in the deeper layers of our being in which thought has no access. The apparition of such an opening, and a sudden knowledge that for a time erases all traces of conflict comes as a grace yet, which touches deep while its visible effect may be short-lived. I suspect Yet this knowledge without words that comes to us as well, in some rare moments of our life, equally indelible, and action continues even beyond the memory that we can have.

12.38. Hundred irons in the fire, or Nothing serves to dry!

Note 32

At the time when I was still doing the functional analysis, so until 1954 I happened to I persist endlessly about a question I could not solve, even though I had more ideas and was content to turn around in the circle of old ideas that obviously does not "biting" more. It has been so in all cases for a whole year for the "approximation problem" in the spaces including topological vector, which would be solved twenty years later only by methods of an entirely different order, which could only escape to the point where I was. I was moved then, not by desire but by a stubbornness and ignorance of what was happening in me. It was a difficult year - the only time in my life when doing math had become painful for me! He had me took this experience to understand that no use of "dry" - that from the moment a work arrived at a breakpoint, and soon perceived judgment, it must move on - and come back at a time more conducive to the question left open. This time almost always does not take long to appear - this is a maturing of the matter without me do mine to touch solely by virtue of a labor of enthusiasm on issues that may seem to have no connection with that one. I am convinced that if I persisted me then, I get anywhere even in ten years! It was in 1954 that I got used to math to always have many irons in fire there at the same time. I only work on one of them at once, but by a kind of miracle which renews itself constantly, the work I do on a

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also benefits p. 164

all others, waiting their time. This was the same, without any deliberate on my part, on my first contact with meditation - the number of burning issues to consider increasing day went by day, gradually as the reflection continued. . .

12.39. 0

Note 33 This does not mean that the moments of work where the paper (or the blackboard, which is a va-Laughing! is absent, are important in mathematical work. This is so especially in "moments sensitive "where a new intuition just appeared, when it comes to" get acquainted "with it a More generally, more intuitive than a "work room", that this informal stage of reflection prepared. At home, this kind of thinking is mostly in bed or walk, and I think it represents a relatively small share of the total time of work. The same observations apply equally the work of meditation as I practiced so far.

12.40. The powerless embrace

Note 34

The word "embrace" is not for me just a metaphor, and the common language here is a reflection of a profound identity. We can say, with some justification, that it is not true then that the hug

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12. NOTES for the first part of "CROP AND SEMAILLES"

no wonder is powerless - that the land would otherwise depopulated desert, if it were so under literal. The extreme case is that of rape, where wonder is certainly absent, then it happens that be is procreated in the raped woman. Surely the child born of such hugs can not fail to bring the brand, which will be part of the "package" it receives and shares its responsibility to assume; this will prevent a new being is indeed conceived and born. there has been **created** , a sign of **power** . And he is also true that sometimes as a mathematician I have seen full of conceit, and is proving attractive theorems, signs of an embrace that has not failed to force! But it is also true that if the life of such mathematician is stifled by its sufficiency (as was the case to some extent in my own life, at one time), the fruits of those hugs with mathematics is a benefit for himself or

no one. And the same can be said of the father as the mother of a child born of rape. If I talk about "hug powerless" I mean primarily the inability to generate a **renewal** for one who believes: create, while it creates a **product**, something external to it, without deep resonance in itself; a
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product which, far from release, to create harmony in it binds more tightly to the conceit in him which he is
p. 165

prisoner, who constantly pushes him to produce and reproduce. This is one form of impotence at a level deep, behind the appearance of a "creativity" which is basically a **productivity** without brake. I had ample opportunity also to realize that the sufficiency of wonder disability, is in the nature of a real blindness, a blockage of a sensitivity and a natural flair; if not total blockage and permanent, at least in some species manifest situations. This is a state where such a mathematician prestigious sometimes proves, in the same things which he excels, as stupid as most stubborn schoolchildren! In other times it will do wonders technical virtuosity. I doubt, however it is still in a state of discover it simple and obvious that power to renew a discipline or science. They are too far below him that he still deigns to see them! To see what no one deigns to see, you have an innocence he lost or banned. . . It is no coincidence surely, with increasing prodigious mathematical production within the last twenty years, and the profusion déroutant new results which is seen submerged mathematician who would simply "to keep current" so little, that little has yet (as far as I can judge by the echoes that me succeed here and there) to **renew** true, of large-scale processing (not just by accumulation) none of the major themes of reflection which I was so little familiar. the renewal ment is not quantitative thing, it is foreign to an investment amount, measured in a number days of mathematicians devoted to that subject by such mathematicians as "level". A million-days mathematicians is powerless to give birth to such a childish thing as zero, which renewed our perception of the number. Only innocence has this power, which is a visible sign of wonder. . .

12.41. 0

Note 35

This "gift" is the person of privilege, we are all born with. When it seems absent in me is that I myself have driven, and it's up to me to welcome him back. At home or such a man, this "gift" is expressed in way different than in another, less communicatively less perhaps irresistible, but it is nonetheless present, and I can not tell if it is less respect.

12.42. 0

Note 36

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Such delicate sensitivity to beauty seems intimately related to something I had

p. 166

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12.43. 0

opportunity to speak in the name of "requirement" (itself vis-à-vis) or "rigor" (in the full sense of the term), that I described as "attention to something delicate in ourselves", attention to quality understanding of the survey thing. This quality of **understanding** of a mathematical thing can be separated from a perception more or less intimate, more or less perfect "beauty" peculiar to this thing.

12.43. 0

Note 37 It is hardly necessary to add, I think that this long process has shown, the day to day, much more than even the "result" I just indulge in pithy form. This does not otherwise for work of meditation for mathematical work motivated by a particular issue we proposed to examine. Often followed the vicissitudes of the road (leading or not leading to a more or less complete clarification of the original question) are more interesting than the original question or the "end result".

12.44. 0

Note 38

These notes were in fact a continuation of the long letter ..., which became the first chapter. They were typed to be legible for that friend of old, and two or three others (Including especially Ronnie Brown) that I thought might be interested. This letter also never received a response, and it has not been read by the recipient, who almost a year after (my question if he had well received) showed genuinely surprised that I could even think for a moment that he could read it, saw the kind of mathematics that we should expect from me. . .

12.45. 0

Note 39 This is the period, among others, the "Long March through Galois theory", which he is issue in "Sketch of a Program" (para 3: "Body numbers associated with a child's drawing").

12.46. Visit

Note 40 The work on this dream is the subject of a long letter in English, a friend and colleague who had visited me in gale yesterday. Some of the materials used by the Dreamer, to bring out a seeming nothingness that dream of a striking realism, were obviously borrowed from this short episode of the visit a dear friend whom I had not seen for almost ten years. aus

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if the first day of work and against p. 167

my past experience, I thought I could conclude that the dream that came to me concerned my friend more it does concern me - it©him who should have that dream and not me! It was a way to evade message of the dream that (I should have known from the start by my past experience) only concerned none other than me. I ended up realizing it in the hurt that followed this first phase, superficial work; I returned the next day in the same letter. I have not received since that memorable letter; sign of life this friend, one of the closest I have had.

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12. NOTES for the first part of "CROP AND SEMAILLES"

This work was the only meditation that took form letter (and English to boot) and that therefore I have no paper trail. This episode struck me particularly, among many others show how any sign of work that goes beyond a certain facade, and that leads to all day simple facts, but that usually makes a point to ignore - how any such work points inspires unease and fear in others. I come back to that later (see para. 47, "The solitary adventure").

12.47. Krishnamurti, or release become hindrance

Note 41 It would be inaccurate to say that the only thing I learned from this reading is a certain vocabulary, and a propensity to do mine and eventually substitute, just as in reality. If reading the Krishnamurti first book I had in my hands was so struck (and still have I had the time to read a few chapters), it is because what he said completely hustled number of things that for me were the self, which I reported to me as soon as they were **commonplaces** that had has always been part of the air that I breathed. At the same time, this reading drew my attention to the first bec, on facts of great significance, especially that of the flight from the reality, as a conditionings of the mind the most powerful and universal. That gave me an essential key to understand situations that previously were incomprehensible and therefore (without me knowing account before the discovery of meditation five or six years later) generating anxiety. I could notice immediately the reality of this trailing all around me. This unwound some anxieties, but without change anything essential, because I did not see this reality in others, while

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given me (as a matter of

p. 168

itself) it did not exist in myself, that I was in fact the exception that proved the rule (and without me ask any other question about this truly remarkable exception). In fact, I was in no curious or others or myself. This "key" can **open up** in the hands of the lively desire to penetrate. In my hands it became exorcism and poses.

It was in early 1974 that for the first time I went to the evidence that the destruction in my life, not following me not, could not come **as** the others, there was something **in me** that attracted, the fed, the perpetuated. It was a moment of humility and openness, conducive to a renewal. It then remained peripheral and ephemeral yet, for lack of a **work** in depth. That "something in me" was still vague. I could see that it was the lack of love, but the idea of a work that would identify more closely where and how there had been a lack of love in me, how it is manifested, What were its practical effects, etc ... - such an idea could come to me or any media or people I had known to date, or Krishnamurti. (Instead, K. likes to insist on the vanity of all work automatically equates with "munchies becoming" of me.) So, with a "wisdom" of borrowing for any compass, I saw nothing else to do than wait patiently "Love" down in me like a grace of the Holy Spirit.

Yet the humble truth that I had just learned to end trough of a wave sparked the rise of a powerful new wave of energy, comparable to that which was to carry two and a half later my pre-Mière launched in meditation. This energy then has not remained completely unutilized. Some months later then ! I was immobilized by a providential accident, she wore a reflection (written) where for the first time in my life, I was examining the worldview that was the unspoken basis of my relationship others, who came to me from my parents, especially my mother. I realized then clearly that this vision had failed, she was unable to account for the reality of relationships, and promote development of my person and my relationships with others. This thinking is still marked

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12.48. The healthy tear

by "Krishnamurti style" and also by the taboo krishnamurtien on any real **work** towards understanding.

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But she has made tangible and irreversible knowledge born a few months before, remained p. 169
First vague and elusive. This knowledge, no book or other person in the world could then bring it to me.

For quality of meditation was missing especially in this reflection The look on my own person my **vision of myself**, not only my world, on a system of axioms, therefore I not really figured "in the flesh". Also missing there, looking on myself in **the moment**, to moment of reflection (which fell short of a true work); look that would have made me also detect nothing a borrowed style, a certain complacency in the literary aspect of these notes, so a lack spontaneity, authenticity. Any insufficient as it is, and relatively limited in scope effects Immediate on my relationships with others, yet this reflection seems to me a step, probably necessary because the starting point, to the deepest renewal to be held two years later. Then finally I discovered meditation - discovering this first unsuspected fact: **there were things to discover on my own person** - things that determined the way of almost complete my life and the nature of my relationship to others. . .

12.48. The healthy tear

Note 42 "Event" punchy "in question was the discovery at the end of 1969, that the institution of which I felt to be part was partially financed by funds from the Ministry armies, something that was incompatible with my basic axioms (and is in fact even today). This event was the first in a string of other (more revealing than each other!) That have: had the effect; I left the IHES (Institute of Advanced Scientific Studies), and needle thread radical change of environment and investments.

During the heroic years of IHES, Dieudonne and I have been the only members, and only also give it credibility and audience in the scientific world, Dieudonné by editing the "Publications Mathematics": the first volume was published in 1959, the year that followed that of the foundation of the IHES Motchane by Leo) and me by "Algebraic Geometry Seminar". In those early years, the existence of IHES remained more

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precarious, with uncertain funding (through the generosity of a few p. 170
companies acting as sponsors) and with only a local paid room (with a bad mood visible) by the Thiers Foundation in Paris for the days of my seminar 5. I felt a bit like a founder "scientific", with Dieudonné, my home institution, which I intend to finish my there days ! I finally identify myself strongly to IHES, and my departure (as a result of indifference colleague) was seen as a sort of pull to another "home", before revealing as a liberation.

Looking back, I realize that I should already be in me a need of renewal, I not say since when. This is surely not a coincidence that the year before my departure the IHES, there was a sudden tilting my energy investment, leaving out the tasks that the Eve still burning in my hands, and questions that fascinated me most, to launch myself (under the influence of a biologist friend, Mircea Dumitrescu) in biology. I threw myself in the provisions of a 5 A recent brochure published by the IHES on the occasion of the anniversary of twenty-five years of its foundation (including Nico had Kniper kind enough to send me a copy) breath word of these difficult beginnings, considered perhaps unworthy of solemnity occasionally celebrated with great fanfare last year.

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12. NOTES for the first part of "CROP AND SEMAILLES"

long-term investment in the IHES (which was consistent with the multidisciplinary vocation this institution). Surely it was only an outlet to the need for renewal more pro-background, that could not be accomplished in the mood of "scientific incubator" of IHES, and that was done over This "wake cascade" to which I have already alluded. There were seven, the last of which occurred in 1982. The episode of "military funds" was providential triggering the first of these "awakenings". The Ministry of armed, like my former colleagues at the IHES, finally had the right to my gratitude!

12.49. 0

Note 43 "The poetic work of my composition" contains a lot of things that I know first hand, and now strike me as equally important in my life, "in life" in general, that when it was written with the intention to publish it. If I have refrained myself, mostly because I went later realize that the form was afflicted by a deliberately "making poetic"

so its design ensem

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ble too constructed, and many passages, lack spontaneity, the

p. 171

the point at times of stiff or painful swelling. This form, bombastic at times, was a reflection of my provisions, which definitely is the "boss" often leading dance - heavily it goes without saying. . .

12.50. 0

Note 44

It goes without saying that I do here aside from the assumption, not improbable to say the least, of the unexpected outbreak of nuclear war or another celebration like that, likely to end abruptly and once and for all the collective game called "Mathematics", and something else with. . .

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Second part .
THE BURIAL (I)
or the dress of the Emperor of China
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To those who were my friends
 to the few who have remained
 that many of those who came to choir my
 Funeral
 In memory of a memorable Symposium. . .
 and to the entire Congregation. . .
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13. A) HERITAGE AND HERITAGE

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13. A) HERITAGE AND HERITAGE

13.1. I Posthumous student

13.1.1. Failure of a teaching (2) - or creation and fatuity

Note 44

[This note is called by section 50 of Chapter VIII of the **solitary adventure** part (I) and **Fatuité Renewal** p. 227]

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This passage has "tilt" to the friend to whom I have caused this last section "The weight of the past" ¹ (*). he p. 173

wrote to me: "For many of your former students the appearance, as you say, the" boss "invading and at the limit destroyer remained strong. Hence the impression that you have. "(To know, I presume," the impression "which is expressed in . passages in this section and notes ° n s which complete 46,47,50) Highest he writes: "First

I think you did well to leave mathematics for a moment [!], because there was a kind misunderstanding between you and your students (except of course Deligne). They stayed a little stunned. . . .

This is the first time I@e heard such bell sounds about my role as "boss" before 1970, going beyond the usual compliments! Higher still in the same letter: "... I understood that your alumni [read: those "pre-1970"] do not quite know what it is that mathematical **creation**, and maybe you had some responsibility. . . It is true that in their day the problems were all posed. . . "2 (**).

My correspondent wants to say without doubt that it is I who laid the "problems", and with them the notions that it was a question of developing, instead of leaving it to my pupils to find one and the other; and it is in this that I may have hidden from them the knowledge of what makes the essential part of the work of mathematical creation. It also joins a

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impression that emerged from the conversation with two

p. 174

of my former **students after** 1970 referred in an earlier note (note (23iv)). It is true that I looking primarily in students coming towards me, **collaborators** to develop intuitions and ideas that were already formed in me, to "push the wheels", in short, a cart that was already there, that they did not have to draw from a kind of nothing (as my correspondent had to do). It is there, however - to make a tangible and dense tangible out of the mists of the intangible - what has always been the most fascinating aspect of mathematical work for me and most of the work where I felt a "creation", the "birth" of something more delicate and essential than simple "result".

If I see sometimes such among those who were my students disdainfully treat this thing a great price, so spread in him this "snobbery" of which JHC Whitehead spoke (which consists in despising what one would show ") ³ (*), I did probably not abroad, in one way or another. The failure of my teaching, flagrant for the post-1970 period, appears to me now also, in a different and more hidden form, in my teaching of the first period, whereas in the conventional sense it is presented as a complete success! This is something that I have already seen at times in recent years, and that I mentioned in letters to many of my ex-students, without having so far really received an echo from none of them.

It seems to me that it would not be accurate to say that the work that I proposed to my students, and that they were doing with me, was purely technical work, pure routine, unfit to put into play their

1 (*) (10 May) The friend in question is none other than Zoghman Mebkhout; who kindly allowed me to lift the anonymity that I had had to maintain the origin of the letter (of 2 April 1984) which I quote in the present note.

2 (**) (10 May) The above quotation is highly truncated, for the sake of respect for the anonymity of my correspondent.

See the following note for a complete quote from the passage from which this quote is extracted and for comments also on its true meaning, which had escaped me at first for want of more detailed information.

3 (*) See note "The snobbery of youth - or the defenders of purity", n ° 27 percent. 247.

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creative faculties. I put at their disposal tangible and safe starting points, between which they had all latitude to choose, and from which they could start, as I had done before them. I do not believe that I have ever proposed a subject to a pupil whom I would not have liked to treat myself; or that there was such an arid journey in the journey that none of them did with me. that I myself did not alone by others as arid during my life as a mathematician, without discouraging or rushing into when it was clear that the work had to be done and that there was no other way.

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Also I think the failure I see today is due to more subtle causes the p-type. 175
of themes that I proposed, and to what extent they remained unclear or were on the contrary sliced. My part in this failure seems to me rather due to attitudes of fatuity in me in my relationship to the mathematical; attitudes that I had occasion to examine in this reflection. These had to permeate more or less strongly, otherwise the actual work in the company of such student, at least the atmosphere or the air that surrounded my person. Fatuity, even as it expresses itself in the most "discreet" way of world, always going in the direction of a closing, an insensitivity to the delicate essence of things and to their beauty - that these are "mathematical things", or living things that we have power to welcome, to encourage, or also to look from the height of our greatness, insensitive to the breath that accompanies and to its destructive effects on others as on ourselves.

13.1.2. A sense of injustice and helplessness

Note 44 "

[The appearance of this note does not respect the chronological order of writing]
(May 10) Taking advantage of my friend's permission to freely quote passages from his letters that I would judge useful, I give here a more complete citation 4 (*), which is the truncated quote in context true:

"It is true that I was very isolated between 75-80 except for a few questions in Verdier. do not blame your alumni for that period because no one really understood the importance of this link [read: between discrete coefficients and continuous coefficients]. Everything changed in October 1980 when we discovered the first very important application of this link for semi-simple groups, namely the demonstration of the multiplicity formula of Kazhdan-Lusztig where the equivalence of categories in question has been used in an essential way. This equivalence taken the name of "Riemann-Hilbert correspondence" without further comment after all it is such naturally! This is where I realized that your alumni do not know very well what it is a mathematical **creation** and that maybe you had some responsibility. I still feel a feeling of injustice and helplessness. It is true that in their day the problems were all posed. The number of applications of this theorem is impressive both in the context of the topology spreads only in the transcendent frame but still under the name of correspondence Riemann-Hilbert! I feel that my name is unworthy of this result for

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a lot of

p. 176

especially for your alumni. But as you can see clearly on the introductions my work is your formalism of "duality" that leads naturally to this result.

But like you I do not worry about the future of this link between "discrete coefficients constructible "and crystalline coefficients (or 3-holonomic modules) .It is clear that it applies in many fields both in the cohomology of spaces and in analysis. "

It is this passage from my friend's letter that inspired (in addition to this note) the subsequent note "The unknown

4 (*) See second note b. from p. from the previous note. "The failure of education (2) - or create and fatuous", ° No 44 ©

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13. A) HERITAGE AND HERITAGE

of service and the theorem of the good God. "According to the terms of this letter, I had no suspicion I explain in his place) that this "feeling of injustice and helplessness" in my friend was the reaction, no simply blindly contemptuous attitude systematically **minimizing** contributions (attitude ended up becoming familiar to me, among some of those who were my students), but to a real scam operation, consisting simply **retract** the paternity of a theorem - key.

This situation was revealed to me just eight days ago - see on this subject the note "Iniquity - or the meaning a return "and the following notes (n ° s 75-80), united under the title" Symposium - or beam Mebkhout and Perversity ".

Note 45

By my change of environment and way of life, opportunities to meet or for others contacts with my old friends, have become rare. This did not prevent only signs of "taking distance "manifest themselves in many ways, more or less strong from one to another, while others like Dieudonné, Cartan or Schwartz, and in fact among all the "seniors" who had made me so welcome to my

I did not feel anything like that. Apart from these, I have the impression, however, that few among my old friends or students in the mathematical world, whose relationship to me (whether she finds it or not opportunity to express oneself) did not become divided, "ambivalent," after I withdrew from what was a middle, a common world.

13.2. II Orphans

13.2.1. My orphans

Note 46 [This note is called by section 50 of Chapter VIII of the **solitary adventure** part (I) and **Fatuité Renewal** p.]

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I would like to take this opportunity to say a few words here about mathematical notions and ideas, p. 177

among all those I have learned in the day, which seem to me (by far) have the greatest reach (46 1) 5 (*). These are primarily five closely related key concepts, which I will review briefly, in order of specificity and increasing wealth (and depth).

This is primarily the idea of **derived category** in homological algebra (see note 48 p. 274), and its use for a "boilerplate" formalism. says "**formalism six operations**" (ie transactions

The

$\otimes, Lf^*, Rf^*, Rf_*$ (46 2) for the cohomology of types of "spaces" the most important that have been introduced so far in geometry: "algebraic" spaces (such as diagrams, schematic multiplicities, ticks, etc. . .), analytic spaces (both analytically complex and rigid-analytic and assimilated), spaces topological (in the meantime, of course, the context of "moderate spaces" of all kinds, and surely others, such as that of the category (Cat) of small categories, serving as homotopic models. . .). This formalism includes both the coefficients of discrete nature and the "continuous" coefficients. The progressive discovery of this formalism of duality and its ubiquity was made by reflection lonely, obstinate and demanding, which continued between the years 1956 and 1963. It is during this the concept of a derived category, and an understanding of the role it came back to him in homological algebra.

5 (*) This is discussed in notes 1 to 46 \circ 46 9 some more technical comments on the reviewed concepts in this note. Moreover, regardless of the specific **concepts** that I introduced, the reader will find reflections about what is considered the "master part" of my work (inside the part of my work "entirely the term ") in note 88 \circ "The body".

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13.2. II Orphans

What was still missing in my vision of the cohomological formalism of "spaces" was an understanding of the link between discrete coefficients and continuous coefficients, beyond the familiar case of local systems and

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their interpretation in terms of modules integrable connection or mo- p crystals. 178

dules. This deep connection, formulated first in the context of complex analytic spaces, has been discovered and established (almost twenty years later) by Zoghman Mebkhout, in terms of derived categories formed of a on the basis of discrete coefficients "constructible", on the other hand using the concept of "3-Module" or "Complex differential operators" (see Note 46 3 p.).

For almost ten years, for lack of encouragement from those of my former students who were the best to give it to him, and to support him by their interest and the experience they had acquired in my contact, Zoghman Mebkhout continued his remarkable work in almost total isolation. it

do not stop to take the day and prove theorems 6-key (*) to a new crystalline theory

being born chugging in the general indifference, both of them besides (it marked badly decided- in terms of derived categories: one giving the equivalence of categories

between "discrete constructible" coefficients and crystalline coefficients (satisfying certain conditions of lonomie "and" regularity ") (48 \otimes) the other being **the** crystalline aggregate duality theorem, for the purposes constant of a complex analytic space smooth (not necessarily compact, which implies difficulties considerable additional techniques) to a point. These are deep theorems 7 (**), which shed a new day

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calf on the cohomology of both analytical and schematic areas (zero characteristic p. 179

for the moment), and carry the promise of a wide-ranging renewal of cohomology theory

of these spaces. They finally earned their author, after refusing two applications for entry to the CNRS, a position of research officer (equivalent to a post of assistant or assistant professor at the University).

No one in those ten years has thought of talking to Mebkhout, struggling with technical difficulties

considerable due to the transcendent context; of "formalism of the six variances", well known to my students 8 (*) but which does not appear "in the net" anywhere. He finally learned about it from my mouth last year (under

form of a form that, apparently, is known only to me alone. . .), when he had the kindness and the patience to explain to me what he had done; to me who was no longer so connected to cohomology ... Nobody either thought of suggesting that it might be more "profitable" to connect first. on the context of the schemas in characteristic zero; where the difficulties inherent in the transcendent context disappear, and where, on the other hand, the conceptual questions fundamental to the theory appear all the more clearly. Nobody thought of telling him (or only saw what was known to me from the time where I introduced crystals ρ (**)) that "3-Modules" on spaces (analytical or schematic)

6 (*) (7 June) Mebkhout tells me that these two theorems, it is appropriate to add a third, also speaking in Under derived categories, namely what he called (somewhat inaccurately perhaps) the "**bidualité theorem**" for 3-Modules, and that is the most difficult of the three. For an overall sketch of the ideas and results of Mebkhout and their uses, see Dung Trang and Zoghman Mebkhout, Introduction to linear differential Systems, Proc. of Symposia in Pure Mathematics, vol.40 (1983) part.2, p. 31-63.

7 (**) (30 May) The proof of the second theorem faces the usual technical difficulties transcendent context requiring the use of "evetic" techniques, I guess it can be ranked among the "difficult" demonstrations. That of the first theorem is "obvious" - and profound, using all the strength of the resolution of Hironaka's singularities. As I pointed out in the penultimate paragraph of the note "solidarity" (No. 85 \circ) once cleared theorem "first come" knowledgeable is able to prove it. Compare also with the observation of JHC Whitehead quoted in the note "Snobbery young - or defenders of purity" (n \circ 27) When I wrote this last note, as dictated by the silent one. My secret prescience, I did not suspect how far reality would exceed my timid and groping suggestions!

8 (*) They learned firsthand in seminaries SGA SGA 4 and 5, and inserted texts in "Residues and Duality" from R. Hartshorne.

9 (**) (30 May) But I had time to forget - for me resouvenir by virtue of the second meeting with Mebkhout year latest. (See note "Dating from the grave", n \circ 78.

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13. A) HERITAGE AND HERITAGE

smooth are neither more nor less than the "**crystal module**" (when we disregard any question of "coherence" for both), and that the latter was a catch-all concept that worked all for both "spaces" in any singularities for smooth spaces (46 \downarrow).

Given the means (and unusual courage) that Mebkhout has shown, it is clear to me that, placed in an atmosphere of sympathy, he would have had no harm but great pleasure to establish the complete formalism of the "six variances" in the context of the crystalline cohomology of patterns of zero characteristic, then that all the essential ideas for such a large program (including his own in addition to those of the school of Sato and mine) were already, it seems to me, reunited. For someone of his caliber, it was question of a few years' work, just as the development of a forum

boilerplate malism of
p. 180

cohomology was discussed for a few years (1962-1965), as long as the common thread of the six operations was already known (in addition to the two basic key-change theorems). It is true that it was years carried by a current of enthusiasm and sympathy from those who were its co-witnesses or witnesses, and not a work counter to the haughty sufficiency of those who have everything in their hands. . .

I turn to the second pair of concepts I wanted to talk, the **scheme**, and the closely related to **topos**. The latter is the most intrinsic concept version of the **site**, which I had first introduced to formalize the topological intuition of a "localization". (The term "site" has been introduced later by Jean Giraud, who did a lot to give the notions of site and topos all the necessary flexibility.) These are blatant needs of algebraic geometry that led me to introduce one after the other schemas and topos. This pair of concepts contains a potentially vast renewal of vergure both algebraic geometry and arithmetic, as topology, by a **synthetic** these "worlds", too long separated, in a common geometric intuition.

The renewal of algebraic geometry and arithmetic from the point of view of schemas and the language of sites (or "descent"), and by twelve years of groundwork at the key (without counting the the work of my students and other good wills who have been part of it) has been accomplished since twenty years: the notion of schema, and that of cohomology spreads schemas (otherwise that of topos étale et that of multiplicity étale) have finally entered the mores, and in the common heritage.

On the other hand, this vast synthesis which would also include topology, whereas for twenty years the ideas essential and key technical tools required me seem united and ready ¹⁰ (*), still awaiting hour. during

fifteen years (since my departure from the mathematical scene), the unifying and fruitful idea
p. 181

powerful tool to discover what the notion of topos, is held by some ¹¹ mode (*) of the ban

notions deemed serious. Few still today are the topologists who have the slightest suspicion of this potential broadening of their science, and the new resources it offers.

In this renewed vision, topological spaces, differentiable etc. . . that the topologist handles are, with the schemas (of which he has heard) and the topological multiplicities, differentiable 10 (*) (May 15) These "essential ideas and key technical means" were gathered in the vast fresco of SGA seminars 4 and SGA 5, between 1963 and 1965. The strange vicissitudes that struck the writing and publication of the SGA part 5 of this fresco, published (in unrecognizable form, devastated) eleven years later (in 1977), give a striking image of the fate of this vast vision in the hands of "some fashion" - or rather, in the hands of some of my students who were first to introduce it (see note from next page). These vicissitudes and their meaning are gradually revealed during the reflection last four weeks, continuing in the notes "The fellow", "The clean slate", "The being apart". "The signal", "The reversal", "Silence", "Solidarity", "The mystification", "The deceased", "The Massacre", "The body", notes 63 67, 67 68, 68 and 84-88.

11 (13 May) further reflection during the six weeks following the time these lines were written (end of March), has shows that this "fashion" was first introduced by some of my students - by the very people who were best positioned to make their vision a reality, and ideas and technical means, and who have chosen to appropriate instruments of work, while disavowing and the vision that gave rise to them, and the one in whom this vision had originated. 264

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or schematic (nobody talks) so many incarnations of the same type of geometric objects remarkable, **ringed topos** (46 5), which play the role of "space" in which intuitions are confluent from topology, algebraic geometry, and arithmetic, into a geometric mine. The multiplicities "modular" of all kinds that we meet with each step (if we have eyes open to see) to provide as many striking examples (46 6). Their in-depth study is a thread first-rate driver to penetrate further into the essential properties of geometric objects (or other, if it is objects that are not geometric ...) whose modular multiplicities describe the modes of variation, degeneracy and generalising. This wealth, however, remains unknown, since The notion of finely describing it does not fall into the categories commonly accepted. Another unexpected appearance provided by this synthesis challenged 12 (**), is that 0

the homotopy invariants p. 182

familiar to some of the most common areas (46 7) (or more precisely, their compactifications profinities) are equipped with unsuspected arithmetic structures, including some groups of Galois profinis. . .

Yet, for almost fifteen years now, it's part of the right tone in the "big world", to look at anyone who dares to pronounce the word "topos", unless it is joking or not the excuse of being a logician. (These are people known to be unlike others and to be forgiven some fads. . .) Yoga derived categories, to express the homology and cohomology of spaces have not penetrated among the topologists, for whom the formula of Künneth (for a ring of coefficients that is not a body) always continues to be a system of two spectral sequences (or at most a string of short exact sequences), and not a single canonical isomorphism in a suitable category; and still continue to ignore the basic change theorems (for a morphism or by a smooth morphism for example), which (in the framework of cohomology spreads) were the turning point for the "startup" in strength of this cohomology (see note 46 8 p. 270).

I do not have to be surprised, when those who had contributed to developing this yoga have forgotten since a very long time ago ; and beat cold the unfortunate who would mine, he, want to use it! 13 (*).

The fifth concept dear to my heart, more than any other perhaps, is that of "**reason**". She is distinguishes the previous four in this, that "**the**" good concept of reason (be it only above a basic body, not to mention any basic scheme) has not so far been the subject of a satisfactory definition, even allowing for this purpose all the "reasonable" conjectures need. Or rather, visibly,

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"reasonable guess" at how, in a first step would be that of p. 183

e **xistence** a theory satisfying such data and such properties, it is in no way difficult

12 (**) (13 May) This summary has been "challenged" in the first place, in his mind as the key concept that makes it possible, by none other than the one who was the main user and beneficiary, throughout his work, technical means that it allowed me to develop (with the language of schemas and the construction of a theory of étale cohomology). It is Pierre Deligne. By his exceptional ascendancy (due to his exceptional means), and by the very particular position he held vis-à-vis my work of which he was like an implied legatee, the discrete and systematic barrier that he opposed to ideas the main ones I had introduced (with the exception of the notion of schema and étale cohomology) was very effective, surely play a leading role in establishing the "fashion" who **buried** these ideas, already reduced for nearly fifteen years to a vegetative life. His work has been profoundly marked by this ambiguity, which I have interviewed for the first

time.

times in the reflection which continues that of this note. (See "Refusal of an inheritance - or the price of a contradiction", note n ° 47 p. 271) This first perception, lively but still confused, of this permanent obstruction in Deligne's work after my departure, was clarified and confirmed in a striking way during all the reflection on this Burial, where my friend plays the role of principal officiant.

13 (*) (13 May) It emerged during the subsequent reflection that the situation began to change with the Symposium Luminy of June 1981: we saw those who had "forgotten" (or rather, buried ...) these notions strutting with, without stopping to beat cold that same "unhappy" without which this brilliant Symposium would never have taken place. (See notes n ° s 75 and 81 on

this memorable Symposium.)

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13. A) HERITAGE AND HERITAGE

(and quite fascinating!) to someone in the shot 14 (*), to explain fully. I've been to two fingers to do it, shortly before the moment I "left the maths".

In some ways, the situation resembles that of the "infinitely small" in the heroic age of differential and integral, with two differences, however. First of all, we now have an experience in building sophisticated mathematical theories, and an effective conceptual background, which were missing from our predecessors. And then, despite these means we have and for more than twenty years As this visibly essential notion has emerged, no one has deigned (or dared in spite of those who do not deign ...) get your hands dirty and identify the main features of a theory of motives, such as our predecessors had done it for the infinitesimal calculus without going four ways. Yet it is as clear now for the reasons that it was once for the "infinitely small", that these beasts exist, and that they at each step in algebraic geometry, if we are interested in the cohomology of algebraic properties and families of such varieties, and more particularly to the "arithmetic" properties of them. Even more so than for the other four notions I mentioned, that of motive, which is the more specific and richest of all, is associated with a multitude of intuitions of all kinds, in no way waves but for

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mulables often with perfect precision (sometimes leaves, if necessary, to admit some p. 184

motivic premises). The most fascinating of these "motivational" intuitions was for me that of "group of Motivational Galois" which, in a sense, makes it possible to "put a motivational structure" on the Galois groups finite bodies and schemas of finite type (in the absolute sense). (The technical work required to give a precise meaning to this concept in terms of "premises" giving a provisional basis of the concept of reason, has been accomplished in the thesis of Neantro Saavedra on "tannakiennes categories.")

The current consensus is slightly more nuanced to the notion of reason for his three brothers (or sisters) misfortune (derived categories, duality formalism said "six operations", topos), in that it not outright treated "bombinage" 15 (*). Practically, it is the same, however: the moment there is no way to "set" a pattern and to "prove" something, serious people only refrain from talking (with the greatest regret is a done thing, but it is serious or you do is not. . .). Certainly, there is no risk of ever happen to construct a theory of motives and to "prove" anything it is about them, as long as it says it is not serious even talk!

But the few people in the know (and who make fashion) know very well, them, in terms of premises, which remain secret, we can prove a lot. This means that today, in fact since the concept came in the wake of the Weil conjectures (yet proved by Deligne, which makes when even a good point!), the **yoga patterns** does exist. But he status of a **secret science**, with Although very little insider 16 (**). He may be "not serious", it nevertheless allows

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these rare insiders say

p. 185

in a host of situations cohomology "what we are entitled to expect." It gives rise to well

14 (*) (13 May) I have come to understand that the only person (besides me) who until today to respond rather special meaning This "so slightly in the coup" is Pierre Deligne, who had the advantage for four years while he listened to "the little I knew in algebraic geometry", being the confidant daily motivic of my thoughts. It is true that I talked about these things with many other colleagues here and there, but none apparently was enough "connected" to assimilate

overall vision that had developed in me over many years, or to take my directions as a point starting to develop itself a vision and a program (like myself had done from two or three "Strong impressions" produced by certain ideas of Serre). Maybe I'm wrong, but it seems that people interested the cohomology of algebraic varieties were not available to psychological "reasons take seriously" as long as Deligne, who was cohomology authority and at the same time was the only one supposed to know fully what it

returned with these reasons, the passing himself in silence.

(June 8) Verification made it appears that my first motivic ideas back to the beginnings of the sixties - They are therefore continued over almost a decade.

15 (*) As I noted in a previous footnote, derived categories were treated there three years in an exhumation big bands (without my name will be pronounced). The topos and six operations still biding their time, and reasons
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a multitude of intuitions and partial conjectures, which sometimes are accessible afterwards by means the edge, in the light of understanding that provides the "yoga". Several works are inspired Deligne This yoga 17 (*), including one that (if I am not mistaken) was his first published work, establishing the degeneration of the Leray spectral sequence for a smooth projective morphism of algebraic varieties (in because. zero, for the demonstration purposes). This result was suggested by considerations of "weight" So kind of arithmetic. These are considerations typically "motivic" I mean: formulable in terms of the "shape" patterns. Deligne proved this statement to Lefschetz-Hodge theory and strokes (If I remember correctly) not a word of motivation (49) without which yet nobody would certainly idea had to suspect something so incredible!

Yoga memorandum was born elsewhere precisely, first of all, that "Yoga Weight" I wanted Serre 18 (**). It was he who made me understand the charm of the "Weil conjectures" (now "Deligne theorem"). He explained to me how (modulo an assumption of resolution of singularities in the proposed feature) could, through yoga weights associated with each algebraic variety (Not necessarily smooth or clean) over an arbitrary field of "number of virtual Betti" - something that had so much struck me (46 9). It is this idea I think that was the starting point for my reflections on weight, which continued (in the margins of my fundamentals of writing tasks) throughout the following years. (It also that I have taken in the 70s, with the concept of "virtual ground" on a ba scheme

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if any, to establish a formalism of "six operations" at least for the reasons p. 186 virtual.) If throughout these years I talked about this yoga patterned Deligne (making figure interlocutor privileged) and who would listen 19 (*). It certainly was not for him and others to keep the state a secret science alone reserved. (⇒note 47 p. 271)

Score 46 1

I exception at most of the ideas and perspectives brought to the formulation

I had given the Riemann-Roch theorem (and the two demonstrations that I have found), and as various variants of it. If my memory is correct, such variants were in the last presentation of the seminar SGA 5 of 1965/66, which was lost with all hands with various other presentations of same seminar. The most interesting seems to be a variant of constructible discrete coefficients also, except the small piece that was unearthed there two years ago, with a spare paternity (see notes n ° s 51, 52, 59). (May 13)

16 (**) (13 May) I now understand that "very few insiders" was reduced to 1982 in single Deligne.

True, he revealed that "secret science" that shines through some important results included in this yoga, revealed gradually as he was able to prove, to collect credit while hiding his source of inspiration, which remained secret. If, however, for fifteen years nobody has responded yet to finally branching on a theory of large scale patterns is that our time is decidedly far from the bold vibrancy of the heroic era of computing infinitesimal!

17 (*) (13 May) Having finally take notice of the bibliography so slightly. I now see that the whole work of Deligne is rooted in this yoga. And my bibliographic sampling (as well as other cross-checking) make me assume in that the entire work Deligne, the only reference to the source is in a lapidary line (quoting me in a breath with Serre) in "Theory Hodge I" in 1970. (See Notes n ° s 78 1 and 78 2.)

18 (**) What I want Serre (early 60s?) Is an idea or initial intuition, making me understand that there something important to understand! This has acted as an initial pulse, triggering a reflection that has followed in later years, first on a "yoga" of weight and soon a larger yoga reasons

19 (*) (April 10) I think Deligne was the only one to "hear" - and he took care to reserve the exclusive privilege it heard. It is true on the other that in writing these final lines, I "retardais" on the events: there are two years, there has been partial exhumation yoga reasons without any reference to a role that I would have done! On this subject the notes n ° s 50, 51, 59, prompted by an unexpected discovery that threw an unexpected light (for me at least) on the meaning of the burial which was held for twelve years. Until then I had realized quite confused with a kind of burial, without taking the leisure to go closer. . .

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I know if it was explained in the literature from 20 (**). Note that this one also admits variant "Motivic", which essentially amounts to saying that the "characteristic classes" (in ring Chow a regular pattern Y) associated with Building χ -adic beams for primes different χ (first to residual features) where the beams come from the same "word "pattern" (eg are $R_i f_! (Z_\chi)$ for a $f: X \rightarrow Y$ given) are all equal.

Score 46 2

We can consider this formalism as a sort of quintessence of a formalism of " **duality overall** "in cohomology; form in its most" efficient ", freed from all unnecessary assumptions (of smoothness especially for "spaces" and planned applications, or cleanliness for the morphisms@t should complete the formality by a **local duality** in which we distinguish among the "coefficients" admitted "complex" objects or

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called " **dualisants** " (stable concept by L_f operation ! "), ie those giving rise to a

p. 187

" **Bidualité theorem** " (in terms of the Rohm operation) for coefficients satisfying conditions suitable finite (on the stairs, and consistency or "buildability" on objects cohomology local). When I speak of "formalism of the six variances"; I implying subsequently complete this formality duality, both in its "local" aspects "global".

A first step towards a deeper understanding of duality in cohomology was the discovery

Progressive formalism of the six variances in a first important case, that of Noetherian schemes and complexes with coherent cohomology modules. A second was the discovery (in the context of the étale schemes) that formalism also applied to discrete coefficients. These

two extreme cases were sufficient to establish the conviction of the u **biquité** of this formalism in all geometric situations giving rise to a "duality" of the Poincaré kind - conviction was upheld by the work (among others) Verdier, Ramis and Ruget. It will certainly be confirmed for other types coefficients, when the **lock** which for fifteen years has worked against the development of a Using large this formalism will be eroded.

This ubiquity seems a **fact** of considerable significance. He made it imperative that feeling of unity deep between Poincaré duality and duality of Serre; which was eventually established with the generality required by Mebkhout. This ubiquity makes "formalism of the six variances" one of the fundamental structures in algebra homology to an understanding of cohomological duality phenomena "all azimuths" 21 (*). The that this sort of fairly sophisticated structure was not made explicit in the past (nor indeed that the "proper" term "triangulated category" whose Verdier version is still a provisional form and insufficient) changes nothing; nor that topologists and even algebraic geometers who pretend to be interested in cohomology continue vied to ignore the very existence of formalism duality, as the language of derived categories based on.

Note 46 3

The view of the 3-Modules and complex differential operators was introduced by Sato and first developed by him and his school, a op

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tick (it seemed to understand) rather different

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from that followed by Mebkhout closer to my approach.

The various concepts of " **constructability** " to "discrete" coefficients (in contexts analytically complex, real-analytic, piecewise linear) were identified for the first time by me, I think, the late fifties (and I have times a few years later in the context of cohomology spreads). I asked then to the stability of this concept by direct images above for

20 (**) (June 6) I found it (in a similar form, and under the flattering name of "conjecture of Deligne-Grothendieck") in a McPherson article published in 1974. See for details footnote ° 87 1 .

21 (*) The interested reader will find a sketch of this formalism in Appendix to this volume.

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a proper map of real or complex analytic spaces, and is not known whether this stability has been established in the complex analytic case 22 (*). In the real analytic case, the notion that I had planned was also not good, because it lacks the notion of actual set subanalytic Hironaka, who has pro-essential preliminary stability by direct images priété. As for the local nature of operations as Rohm, it was clear that the argument that established stability coefficients buildable within the excellent circuit characteristic zero (using the resolution of singularities of Hironaka) walked as such in the complex analytic case, and likewise for the bidualité theorem (see SGA 5 I). In the linear piecewise frame, natural stability and bidualité theorem are "easy exercises"

I had enjoyed doing for verification of "ubiquity" of duality formalism upon starting the étale (one main surprise was just discovering this ubiquity).

To return to the semi-analytic case, the "good" part in this direction for theorems stabilized (constructible coefficients by six operations) is clearly one of "moderate areas" (see Sketch of a Program by. 5, 6).

Score 46 ⁴

Of course, the point of view 3-modules, coupled with the fact that 3 is a coherent sheaf of rings, highlights for modules crystals a notion of "consistency" more hidden than that with which I used to work, and keeps a sense of space (analytical or schematic) not necessarily surely smooth. It would only be fair to call it " **M-consistency** " (M as Mebkhout). It should be fairly clearly therefore, for someone so little in it (and in full possession of his healthy instinct mathematician) that the "right category coefficients" that generalizes the complex

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"differential operators" p. 189

in the smooth, must be other than derived category "M-coherent" in that crystals of modules (a complex of crystals being called **M-coherent** if its objects cohomology are). It keeps a reasonable sense without assuming smoothness, and should include both theory coefficients "continuous" (Coherent) ordinary, and the discrete coefficients "Plot" (by introducing for them Suitable Holonomy of assumptions and regularity). If my view is correct, both new conceptual ingredients of the theory of Sato-Mebkhout compared to known crystalline context above are the concept of M-consistency for crystal modules, and Holonomy Information and regularity (deepest nature) on M-coherent complex crystals. These notions are acquired an essential first task would be to develop the formalism of the six variances in the context crystalline, to encompass both special cases (usually coherent, discrete) I had developed it has over twenty years (and some of my former students cohomologists long forgotten in favor tasks may be larger. . .).

Mebkhout was also well ended up learning the existence of a concept of "crystal" attending my writings, and he felt that his view was to give a good approach to this concept (at least in characteristic zero) - but this suggestion fell on deaf ears. Psychologically it was hardly thinkable he embarks on the vast task of foundation that is needed, as it was placed in a climate of indifference haughty from the very people who were authority figure cohomological, and the best position to encourage - or discourage. . .

Note 46 ⁵

(May 13) This is especially topos ringed by a ring **local commutative** . The idea of describing a structure of "variety" in terms of the data of such a beam of rings on a topological space, a 22 (*) (25 May) It was established by JL Verdier, see "good references" footnote ° 82.
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was first introduced by H. Cartan, and was taken over by Serre in his classic work FAC (Beams algebraic consistent). It is this work which was the initial impetus for reflection to lead me concept of "scheme". What was missing in the approach taken by Cartan Serre, to encompass all types of "spaces" or "varieties" that have arisen to date, it is the notion of topos (that is to say, just "something" on which the concept of "beam assemblies" have meaning, and has the properties familiar).

Note 46 ⁶

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Like other outstanding examples of topos not ordinary spaces and les
p. 190

What he does not seem to be either satisfactory substitute in terms of the concepts "admitted," I point out: topo quotients of a topological space by a local equivalence relation (e.g., laminations varieties, in which case the quotient topos is even a "multiplicity" ie is locally a variety); topos "Classifying" for just about any kind of mathematical structure (at least those "are precedence in terms of finite projective limits and any inductive limits "). When you take a structure "variety" (topological, differentiable, real or complex analytic, Nash, etc ... or even schematic smooth on a given base) there is in each case a particularly attractive topos which deserves the name of "universal variety" (the intended species). Its homotopy invariants (including its cohomology, which deserves the name of "cohomology classifying map" for the species considered range) should be studied and known for a long time, but for now it does not take the path. . .

Note 46 ⁷

These are X spaces the homotopy type is described "naturally" like

a complex algebraic variety. This can then define a subfield K of the body complex, such that K is a finitely generated extension of the first body Q . The Galois group profinite $\text{Gal}(K/Q)$ operates then naturally on the homotopic profinite invariants X . Often (e.g. when X is a sphere homotopic odd dimension) can be taken to the K first body Q .

Score 46 ⁸

(May 13) When I learned my first rudiments of algebraic geometry in the article FCC Serre (which suited me "trigger" towards schemes), the concept of change base was virtually unknown in algebraic geometry, except in the special case of change base body. With the introduction of schemes language, this operation has become arguably the most commonly used in algebraic geometry, where she introduced at any time. The fact that this operation remains virtually unknown topology, except in very special cases, strikes me as a typical sign (among many others) the isolation of the topology from the ideas and techniques from algebraic geometry, and a tenacious legacy of inadequate foundations of topology "geometric".

Note 46 ⁹

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(June 5) The idea was that Serre was able to associate with any scheme X of finite type over a p. 191

body K , whole

$h_i(X)$ ($i \in \mathbb{N}$)

he called his "virtual Betti numbers", so that we have:

a) for Y a closed subscheme and the complementary open U

$h_i(X) = h_i(Y) + h_j(U)$

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b) for X smooth projective was

$h_i(X) = i$ -ème Betti number de X

(Defined for example through the χ -adic cohomology for χ prime to the characteristic of k). If we accept resolution of singularities for algebraic schemes over k , then it is immediate that $h_i(X)$ are only determined by these properties. E **xistence** such a function $X \rightarrow (h_i(X))_{i \in \mathbb{N}}$ set, using the formalism of cohomology clean carrier can be reduced substantially if where the base body is finished. Working in the "Grothendieck group" vector of dimension finite Q_χ in which $\text{Gal}(k$

k

) Operates continuously, and taking the characteristic of Euler-Poincare χ -adic (to clean surface) of X in this group, $h_i(X)$ designates the virtual row of "component weight i "EP (X, Q_χ) , where the notion of weight is that deduced from Weil conjectures, plus weak form of resolution of singularities. Even without resolution, the idea of Serre is realized thanks to the strong form of Weil conjectures (established by Deligne in "Weil conjectures II").

I continued heuristic thoughts on this path, leading me to a formalism of six operations for "virtual related patterns", the base body k is replaced by a basic diagram roughly S one - and to various concepts of "characteristic classes" for such virtual designs (from présentation finished) on S . So, I was led (returning to simplify the case of a basic body) to consider complete digital invariants finer than Serre, denoted $h_{p,q}(X)$, satisfying the analogous properties to a), b) above, and restoring the virtual Betti numbers Serre by the usual formula

$h_i(X) = \sum$

$p + q = i$

$h_{p,q}(X)$

13.2.2. Refusal of an inheritance - or the price of a contradiction

Note 47 [This note is a direct continuation of the note p.13.2.1 46]

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Note that four of the five concepts I have to review (those just passing p. 192 to things "not serious") relate cohomology, and foremost, **diagrams and cohomology algebraic varieties**. In any case, all four were suggested to me by the needs of a theory cohomologique algebraic varieties for continuous coefficients first, then discrete. This means that a main motivation and a constant leitmotif in my work during the fifteen years from 1955 to 1970, was the cohomology of algebraic varieties.

Remarkably, this is the theme that also Deligne still considers its primary inspiration, if I believe what is said about it in the brochure of the IHES of last year ²³ (*).

I have read of it with some surprise. Admittedly, I was still "on the scene" and all there plugged when Deligne (after good work on the conjecture Ramanuyam) has developed its remarkable extension of Hodge theory. This was especially for him as for me, a first

step towards building shaped the concept of pattern on the body of the complex - to start! In the first years after my "turning point" in 1970, I had of course also echo the demonstration by Deligne Weil conjectures (which also proved the conjecture Ramanuyam), and as a result, the "theorem Lefschetz cow "in positive characteristic. I expected no less of him! I was sure he had even 23 (*) (May 12) For cons, I just noticed that nothing in the brochure might make the reader suspect that my work has anything to do with the cohomology of algebraic varieties, or of anything else! On this subject the note "In Praise of Death (1) - or compliments" (n ° 98) written today. The brochure in question is the one mentioned in the footnote on page note "The salutary pull", n ° 42, and examined a little closer in the note "In Praise Funeral "just mentioned.

13.) HERITAGE AND HEIR

have proved the same time the " **standard conjectures** ", which I had proposed in the late sixties as a first step to establish (at least) the concept of design "semi-simple" on a body, and for translate some of the planned properties of these units in terms of χ -adic cohomology properties and cycles algebraic groups. Deligne told me later that his proof of the Weil conjectures surely would not demonstrate the standard conjecture (strongest), and he was there any idea how to approach them. There must be this a decade now. Since then, I have no knowledge of other really decisive progress that would have occurred in the understanding of aces

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pects
p. 193

"Motivic" (or "arithmetic") of the cohomology of algebraic varieties. Knowing how to Deligne, I concluded tacitly that his main interest had had to turn to other subjects - hence my surprise to read that it was not.

What seems beyond doubt is that for many twenty years it is hardly possible to work wide-scale renewal in our understanding of the cohomology of algebraic varieties without also do more or less figure of "successor Grothendieck". Zoghman Mebkhout has also learned something at his expense, and (to some extent) it was the same Carlos Contou-Carrère, who quickly understood he had every reason to change the subject (47 1). Among the first things that we can not provide doing there precisely the development of the famous "formalism of the six variances" in contexts various coefficients as close as possible to that of the units (which play the currently as a sort of "skyline" ideal): crystalline coefficients characteristic zero (in line with Sato school and Mebkhout Grothendieck sauce) or p (especially studied by Berthelot, Katz, and a whole Messing younger group of visibly motivated researchers), "laminates promodules" on Deligne (which appear as a dualized Alternatively, or "pro", the "ind" -Notion coherent three-module, or crystal three-coherent \mathbb{Q} coefficients "Hodge-Deligne" finally (which seem as good as the reasons, except that their definition is transcendent and limited to basic patterns that are of finite type over the field of complex). . . To the other end comes the task of clearing the concept of pattern mists that surround (and for good reason...) and also, if possible, to tackle questions as accurate as the "standard conjectures". (For these last, I thought, among others, to develop a theory of "intermediate Jacobian" for projective and smooth varieties on a body, as a means may obtain the positivity of formula traces, which was an essential ingredient of the standard conjecture.)

These were tasks and questions that were burning my hands until I@e yet "Left the math" - burning things and juicy, none and at no time appeared to me as forming a "wall", a breakpoint 24 (*). They were a source of inspiration and a sub

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stance inépuisable
p. 194

sands something where you had to shoot where it was over (and it "exceeded" everywhere!) for some thing vienna, as expected the unexpected. With the limited resources that are mine, but not divided in my work, I know all that we can do little we put it in one day or one year, or ten. And I know, having seen him at work at a time when he was not divided in his work, which Deligne are the means, and what it can do in a day, in a week or in a month, when he wants to get on with it. But no one, Deligne, can eventually make fruitful work, the work of renewal deep while looking down the same objects it comes right down to sound and language and all an arsenal of tools that have been developed for this purpose by such predecessor (and its assistance which more is, among many others who got their hands in the dough. . .) (59).

I also considering the compactification "Deligne-Mumford" modular multiplicity $M_{g,v}$ (over Spec Z), 24 (25 May) Yet this was kindly suggested in this famous jubilee brochure, in anonymous pen I think I recognize. On this subject the note "In Praise of Death (2)", which follows "In Praise of Death (1)" cited in the previous Note b. p.

13.2. II Orphans

for smooth related algebraic curves of genus g with v points scored. They were introduced ²⁵ (*) Occasionally the problem to prove the connection between the modular spaces $M_{g,v}$ in any characteristic, a specialization argument from the characteristic zero. These objects $M_{g,v}$ seem (with Sl group (2)) the most beautiful, the most fascinating I have ever met in math (47 2). their only existence already, with properties such perfect point strikes me as a kind of miracle (perfectly understand what is more), an incomparably greater range than the fact that connectivity This was demonstrated. To me, they contain in essence what is most essential in geometry algebraic, ie all (to pretty much) of all algebraic curves (on all body conceivable basis), which is precisely the ultimate building blocks of all other varieties Algebraic. But the kind of objects in question, "clean and smooth manifolds over $\text{Spec}(Z)$ " escapes yet the "permitted" category, that is to say those that are **willing** (for reasons we did guard consider) to be good enough "to admit". The average person speaks at most by allusions, and air to apologize for appearing to still make the "general non-sense", while we took care certainly say "Stack" or "field", not to mention the taboo word "topos" or "multiplicity". Therefore without no doubt why these unique jewels have not been studied or used (as far as I know) since their introduction there are more than ten years, except by myself in seminar notes

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remained unpublished. At p. 195

Instead, we continue to work either with the varieties of "coarse" modules or with coatings finished modular multiplicities who have the good fortune to be true schemes - one and other yet being only kinds of relatively cheap professions and lame shadows of those perfect gems which they come, and remain virtually banished. . .

The four works on the Deligne conjecture Ramanuyam, on mixed Hodge structures on the compactification modular multiplicities (with Mumford), and on the Weil conjectures, each constitute a renewal of the knowledge we have of algebraic varieties and thereby Similarly, a new starting point. This fundamental work will follow in a few years (1968-1973). For almost ten years, however, these major milestones have been the springboard for a roll new and glimpsed in the unknown, and the means for a renewal of broader scope. They led to a sluggish stagnation situation (47 3). This is surely not the "means" that were there it was ten years ago, in some and in others, have disappeared as if by magic; nor the beauty of things at our fingertips will be suddenly fainted. But it is not enough that the world is beautiful - yet should you deign rejoice. . .

Score 47 1

I refer here to the promising start by Contou-Carrère, there are five or six years, a theory Local jacobians on their links with global jacobians (called "generalized Jacobian") for diagrams smooth and not necessarily own curves on any scheme, and with the theory Cartier commutative formal groups and typical curves. Apart from encouraging reaction Cartier, welcome to the first note of Contou-Carrere, by those best placed to power appreciate it was so fresh, the author was careful never to publish the second he kept in reserve, and was quick to change the subject (without avoiding other mishaps) ²⁶ (*).

I suggested the theme of local and global jacobians, as a first step towards a program dating back to the late fifties, especially facing a theory of a complex Dualising "adelic "in one dimension formed with local Jacobian (for lo rings

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dimension cal p. 196

arbitrary), in analogy with the residual complex of a noetherian scheme (formed with the modules dualisants ²⁵ (*) In Pub. Math. 36, 1969, p. 75-110. See comments in Note ° 63 1

²⁶ (*) (June 8) See the sub-grade (95 1) in note "Coffin 3 - or jacobians too much on" n ° 95.
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of all local rings). This part of my cohomological duality program was found (with others) a little relegated into oblivion during the sixties, due to the influx of other tasks which then appeared more urgent.

Score 47 2

Actually, it is the "Teichmüller tower" in which the family of all these multiplicities fits, and the discrete and profinite paradigm of this round in terms of fundamental groupoids, which is

the richest single object, the more fascinating I encountered in mathematics. S_X the group $(2, Z)$, with the "arithmetic" structure compactifié profinite of $S_X(2, Z)$ (consisting of the operation of the Galois group $\text{Gal}(\mathbb{Q})$) can be considered as the main building block for the "profinite version of"

this tower. On this subject the indications in "Sketch of a Program" (pending or volumes Mathematical Reflections will be devoted to this topic).

Note 47 ³

This finding of a "sluggish stagnation" is not a carefully considered opinion, to SOMEONE that would be well aware of the major episodes in the last ten years, around the cohomology diagrams and algebraic varieties. It is a simple **print** of a whole "outsider", I removed from other conversations and correspondence with Illusie Verdier Mebkhout in 1982 and 1983. There would surely place to qualify this impression in many ways. Thus, the work "Conjectures Weil II" Deligne, published in 1980, represents a further substantial progress, if not a surprise at the result main. It seems there has also been progress in crystalline cohomology since. $p > 0$, besides the "rush" around the intersection cohomology, which eventually bring back some (against their will) the language of derived categories, and even make them remember long repudiated paternity. . .

13.3. III mode - or the Lives of Famous Men

13.3.1. The instinct and fashion - or the law of the jungle

Note 48

[This note is called by footnote 46 p. 265]

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As is well known, the theory of derived categories is due to JL Verdier. Before he undertook p. 197

the work of foundations that I had proposed, I confined myself to work with derived categories heuristically, with a provisional definition of these categories (which proved later to be the good), and also with a provisional intuition of their essential internal structure (which is intuition technically proven false in the intended context, the "mapping cone" will depend **not** functorially of the arrow in a derived class which is supposed to define it, and which defines the only isomorphism not only close). The duality theory of coherent beams (ie the formalism of "six variances" in the coherent framework) that I had developed in the late fifties ²⁷ (*), only made sense that modulates a working basis on the notion of derived category, which was done by Verdier later.

The text of the thesis Verdier (passed only in 1967), twenty pages, seems to me the best introduction to the language of derived categories written to date, placing this language in the context of its essential use (many of which are due to Verdier himself). It was only the introduction to a work in preparation, and that ended up being drafted later. I flatter myself to be, otherwise the unique, at least one of the very few people who can testify having held their hands that work, ²⁷ (*) There are still missing Rf operation ! (cohomology with own support) for a non-proper morphism, which was introduced six or seven years later by Deligne, thanks to the introduction by it of context coherent promodules, which strikes me as an important new idea (successful recovery in its laminates promodules theory).

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13.3. III mode - or the Lives of Famous Men

which is supposed to establish the title of doctor of the merits of Science awarded to the author on the basis of one introduction! This work is (or was -... I do not know if there is another copy somewhere) the only text, to date, that this systematic foundations of homological algebra from the point of view derived categories.

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Maybe I@ the only regret that neither the chapeau, neither such foundations have been p. 198 published ²⁸ (*), so that the essential technical skills to use the language of derived categories is scattered in three different locations of the literature ²⁹ (**). This lack of a reference text routine, a weight comparable to conventional book Cartan-Eilenberg, appears to me both a **cause and a sign** typical of the disaffection that hit the formalism of derived classes after I left the mathematical scene in 1970.

It is true that in 1968 he had already proved (occasionally needs a cohomological theory traces developed in SGA 5) that the term derived category in its original form, and the corresponding concept sponding to triangulated category, were insufficient for some needs, and that a working foundation further to be done. A not useful, but still modest in this direction was made (for needs mainly because of traces) by Illusie, with the introduction in his thesis of "derived categories filtered." It seems that my departure in 1970 was the signal for a sudden and final judgment of any re-bending on the fundamentals of homological algebra, as also those intimately related, theory units (48 ¹). Yet in terms of the first, all the essential ideas of the foundations of in-vergence seemed acquired from the years before my departure (48 ²). (Including the key idea of "shunting", or

"Making machine derived categories", which seems to be the richest common object underlying the triangulated categories that we have encountered so far, that idea will eventually be developed as bit in a non-additive part, nearly twenty years later, in a chapter of Volume 2 of the Continued Fields.) In addition, a large part of the work of foundations to do was already done by Verdier, Hartshorne, Deligne Illusie work that could be used as such a synthesis incorporating the ideas acquired in the broader perspective of shunts.

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It is true that this disaffection within fifteen year period ³⁰ (*) to the concept of class ^{p. 199} derivative, which in some is related to the disallowance of a past, going in the direction of a certain mode, which affects to look with disdain any reflection of fundamentals, so urgent as it is ³¹ (**). On the other hand, it is clear to me that the development of étale that "everyone" uses today without looking twice (if only implicitly via feues the Weil conjectures ...) could have possible without the conceptual baggage that represented the derived categories, les six opérations, and language sites and topos (first developed specifically for this purpose), excluding USG 1 and 2. And it ©SGA equally clear that the stagnation that we can see today in the cohomology theory of varieties Algebraic would have appeared much less settle, if some of those who were my students had able, during these years, take their healthy instinct mathematician rather than a fashion they were among the first to introduce, and which for a long time and with their support has become law.

28 (* (May 25) After these lines were written, I discovered that the first embryo of the thesis Verdier, dating from 1963 (Four years before the defense) was finally published in 1967. On this subject, notes "The gossip" and "credit and Thesis comprehensive insurance ", n ° 63 and 81.

29 (** These places are: the well-known seminar on Hartshorne consistent duality, containing the only part published to date duality theory that I had developed in the second half of the 50s; one or two presentations in Deligne APG 4; one or two chapters of the voluminous thesis Illusie.

30 (*) (24 May) necessary to qualify these "past fifteen years" - see this footnote ° 47 3 , and the note more detailed "Credit Thesis and comprehensive insurance ©n ° 81.

31 (**) (25 May) for a reflection on the forces at work in the emergence and persistence of this mode, see the note "The Deadman - or the whole Congregation "n ° 97.

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Score 48 1

The same can be said elsewhere (with reservations) the whole of my program foundations of algebraic geometry, which only a small part has been fulfilled: he stopped short with my departure. The ruling struck me particularly in the dual program, which I considered particularly juicy. The work of Zoghman Mebkhout pursued against all odds, was nonetheless are in line This program (renewed by providing unexpected ideas). The same is true of the work of Carlos Contou-1976 Carrère (which was discussed in note (47 1) 273 p.) - work it has been prudent to suspend sine die. There has also been work on duality in cohomology fppf surfaces (Milne). That is all what I learned.

It is true that I never thought of writing a sketch of the long-term program of work that had clear to me over the years between 1955 and 1970 as I have done for the past twelve years, with the outline of a program. The reason is simply, I think, he has never presented to occa-Particular sion (like now my application to enter CNRS)

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motivate such work of exposure.

p. 200

Is contained in the letters to Larry Breen (1975) are reproduced in the appendix to Chapter I of History Models (Mathematical Reflections 2) some indication of some theories (including duality) on my calendar before 1970 theories that are still waiting for arms to enter the common heritage.

Score 48 2

The same is true also for the theory of motives, except that it is not probably likely to remain conjecture for some time.

13.3.2. The unknown service and the theorem of God

Note 48

[This note is called by footnote 46 p.]

While it is customary to call the key theorems of a theory by the names of those who have completed Working identify and establish, it seems that the name of Zoghman Mebkhout was deemed unworthy this fundamental theorem, the culmination of four years of stubborn and solitary work (1975-1979), to counter current fashion of the day and the scorn of his elders. These, on the day when the scope of the theorem could not be ignored, are pleased to call the "theorem of Riemann-Hilbert" and I trust them (while Riemann Hilbert nor do would surely have asked so much. . .) They had to do very good reasons.

After all (once the feeling of a need - that of a precise understanding of relations general coefficients discrete and continuous coefficients, appeared against the general indifference, he has refined and clarified by delicate work and patient, after successive stages proper statement was finally cleared, it is written black on white and proven, and when it finally loneliness fruit theorem proven where we least expected - after all) this theorem seems so obvious (not say "trivial" for those who "have demonstrated the" ...) that there is really nothing to clutter memory of the name of an unknown wave of service!

Encouraged by this precedent, I now propose to call "theorem of Adam and Eve" every theorem really natural and fundamental theory, or even go further and to honor here where honor is due, calling it simply " **theorem of God** " ³² (*).

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For all I know, except myself, Deligne was the only front Mebkhout feel the interest

p. 201

there was to understand the relationships between discrete and continuous coefficients coefficients in a wider context as laminated modules, so that they can interpret in terms "continuous" coefficients "constructive patible "any. The first attempt in this direction is the subject of a seminar (remained unpublished) of De- ³² (*) I have not had in my life mathematician this pleasure to inspire, or only to encourage a student at a thesis containing a "theorem of God" - at least not with a depth and a comparable scope.

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online at IHES in 1968 or 69, where he introduced the perspective of "layered promodules" and gives a theorem comparison (over the field of complex) for the transcendental discrete cohomology and cohomology the type associated De Rham, which has meaning for finite type patterns on any base body since. nothing. (Apparently, he was not even aware at the time of the remarkable result of his distant Riemann and Hilbert predecessors. . .) Even more than Verdier ³³ (*) or Berthelot ³⁴ (**), Deligne was therefore particularly well placed to appreciate the interest of management where research is engaged of Mebkhout in 1975, and subsequently the interest the results of Mebkhout including the "theorem of good God, "which gives a more delicate and profound understanding of discrete coefficients in terms of coefficient-continuous coefficients, as he himself had cleared. This has not prevented Mebkhout had to continue its work in painful moral isolation, and that the credit it deserves (even more, I would say) for its pioneering work remains retracted yet, today, five years after ³⁵ (***)).

13.3.3. Weight canned and twelve secret

Note 49

[This note is called by footnote 46 p.]

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Upon verification (Publications in Mathematics 35, 1968), I see that towards the end of the article "Theo- p. 202 rth Lefschetz and spectral sequences degenerate criteria ", it is hinted in three lines of "Weight considerations" that had led me to conjecture (in a somewhat less general form) the re- Main Result of work. I doubt that this cryptic allusion could be useful to anyone, nor understood the time by someone other than Serre I, who were all ways already aware ³⁶ (*).

I note in this connection that "Yoga weight" very accurate, including the behavior of weight for operations such as $R_i f$ and $R_i f_!$, I was well-known (and therefore also Deligne) at that time, in the last sixty years, in the wake of the Weil conjectures. Part of this is yoga finally established (in the context of the beams coefficients l-adic, until he is in the most natural setting patterns) in the working Deligne "Weil conjectures II" (Publications Mathematics 1980). I believe, during the twelve years that have passed around between the two times ³⁷ (**) there was trace in a presentation literature, if brief and partial if it is, yoga weight (yet entirely conjectural), who all this time remained the exclusive privilege of a few (two or three?) initiated ³⁸ (***)). Now that yoga is an essential first key to an understanding of the properties ³³ (*) Apparently Verdier, as official supervisor for the thesis Zoghman Mebkhout (and as such even him "Granted some discussions"), was the main question (besides Mebkhout itself) in the retraction has been done around the authorship of this fundamental theorem, and credit amounts to his "pupil" in the renewal that begins in the cohomology theory of algebraic varieties from the point of view of the 3-modules developed by Mebkhout I do not have Yet knowledge that he would be moved more than Deligne.

³⁴ (**) (May 25) As I write this, I abstained (with some hesitation) to include the name of my friend Luc Illusie this list of my students who were "best placed" to provide encouragement to Zoghman Mebkhout that ought to go without saying. I have not been paying attention then to some discomfort in me, who could have taught me that I was being

give a little boost for someone I have affection, to mine discharge the responsibility incumbent upon him as my other "cohomologistes students."

³⁵ (***) (May 25) In fact, this retraction is the work in the first place Deligne and Verdier themselves. On this subject the

notes "The Iniquity - or the sense of a return," n ° 75.

36 (*) (April 29) For a closer look at this article informative in more ways than one, see Note "Eviction" (n ° 63).

37 (**) (April 19) I see a list of Deligne publications that I have received and read with interest, it is a question the "weight" in 1974 Deligne in a communication to the Congress in Vancouver - so it has been six years of "secret around weight" instead of twelve. This secret yet seems to me inseparable from similar secrecy around the grounds (during the twelve years 1970 to 1982). The meaning of this secret comes to light of a new day in the thinking of today, in the long double Note following n ° 51-52).

38 (***) (25 May) It would seem, from all the information appeared in reflection, that these "two or three insiders" confined themselves to single Deligne, who seems to have taken great care to reserve the exclusive benefit of the

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"arithmetic" of the cohomology of algebraic varieties, thus both a **means** to recognize it in

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a situation and to make a reliable predictions had never seen default layout,

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and at the same time and thus it represented one of the **tasks** most urgent and fascinating that arose in the cohomology theory of algebraic varieties. The fact that yoga has remained virtually ignored until it was finally established (in some important aspects, at least), I seems a particularly striking example of the role of **information blockade** that often play those which even by their privileged position and their duties are expected to ensure its wide dissemination 39 (*).

13.3.4. You can not stop progress!

Note 50 [This note is called by section 50 of Chapter VIII **solitary adventure** in Part (I) and **Fatuité Renewal** p.]

My first experience in this direction were the unexpected fruit of my unsuccessful efforts to try to publish the thesis of Yves Ladegaillerie theorems isotropy on surfaces - work also good certainly none of the eleven state doctoral work ("before 1970", it is true!) where I had that figure "boss". If I remember correctly, these efforts have continued for many a year or more, and had as protagonists many of my old friends (not to mention one of my former students, as fair) 40 (**). The main episodes still appear to me today as many episodes vaudeville!

It was also my first encounter with a new spirit and new manners (now currents in the circle of my old friends), which I have already had occasion to allude here and there During my thinking. It was during that year (thus in 1976) that I learned for the first time, but not last, it is now regarded as a lack of seriousness (at least to the part of anybody ...) show indeed delicate things that everyone uses and predecessors have always been content to accept (ie, the non-existence of phenomena Wild topology surfaces) 41 (***). Or show a result that includes

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as special cases

p. 204

or corollaries several deep theorems known (which obviously shows that the so-called result possession of this yoga he held me, until 1974 (see note b. Previous p.)) where the time was ripe for power present it as ideas of his own, without reference either to me or to Serre (see notes n ° s 78 ° 1, 78 °

2.

(18 April 1985) Since these lines were written, I had opportunity to also knowledge of communication Deligne "Hodge Theory I" in Int Congress. Math, Nice (1970) (Acts t.1, p. 425-430). Contrary to what I had reason to believe by the fragmentary information in my possession, this article exposes in 1970 a substantial part of yoga weight. On the origin of these ideas, he merely a cryptic statement and pure form of an article of Serre (also abroad the question), and "conjectural theory of motives Grothendieck". (Compare with the notes n ° s 78 °

1, 78 °

2.) The question

critical of the concept of weight behavior by operations such as $R_i f_!$ and $R_i f^*$ is not even mentioned and not the will not be until the cited article "The Weil conjecture II" in 1980, where my name is not pronounced in connection with the theorem

main of this work, and neither is that of Serre mine in communication "Weight in cohomology algebraic varieties" mentioned in Note b. p previous. (ago a year to the day).

39 (*) See also about sections 32 and 33, "mathematician of Ethics" and "The note - or the new ethics (1)", and two notes thereto, "ethical consensus and control of information" and "The snobbery of youth, or

defenders of purity ", n ° s 25.27.

40 (**) On this subject the note "coffin 2 - or sectioned cuts" n ° 94.

41 (***) See also in this episode "the note - or the new ethic" (Section 33). This famous "note" was precisely the wrong to clarify concepts and statements that had previously been left vague, and yet were implicitly used by me to establish results that bear my name and that everyone uses shamelessly for nearly twenty-five years (Thing besides the two illustrious colleagues were well aware). (June 8) See for details Note "Coffin 4 - "(no or topos without flowers or wreaths ° . 96) The" results that bear my name, "are the results of the generation and the finished presentation of certain fundamental groups profinite global and local, "shown" among others in USG 1 by descent techniques are heuristics for lack of a theoretical justification, careful, accomplished in the work (Apparently "unprintable") by Olivier Leroy, on the type Van Kampen theorems for fundamental groups of topos. 278

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new can be a particular case or an easy consequence of the known results). Or take worth only in the statement of income or in the description of a situation in terms of another, formulate carefully natural assumptions (indicative of a regrettable bombinage), instead of simply some case the taste of the person of the highest caliber who deliver its opinion. (Last year again, I seen it accuses Contou-Carrère failing bounded in his thesis to be placed on a base body Instead of a general scheme - while conceding still the mitigating circumstance that was surely at the urging of his occasional boss that he had to solve it. One who was speaking was Yet enough in the game to know that even merely the body complex, necessities demonstration force the hand to introduce general database schemas. . .) The aberrations in some fashion today are up honnir not only demonstrations careful (or even any short demonstrations), but often statements and form definitions. At the price is paper and forbearance of stuffed player, it will soon be subject to lug a luxury too expensive! Extrapolating current trends, we must predict when it will no longer issue a publication of explicit definitions or statements, we are now satisfied to appoint by code words, leaving the indefatigable and brilliant reader to fill in the blanks in accordance with its own lights. The task of the referee will be facilitated especially because it needs to do is look in the directory "Who is Who "if the author is known as credible (in any case no one could contradict and white the dotted lines that make up the polished article), or conversely a unavowable unknown will be (as is already the case today and long ago) ejected automatically. . . 279

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14.1. IV The reasons (burial of a birth)

14.1.1. Remember a dream - or birth reasons. . .

Note 51 [This note is called by footnote 46 p.]

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 (April 19) Since these lines (note that finish "My orphans", n ° 46) were written, there is less
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a month, I noticed that they slow down a bit on the events! I just received "Hodge Cycles,
 Motives and Shimura Varieties "(LN 900), by Pierre Deligne, James S. Milne, Arthur Ogus and Kuang-Yen
 Shih, that Deligne was kind enough to send me, along with a list of publications. this collection
 six texts, published in 1982, is an interesting new fact since 1970, by reference to reasons
 in the title and the presence of this concept in the text, however modest it again, especially through the notion
 of "motivic Galois group." Of course, we are very far yet whole picture of a theory
 patterns, which for fifteen or twenty years waiting for the bold mathematician who is willing to the "brush, large enough
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to serve as an inspiration, breadcrumb and skyline for one or more generations of surveyors arithmeticians, who have the privilege to establish the validity (or at least to get to the bottom of reality motifs. . .) (53).

It is also since 1982 ¹ (*), it would seem that the fashion wind begins to turn more or less overlooked Derived classes; Zoghman Mebkhout (in a flight can be a bit euphoric) already seen in point to "invade all areas of mathematics." If useful, the simple mathematical instinct (For someone knowledgeable) was well evident from the beginning of the sixties, everything begins just to be admitted now is (to me it seems) mainly due to solitary efforts Mebkhout that for seven years has hauled the thankless task of teething, with the courage of one who trusts his instinct alone, against a tyrannical fashion. . .

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Remarkably, in reading this first publication devoted (twelve years after my departure from p. 206 mathematical scene) a modest return to the pattern concept in the Areopagus of mathematical concepts admitted nothing could suspect the uninitiated that my modest person was associated reader in anything to the birth of this concept long taboo, and deployment a "yoga" rich and specific, which (in a very fragmentary form) appears there as from nowhere, without referring to any paternity (51 ¹).

When there are only three weeks, I was lying in a page or two about yoga reasons, even one of my "orphan" and that was important to me than any other I had to be right next to the plate! Probably did I dream when I seemed to remember the years of gestation of a vision, tenuous and elusive First, and enriched and specifying in the months and years to a stubborn attempt to try to enter the "pattern" common, common quintessence, whose numerous known cohomology theories then (54) were much different incarnations, speaking to us each in his own language on nature the "pattern" of which she was one of the tangible manifestations directly. No doubt I still dream in me Remembering the strong impression made upon me such an insight Serre, who had been brought to see a group profinite Galois, therefore a subject that seemed essentially discrete nature (or, at least, reducing tautologically to single groups of systems **finished**), as giving rise to a huge system projective groups l-adic **analytical** or groups **algebraic** Q_1 (passing envelopes suitable algebraic), which even had a tendency to be reductive - with the introduction of any stroke arsenal intuitions and methods (the Lie) Analytical and algebraic groups. This construction was meaning for every prime l, and I felt (and I dream that I felt...) that there was a mystery to fathom, the relationship of these algebraic groups of prime numbers different; they all had to come the same projective system of algebraic groups on the only natural common subfield all his body base, namely the Q body, the body "absolute" zero characteristic. And since I like to dream, I keep I remember dreaming that I have entered into this mystery glimpsed, for a job that certainly was a dream since I "démontrais" anything; I have come to understand how the pattern concept provided the key to understanding this mystery - how by the mere presence of a class (here that of "smooth" patterns on a diagram

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given base, such as patterns on a given base body), p. 207

having internal structures similar to those found on the class of linear representations a pro-algebraic group over a field k (the charm of the concept of pro-algebraic group with me was previously revealed by Serre also), we come to replenish indeed such pro-group (as soon as has a "functor fiber" suitable), and interpret the "Abstract" category as the category of its

¹ (*) (25 May) I delayed again, this time of a year - the turning point came in June 1981 with the Symposium Luminy, see note "The Iniquity - or the sense of a return," n ° 75.

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linear representations.

This approach to a "motivic Galois theory" was blown me by the approach that I found, years before, to describe the fundamental group of a topological space or outline (or even of any topos - but now I feel that I will hurt sensitive ears that "topos not fun not (...) in terms of the category of étale covers on" "space" considered, and fiber functors on this one. And the same language of " **Galois groups motivic** " (I could as well call "Basic groups" motivic, the two kind of intuition is for me the same thing, since the end fifties. . .), And that of "functor fibers" (which correspond exactly to the "incarnations obvious "he was mentioned above, namely the various" cohomology theories "that apply

in a given category of reasons) - the language was meant to express the profound nature of these groups, and suggest obviously their immediate connections with Galois groups and fundamental groups ordinary.

I still remember the fun and wonder, in this game with functors fibers, and with the torques in the Galois groups that move from one to another in "twistant", to find a particularly concrete and fascinating situation while the arsenal of concepts cohomology not commutative developed in the book of Giraud, with the sheaf functor-fibers (here above topo spreads, or best of topos fpqc \mathcal{Q} - nontrivial and interesting topos if there ever was), with the "link" (in groups! or pro-algebraic) that binds the sheaf, and avatars of this link, realizing by groups or various pro-algebraic groups, corresponding to different "sections" of the wreath, ie the various cohomological functors. The different complex points (for example) a characteristic chart null gave birth (via the functors corresponding Hodge) to as many sections of the sheaf and passage of torques to one another, these torques and pro-operating on them being provided with struc- Points of algebraic-geometric tures, expressing the specific structures of the cohomology Hodge - but the

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I anticipate another reasons dream door. . . This was the time when those who make today

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fashion had not yet declared that topos, wreaths and similar not amused them and that it was therefore bullshit to talk about it (not that that would have bothered me also to recognize topos and sheaves here where they are ...). And now twelve years yet passed and that the same pretend to discover and to teach that the sheaves (if not yet the topos), it does have something to do with the cohomology algebraic varieties, even with periods of Abelian integrals. . .

I could mention here the dream of another memory (or memories of another dream...) Around the dream of reasons, also born of a "strong impression" (really I@ in subjectivity!) that had made me some reviews of Serre on a certain "philosophy" behind the Weil conjectures. their translation in cohomological terms, for coefficients with l -adic variable, were suspect on coho- corresponding mologies remarkable structures - the structure of "filtration by weight" 2 (*). Surely the "pattern" common to different l -adic cohomologies was to be the ultimate support of this structure essential arithmetic, which suddenly taking a geometric appearance that a remarkable structure the geometry "design". It is still abusing me surely speak of a "work" (as he agis- yet clear course parts guessing neither more nor less) when it came to "guess" (with as only guide that the inner consistency of vision that formed, using known scattered elements or conjectured here and there ...), the specific structure of the different "avatars" cohomological of a pattern, how to reflected filtration weights 3 (**), starting with the avatar Hodge (at a time when the

2 (*) (24 January 1985) for a correction of this distorted memory, see footnote $n^{\circ} 164$ (14), and the sub-grade $n^{\circ} 164$ **1** , giving Details of the affiliation of the "yoga of weight."

3 (**) (28 February 1985) Here there is some confusion in my mind. This is, in fact, filtration closely linked by

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Hodge-Deligne theory had not yet seen the day, and for good reason. . . 4 (***)). This allowed me (in a dream) to see compete in one large table and Tate conjecture on algebraic cycles (here again a third "strong impression" that inspired the dreamer in his dream patterns!) and that Hodge (55), and to identify two or three conjectures of the same water, I talked to some who had to forget them because I do not I never heard any more than

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@andard conjectures ". Anyway, it was only p. 209

conjectures (and again, not published...). One of them did not concern a cohomology theory particulière, but gave a direct interpretation of the filtration weights on cohomology Motivic a nonsingular projective variety on a body, in terms of the geometric filtration of this variety itself by closed subsets of given codimension (the codimension playing the role of "weight") 5 (*).

And there was also the work (although I should put quotes to "work", and can not yet myself resolve!) to "guess" the behavior of the weight by six operations (lost body well since...).

Again, I have never felt invent, but still to discover - or to listen to what things said to me when I gave myself the trouble to listen to the pen in hand. What they said was peremptorily precision, which could not deceive.

Then there was a third "dream-motifs" which was like the marriage of the two previous dreams - when it came to interpret in terms of structures on motivic Galois groups and the torsors under its groups which serve to "bend" a functor fiber to obtain (canonically) any other functor fiber 6 (**), the various additional structures which is provided with the class of patterns, and one of earliest is precisely that of the filtration by weight. I seem to remember that there less than ever

it was matter of guesswork, but math translations properly. They were as unreleased "exercises" on linear representations of algebraic groups, which I did with great pleasure for days and weeks, feeling that I was trying to understand more and more about a mystery that fascinated me for years! The most subtle concept perhaps it took understanding and formulated in terms of performances was that of "polarization" of a pattern, drawing inspiration from the theory of Hodge and trying to settle in a guarded sense in the motivic context. This was a reflection which had to be around the time of my thinking about formulating a "standard conjectures", inspired one

0 and the other by the idea of Serre (always him!) a similar "Kähler" Weil conjectures. In such p. 210 situation when things themselves we blow what their hidden nature and by what means we can most gently and faithfully express it, while yet many essential facts seem out of the immediate reach of a demonstration, the simple instinct tells us to simply write black and white what things are blowing us insistently, and the more clearly we take the trouble to write under their dictation! There is no need to worry that demonstrations or structures Complete - bother with such requirements at that stage of work would be to refrain step access the most delicate, the most essential of a large-scale discovery of work - that of the birth of a vision taking shape and substance out of apparent nothingness. The simple act **of writing**, to **appoint**, to **describe** - not least of all that describe elusive or simple intuition "suspicions" reluctant to take shape - a **creative power**. This is the instrument between all of the passion to know, when it invests in things that the intellect can grasp. In the process of discovery in these things, this work is the creative stage of all, which always precedes the demonstration and gives us the means - or "Levels".

4 (***) This was at a time when the young Deligne probably had not heard even pronounce the word "scheme" in a context mathematics and the word "cohomology". (He has knowledge of these concepts to my contact, from 1965.)

5 (*) (28 February 1985) This is actually the filtration "levels" that this (see footnote on previous page).

6 (**) Just as fundamental groups $\pi_1(s)$, $\pi_1(y)$ of some "space" in two X "points" x and y are reduced to one the other "twisting" by the torsor $\pi_1(x, y)$ of x to y paths classes ...

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14. B) STONE AND GROUNDS

rather, without which the question of "demonstrate" something does not even arise, before anything yet that touches most would have been made and seen. Solely by virtue of a formulation effort This was without taking shape lends itself to examination, making settle what is obviously false that possible, and this especially that fits so perfectly with all things known or guessed, he in turn becomes a tangible and reliable element of the vision into being. It is enriched and is accurate over formulation work. Ten Things only suspected, none (conjecture Hodge say) does not result in conviction, but mutually illuminate and complement each other and seem to compete a mysterious harmony even acquire in this vision of harmony strength. Even though All ten would ultimately prove incorrect, the work that has led to this draft vision was not done in vain, and the harmony that made us see and that we allowed to penetrate so little is not an illusion, but a reality, call us to know. For this work, only we could get in intimate contact with this reality, and this hidden harmony. When we know that things have reason for what they are,

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that our vocation is to know, not to dominate, while the day a

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error bursts is day of exultation (56) - as well as the day a demonstration teaches us beyond doubt that such a thing that we imagined was indeed the faithful and true expression of reality herself.

In either case, such a discovery comes as a reward for a job, and could not have taken place without him. But then she would come only after years of effort, or even that we will never learn the end word, reserved for others after us, work is its own reward, rich in every moment of that we reveal this very moment.

Score 51

(June 5) Zoghman Mebkhout yet just draw my attention to a reference to "reasons Grothendieck "made on page 261 of volume quoted in an article Deligne which" takes over and completes a Langlands letter. "It reads:" he did not act for reasons Grothendieck, as he defined them in terms algebraic cycles, but the **units of absolute Hodge**, defined even in terms of Hodges cycles absolute. "The" grounds Grothendieck "(not underlined) are named here, not as a source of inspiration, but to stand with them and insist that it is **something else** (which is careful to emphasize). This distancing is all the more remarkable that the validity of the Hodge conjecture (known conjecture Deligne to, I suppose, as any reader of his article, letter, starting with its original addressee

Langlands) imply that the two are **identical** !!

Of course, in 1964 when I developed the concept of motivic Galois group, I was well known that a notion of "pattern Hodge" could be developed on the same model with a concept corresponding to "Galois group-Hodge Motivic" which was introduced independently by Tate (I can not say whether it was before or after) and then received the group name Hodge-Tate (associated with a structure Hodge). The coarse scam (but that seems to bother anyone, coming from such a prestigious character) is to simply retract authorship of a new and profound concept, that pattern, and a whole rich tapestry of insights that I had developed around this concept, under the risible pretext that technical approach taken to this concept (via absolute Hodge cycles, instead algebraic cycles) is (maybe, if the Hodge conjecture is false) different from the one I had (Very temporarily) adopted. This yoga, I had developed

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for a period of nearly ten years, was

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the main source of inspiration in the work of Deligne since its inception in 1968. Its fertility and power as discovery tool were very clear right from before my departure in 1970, and his identity is independent of any technical approach to establish the validity of this or that limited part of

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this yoga. Deligne had the merit to identify two such approaches, irrespective of conjecture. He has not by no against honesty to name her source of inspiration, striving since 1968 to hide the eyes all for the exclusive benefit in reserve, waiting to claim (tacitly) the credit in 1982.

14.1.2. The funeral - or New Father

Note 52 To return to the dream of the reasons I think I remember also that I had dreamed aloud.

Certainly the dream work is by nature solitary work - but the events of this tenacious work that has continued for years, alongside a large work of drafting foundations which absorbed most of my time - these adventures had a witness from day to day, much closer than Serre, who was confined to take things further. . . 7 (*). About this confident from day to day, I wrote it in my retrospective had "made a little figure rises" in the mid-sixties, and I had him "told the little I knew in algebraic geometry "I might add that I told him even that I" knew "not to common sense - these "dreams" mathematics (themed designs like others) that still found in him an attentive ear and an alert mind, greedy like me to understand.

It is true that when I wrote that Pierre Deligne could do "a little figure of pupil", this is an im-
pressure still entirely subjective (57), that corroborates (to my knowledge) no records or at least
printed, which could make anyone suspect that Deligne could learn something by my
mouth - so it is my pleasure to recall that I have never spoken with him without mathematics
will learn something. (And even when I stopped talking mathematics with him, I continued to ap-
taken by him things more difficult and perhaps more important, including this day of writing
these lines. . .).

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Having recently been informed by a third person, who had guessed (one wonders how!) p. 213
the thing that could possibly interest me, the existence of a Deligne text and others where it would issue
patterns or at least to "tanakiennes categories", and having had a word with Deligne, it has
sincerely expressed surprise that I might be interested in this stuff. Browsing copy it
kindly send me yet, I can see in fact that his surprise was well founded.

Obviously, my person is entirely alien about which it speaks. At most he done
referring to a phrase in passing, in the introduction, some "standard conjectures" (I made
in time, one wonders why) would have a consequence for the structure of the class
patterns on a body. . . The curious reader to know more would be hard because it found in everything
Book any details or reference to these conjectures, which it is no longer a question; no mention of the one and only
published text that explains the construction of a class of patterns on a body in terms of conjectures
standard; or the only other text published before 1970 where there is question of motives, due to Demazure (in a
Bourbaki seminar, if I remember correctly), who followed my principle of ad hoc construction, with a view
a little different. . . 8 (*).

7 (*) (May 25) The beginning of my reflection on the reasons, however place even before the appearance of Deligne. My Notes in
manuscript

cripted on motivic Galois theory are dated 1964.

8 (*) After verification, I note that apart from a few pages on standard conjectures (Algebraic Geometry, Bombay, 1968
Oxford Univ. Press (1969) pp. 193-199), there is no mathematical text released me where it is question of motives. In
Demazure presentation (Seminar Bourbaki n ° 365, 1969-1970), following the presentation of Manin in Russian, there is
mention of presentations

I had made IHES in 1967, and which were (presumably) be a first overall outline of a vision reasons. A presentation on the standard conjectures and their relationship to the Weil conjectures, more detailed than the announcement to Congress
Bombay is done by Kleiman (Algebraic Cycles and the Weil conjectures, in ten papers on the cohomology of schemes Masson North-Holland, 1968, p. 359-386). I have no knowledge of a reflection on the standard conjectures, including to the evidence of this, outside the mine before 1970. deliberately ignore these key-conjecture (which I
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Even Neantro Saavedra, who was lucky to be part of my "students before 1970", was
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duly summoned. He had done a thesis with me on what I called I believe "rigid tensor categories" and which he called "tannakiennes categories." yet one wonders what chance had miraculous Saavedra to foresee battery needs theory grounds Deligne, who was hatched ten years later! In fact, in his thesis did exactly **the** job that technically is the key to a motivic Galois theory, as the thesis of JL Verdier was in principle **the** work which technically is the key to a formalism of the six operations in cohomology. A difference (among others) in honor of Saavedra is he bothered to publish his work; he had not had, indeed, written by Hartshorne, Deligne and Illusie gathered to dispense with such formalities. Yet ten years later, the thesis Saavedra ab ovo and reproduced almost in toto in the remarkable collection, this time from the pen of Deligne and Milne. The thing was perhaps not essential, it was only to correct two specific points Working Saavedra (58). But everything has its reason for being, and I think I see why Deligne personally took this barely there ⁹ (*), yet well contrary to its own thrust requirement criteria to its extreme degree in publishing, and it is known to apply with exemplary rigor when it comes to others. . . ¹⁰ (**).

In terms of authorship notions and motivic yoga themselves, to an uninformed reader (and informed readers are beginning to be rare and will eventually die a natural death. . .) That paternity may be the least doubt - without any need here to go disturb distant Hilbert and Riemann let alone God. If the famous author, whose best result on absolute Hodge cycles on Abelian varieties appears as the starting point, and the birth in short, the theory patterns, breath word of paternity, that is a modesty

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that honors and in perfect agreement with the uses

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and ethics of the profession, who want to be left to others to (if necessary) to honor where visibly honor is due: to the legitimate father. . .

Note 53 Touched by the vicissitudes of this orphan there, and suspecting that another will do the job for which I am apparently the only today still feel the need and extent, I presume that the "mathematician bold "in question is other than myself, once I have been down the Champs Continued (Which I expect it will occupy me for another year approximately).

Note 54 Since then appeared two new cohomology theory for algebraic varieties (to share the Hodge-Deligne natural extension in the spirit "motivic" cohomology of Hodge) namely the theory of "stratified promodules" Deligne, and especially crystals, Version "3-Modules" the Sato-Mebkhout with new lighting that provides the theorem of God (aka Mebkhout) which discussed above. This approach to buildable discrete coefficients is likely will replace the earlier version of Deligne, because it is probably better suited to the expression sion relations with De Rham cohomology. These new theories also not provide New-fiber functors on the category of smooth patterns on a given scheme, but (modulo a La-vail deeper foundations than has been done until now) a way of looking so accurate incarnation "Hodge" a pattern (not necessarily smooth) on a scheme of finite type on the body said, in my sketch of Bombay, I considered them, with the resolution of singularities excellent circuit, as the largest open problem in algebraic geometry), seems to many in the printing of stagnation gives me the cohomology theory of algebraic varieties, by the echoes that came back to me.

⁹ (*) See about it the reflections in the note "The clean slate", n ° 67.

¹⁰ (**) (June 8) And even when it comes to works that bear the mark of my influence - see about the episode "The note - or the new ethic. "Section 33.

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complex, or the incarnation "Rham" on a scheme of finite type over a field of characteristic zero. It is likely, moreover, that the theory (apparently still unwritten) coefficients Hodge-Deligne a scheme of finite type C , eventually appear as contained in the theory (as well unwritten) crystalline coefficients to Sato-Mebkhout (with additional filtering given to the key), or more precisely as a kind of intersection of the latter with constructible coefficients discrete theory Q -vector. . . As for the elucidation of the relationship between the crystal theory to Mebkhout with the developed in positive characteristic by Berthelot and others, it is a task even before felt by Mebkhout 1978, in a climate of general indifference, and that seems to me one of the most fascinating that arises in the immediate our understanding of "the" cohomology (single, indivisible, motivic know!) varieties Algebraic.

Note 55

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Though I dream, but my dream on the relationship between patterns and structures Hodge made me p. 216 put the finger, without even meaning to, on an inconsistency in the Hodge conjecture "widespread" as it was originally formulated by Hodge, and replace it with a corrected version for blow (I bet) should be neither more nor less false than the Hodge conjecture "usual" on cycles Algebraic.

14.1.3. Prelude to a massacre

Note 56 I think especially in the context precisely to the cohomology of algebraic varieties, the Griffiths discovery of the falsity of a seductive idea that had long been on cycles algébricks, that a homologically equivalent cycle to zero had a multiple which was algebraically equivalent to zero. This discovery of a new phenomenon had struck me then enough for me to pass although a work week to try to understand the example of Griffiths, transposing its construction (Which was transcendent over the field C) in a building "as general as possible", and in particular valid lies on one of characteristic. The extension was not quite obvious, with blows (if I remember well) of spectral sequences of Leray and Lefschetz theorem.

(June 16) This thought was an opportunity for me to develop in the context spreads, theory cohomological the "Lefschetz pencils." My notes on this are developed in the SGA 7 seminar II (P. Deligne and N. Katz) in exposed XVII, XVIII, XX N. Katz (who cares to refer to these notes, he has closely followed). In the introduction to the volume by P. Deligne, by cons, which states that Key results of the volume are exposed XV (Picard-Lefschetz formulas cohomology spreads) and XVIII (Brushes theory Lefschetz), the author is careful to point out that I am for something in this "Key Theory" of Lefschetz pencils. Reading the introduction gives the impression that I am not for nothing in the themes developed in the volume.

Along seminar SGA 7, which took over in 1967-69, SGA SGA seminars of 1 to 6 developed under my pulse between 1960 and 1967, was conducted jointly by Deligne and I, who had given the kick-off with a systematic theory of vanishing cycles groups. Writing presentations by various volunteers who dragged, the two volumes of the seminar (SGA7 I and II SGA 7) have published in 1973, through the

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Deligne. While it was understood at the time that the seminar p. 217 it would be presented as a joint seminar, after I left Deligne told me of his desire (which seemed strange to me) that the seminar is **divided in two**, one part I made as directed by me, the other by him and Katz. I now perceive an "operation" that foreshadows "the SGA operation 4 1 2

"aiming

(Among others) to bring up the whole series of foundations SGA SGA 1 to 7, which in his mind 289

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and its design was inseparable from my person, as well as the EGA series of Geometry Elements Algebraic as a collection of texts to all comers, where my person would play a role episodic or superfluous. This trend is very clear, even brutal in the SGA Volume 4 1

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and especially in

killing the seminar SGA 5, in which this volume is inextricably linked. On this subject, among others, notes "The clean slate" and "massacre", n ° s 67 and 87, and especially "The body..." (n ° 88).

(June 17) The overall design of the seminar SGA 7 (where I do not make out parts of "I" and "II" and still can not stand) was due to me the other Deligne had made contributions

Important (indicated in my report on the work of Deligne, written in 1969, see n ° s 13, 14 of this Report), the most crucial for the purposes of the seminar is the Picard-Lefschetz formula, proven by argument of specialization from the already known transcendent event. Cleavage of the seminar in two parts

was unjustified both mathematically that for the contributions - there are substantial contributions as Deligne than me in the two "pieces" SGA 7. Of course, I would have been delighted if Deligne had continued the series of foundations SGA I had inaugurated - which was very far from reaching the end of the race! This "operation SGA 7" is not a continuation, but I feel it as a kind of "saw-shot" (or chain saw...) brutal **ending** to the series of SGA by a volume that stands out ostentativeness my person, so it is related to my work and is marked as much as others. While my person there is retracted as far as possible, the tone vis-a-vis my work is not yet that of the barely disguised contempt for the "operation SGA 4 1 2

", who represents a saw otherwise fail even more abrupt in the unit of the seminar SGA 4 and 5, and the mean and pretext to rampage in good standing of the unpublished SGA 5 thereof, the separated pieces shared equally Deligne and Verdier. . .

Note 57

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I hasten to add that the same applies to the other great ways mathematician p. 218

which I had ventured to say (in note ◦ 19) that he had "made a little figure of pupil", ten years after Deligne.

Note 58 This reminds me that the readings Notes (which published six or seven doctoral theses torate "pre-1970" made me) never wanted to publish that of Yves Ladegaillerie, "post-1970" (Reason: they do not publish theses!). One can say that they have by cons published a second thesis Saavedra. . . I also talked to the Deligne good result isotopy of Ladegaillerie was refused everywhere (with the secret hope he would grant more assistance to publish) - but have not had the good fortune to the interest (reason: his incompetence in surface topology...).

Curtain. . .

14.1.4. The new ethics (2) - or the rat race

Note 59 (April 20) the past few weeks that these lines were written, who see a contradiction and price, I was surprised that he had for the past two years found a way more Simple to "solve" said contradiction - all were thinking about it! It could be called "the method of withholding burial" (which the reader may consult in double notes (50) (51), written yesterday, in the fresh thrill of discovery). I am sorry that the sudden reappearance of the early deceased on the famous "mathematical scene" (sometimes decidedly more like a rat race ...) risk of introducing technical complications for implementation burr of this brilliant method! In a previous note ("ethical consensus - and control of information", n ◦ 6) I felt (slightly 290

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confused again) that the most universally accepted rule of professional conduct in the profession sci- fic "remained a dead letter" in the absence of compliance by the people who control information science, law for any scientist to be able to share ideas and results. Around that time reflection I also took the trouble to describe at some length a case where the contempt this right was for me obvious, and where I felt, moreover, that this contempt was borderline contempt also the first rule, which is the subject of a general consensus. (See "Note - or the new ethics", section 30). 0

This is not the only time I have felt this very special discomfort, when I saw **the spirit** of this p. 219 despised first rule, as one who did was "thumb" both by its position (above all hint!) and by its means, that by the casualness of form. I try to identify the malaise in Note ("snobbery of youth - or the defenders of the purity") which relates to the cited section. When we allows himself to despise things "obvious" I am talking about here, and in the same spirit as (I might add Now) things (perhaps deep) that are neither proven nor patented as "conjecture" published and known to all, we might as well (given the limited I) consider them as common property (trivial, of course) 11 (*), so too, when needed, such as "hers" with the utmost casualness and better awareness of the world - it being understood that one would not think of appropriating a demonstration muscled ten pages or a hundred (or only ten lines) which establishes a result "we would not have known show "(59). I did not think so either feel so right (about" dead letter "), since I been given cheerfully see crossed the "limit" of undecided cases cited above - and surely crossed with better awareness of the world again, **given the short: a dream** , and moreover is not even shown (or especially, **published** ...). 12 (**)

Fortunately I have the defense - I can when necessary to somehow express what I feel and I want to say, I acquired (rightly or wrongly) credibility, and thus a chance to be listened to when I have something to say or publish it if I feel the need. For cons, I realize more deeply that "Feeling of injustice and helplessness" of the one who

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is injured without recourse, when he feels bound hand and foot p. 220
before the arbitrariness of "those who have everything in hand" - and wear their pleasure.
It is true that happened to me in my life mathematician to have Filthy behavior with
equally good conscience, and I had the opportunity in my thinking to talk about the case that it has
re-emerge from the mists of oblivion and ambiguity ever examined. By surveying I finally understood that I
did not astonish me if today (and for a long time) the student easily passes the master nor
disavow anyone that binds me sympathy or affection. But it's healthy for me and for
all, to call a cat a cat, this cat is my home or that of others.

14.1.5. Ownership and contempt

Score ! 59

(8 June) I'm not at all convinced, regarding my friend Pierre Deligne, who had
the opportunity to see it ended up sliding into the game of "tacit paternity" with respect to the tool cohomolo-
cal l-adic ie what I call "mastery" of the étale. There has been a remarkable evolution
between the "SGA 4 operation 1

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"(Where my name is still pronounced, but with contempt assignment disin-

11 (*) This has been the fate of such "theorem of God" (aka Mebkhout).

(June 8) Taking care of more, like the yoga patterns, skillfully create the appearance of having paternity without
never say in clear! On this subject (in this case) the note "The Magician" n ° 75 ", and for the brilliant method
general or style, the note "Go!" n ° 77 and the Note following "Ownership and defiance," n ° 59 ©

12 (**) It would be wrong to interfere, so that the event seems to show that the general consensus nowadays considers
something quite normal - at least from someone so fly high! So-called "good conscience" is

no more, no less, that the feeling of an agreement with the consensus prevailing in the environment to which one belongs.

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volte respect to this central part of my work, which is his end) and "The Praise of Death" where all
reference to the very word "cohomology" is banned in relation to my name. (See notes "The clean slate" and
"Being apart" for the initial phase, and notes "praise Funèbre (1), (2)" to the final stage.)

As intermediate steps in the escalation, there in 1981 "memorable article" on the beams
called "perverse" (see notes about "The Iniquity - or meaning of a return"! "Thumb" and n ° 75 and 77), and
exhumation patterns LN 900 in the following year (the Eulogy Funeral placing the following year,
in 1983). In all these cases and other smaller, I could observe the inner attitude and

"Method" that allows Deligne take credit for others' ideas with a good conscience par-
made is that of **disregard** (which remains partially implied, while skillfully suggested) vis-à-vis the "bit"
we are preparing to take ownership - so "little" in fact it is not even worth talking about, then we will
use dry as to make really strong things - Weil conjecture, theory of so-called bundles "per-
to"... After completing the operation, ownership being done and accepted by all, it is always
time to change course and to strut modestly with what was appropriate. The same contribution is
casual object of scorn, as it still seems tainted the name of one of those

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it is buried, and

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is blown up when it was appropriate for himself (l-adic cohomology, patterns, waiting
Yoga Mebkhout) or such a good friend (derived yoga classes, yoga duality, by appropriate
Verdier with active encouragement Deligne).

14.2. My friend Pierre V

14.2.1. The child

Note 60

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(April 21) To continue the dream of a memory, which is not only the memory of the birth

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a vision ... I remember well (although I forgot so many things!) the renewed pleasure every time
I had to talk to one who had quickly become more confident of all that intrigued me, or
which was lighted and enchanted me daily in my love affair with mathematics, he had
never been a "student." His interest always awake, the ease with which it becomes aware of any
("As if he had always known...") Were for me a constant source of delight. Was listening
perfect, driven by the thirst for understanding that animated like me - a highly awake listening sign
a communion. His comments were always in front of my own intuitions or reserves when
they cast some unexpected light on the reality that I was trying to identify through the mists
still around. As I said elsewhere, often he answers to the questions I raised,

often on the field, and he was developing in the days and weeks that followed. This means that listening was shared, when he told me to turn the answers he found, that is simply the reason of things, which always appeared with the perfect natural, with the same ease that had me often delighted at some of my elders as Schwartz and Serre (and also, at Cartier). It is this simplicity, the same "evidence" I had always continued in the understanding of things mathematics. Without having to say it, it was clear that this approach and this requirement, we him and I "of one family."

I felt good from our meeting that his "average", as they say, was a very rare quality, far beyond the modest means at my disposal, while the passion to understand and the requirement overlooked understanding of mathematical things, we were on the same wavelength. I was also confused, without that I would have known then me formulate this "strength" that I noticed in him (and I was also

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me, but this to a lesser extent), that "see" the obvious things that nobody saw, was Child strength, the innocence of children's eyes. There was in him something of the child, more apparent than in other mathematicians I have known, and it is surely no coincidence. He told me one day, while he was still in high school I think it was fun to check the multiplication table (and along the way and by force of circumstance, the addition table too)

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for the numbers from 1 to 9, in terms p. 224

definitions. He did not expect any surprises certainly - if surprise (pleasant, as always ...) ago had was that the demonstration could be done beautifully and completely in just a few pages, history half an hour maybe. I felt good when he told me the thing, laughing, that it had been there a half hour well spent - and this is something that I understand even better than today. This story struck me, impressed even (though I let it show I think) - I felt the sign of **internal autonomy**, a vis-à-vis freedom of received knowledge, which was also present in my relationship to mathematics in my childhood, from the first contacts (69) 13 (*).

This point of contact relationship to one another, as we saw virtually all days I think 14 (**), continued over a period of five years, from 1965 (if my memory is correct) to 1969 included. I still remember the pleasure I had in that year to write a detailed report on its work, so I offered to co-opt as a professor in the institution where I had worked since its foundation (in 1958), where most of my mathematical work is accomplished is. I have no more a copy of that report (64), where I was reviewing a dozen I believe work of my friend, almost all unpublished so (many are also stayed), which most if not all of them on weight, in my opinion, the main substance of a good state doctoral thesis. I was more proud and happy present this eloquent report if it were to report on my own work (something I've done that twice in my life, each time forcing myself. . .). Many of these works were answers to questions I had raised (the only published among these being the previously mentioned work on the degeneration of the Leray spectral sequence for a clean and smooth morphism of schemes (63)). The two most important by

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against were the answer to questions Deligne himself had landed, and was p. 225

Clearly, their reach was another order that a "good status doctoral thesis". It was his job on the conjecture Ramanuyam (published in seminar Bourbaki), and work on the structures of Hodge mixed, also called "theory of Hodge-Deligne".

It is a strange thing and that I was far from suspecting when I wrote this sparkling report, I would quit less than a year before this institution as I was about to co-opt my young and impressive Friend, where I intended to end my days. And (now that I am bringing these two double-episodes) is another strange thing, not more surely the effect of a mere "coincidence" that this same (Now not so young!) Friend has told me there is a month or two his own departure from the same institution, when it was just a year as I resumed regular mathematical activity, in the sense of a kind of "return" unexpected on the mathematical scene (if not in the "big world"...) More than once I have had occasion in sowing crops and talk about my departure - this "tear healthy" - and more of the "awakening" that followed it closely, and that made this episode a crucial turning point in 13 (*) It seems to me also that this freedom has never completely eclipsed during my mathematician's life and is again present as it was in my childhood. There are two or three years I révoqué for my friend the little episode the multiplication table. I felt embarrassed by this evocation of a childhood memory that corresponded more visibly the image he has of himself. I was not really surprised by this discomfort, but struggled to see yet again confirmed something I knew and yet I still had difficulty accepting. . .

14 (**) It was so at least while I was living in Bures, where he was lodged in a studio at IHES. From 1967 (when I moved in Massy), I think we would still be well once or twice a week, at least as long as I

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my life. In intense years that followed, the world of mathematicians, with whom I had loved, and the very thing that had fascinated me most in mathematics itself, have become very distant - as lost in the mists of memory of another "myself" that would be dead for ages. . .
But both before this episode, that in the years that followed the first major turning point, I knew as that was (just 15 (*)) my student and (many) a confidant and friend, had only to follow the momentum spontaneous in him a child playing and wants to know, to discover and bring out new worlds and unexpected, and to probe and know the inner nature - and thus also reveal its congeners as to himself. Also, if after my departure (without spirit back!) I saw "a mathematician bold "and inspired paint in broad strokes (for starters ...) this broad picture I had glimpsed and whose I had even drawn a series of partial and provisional drafts, it was him - who while hands to do it! Brush this first picture of vast scale, a "project manager" meeting in a most common vision of what was known and what was guessed on

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cohomology of varieties

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algebraic, for the one in whom such an overall vision was already ready to come out of the mists of non-yet-written, was the work of a few months, even years, (Left to resume and deepen the Over the years, or generations if needed for generations - until the last word of reality reasons fully understood and established.) And I do not doubt that this work there, who once "burned myself in their hands, "was going to be done from one moment to another, and at least in the past two or three years followed and then it was all still hot. After I left, there was still one person who was certainly known by its momentum even knowledge to make this hot and fascinating work. Exits, once the "master masterpiece "written and tested, and the building of the few advanced outwork or less, to let others care to continue this work then, so fascinating as it is, to embark on other adventures in this world mathematical things where every turn of the road reveals the promise of a new world without limits, as long as we have open and new eyes to see. . .

By the time my life is still taking place in the hot oven scientist who isolated the noise world, and when developing its Deligne extension Hodge theory (it was to be in 1968 or 69) it was a thing between self-evident that this work was a first step to realize, to test and to specify a certain **part** of the "painting of reasons", which had never been black and white in his set 16 (*). In the years that followed my departure from the oven, at a time when mathematics was for me though distant, it is certainly no surprise that I learned that the Weil conjectures were finally demonstrated. (If there was a surprise was that the "standard conjectures" were not demonstrated in the same vein, while they had been cleared just for an approach to the conjectures Weil, together as a way to establish at least a theory of semi-simple patterns on a body 17 (**).) I knew that neither

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the first jet to a general theory of the coefficients

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Hodge, nor by this demonstration of some key conjectures (among a number of other more or less well known) he still gave his full measure - he was far along. And I waited without impatience, while most of my attention was absorbed elsewhere. (-> 61)

15 (*) For the purposes of this scruple in me to consider (too!) Brilliant Deligne as one of my students, see note "Being in hand "(n ° 67).

16 (*) What later this theory Hodge-Deligne has never (to my knowledge) passed the stage of the draft, it will ever expanded into a theory of "coefficients Hodge-Deligne" (and "six operations" on them) above finite type patterns on the body complex, is inseparable from this other strange fact: that this vast "array of reasons" was never brushed, and that its very existence has been thoroughly kills up to today. . .

17 (**) It is only in recent years that I became vaguely aware (but specifically these days!) that "standard conjectures", as well as the very notion of reason that they provided a first approach "constructive tive ", had been **buried** , for reasons that now seem to me particularly clear. (Compare also with the previous footnote page).

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14.2.2. The burial

Note 61

I had the privilege of seeing a first flowering of a child's momentum, bringing the promise of of large scale deployment. In the fifteen years that followed, I came to realize this promise remained without constantly deferred. There was this tricky thing in him that I knew and felt recognize (at a time though when I was insensitive to so many things!), something that is otherwise Nature that brain power (which both crushes it enters...) - an essential thing between all for any truly creative work. This thing I had felt in other times, but in no mathematician I had known, she had appeared with comparable strength. And I expected (As a matter of course) that this thing would continue to flourish in him and transform, and express themselves effortlessly by a single work, which I would have been a modest precursor. But strange thing again (and surely there is a profound and simple link between so many "strange things") - I saw this "delicate thing" this "strength" which is that of muscle or brain gradually clear over the years, such as **buried** under successive layers, and increasingly thick - has the layers **no other thing** I know only too well - the most common thing in the world! This does not necessarily done with ill household power brain or with consummate experience or flair exercised in a particular discipline, which may force the admiration of some and the fear of the other, or both at once, by the accumulation of works, brilliant perhaps and certainly with their strength and beauty. But that's not it yet that I thought when I was talking about "deployment" or "fulfillment". The development which I thought was fruit of innocence, eager to learn and always ready to enjoy the beauty of the small and big things this inexhaustible world, or that part of the world (like the vast world of mathematical things...). It was he who alone has power to profound renewal, whether self-renewal, or that the knowledge of the things of this world. The one who found himself fully realized, I think, in modest person a Riemann 18 (*). This is real development abroad

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contempt in violation of p. 228
others (those we feel far below itself...), or that of things too "small" or too obvious to we deign interested, or from those estimated below its legitimate expectations; or the Such contempt **dream** perhaps, telling us insistently things we profess to love. . . He is stranger contempt, as it is foreign to the conceit that feeds it.

Certainly its "means" impressive, but even more by this sensitive thing that impresses person who **creates**, "the student" was called to exceed by far "the master". I had no doubt that from the years following my departure from this place where I witnessed a beautiful flight, Deligne give full the extent of a work deployment broad and deep, which I would have been one of the forerunners. The echoes of such a work would not fail to reach me over the years, while I, in pursuit other quests away from mathematics, could imperfectly appreciate the scope and all Beauty new worlds he would discover.

But the student can not exceed the master in the **disavowing** deep inside, trying in secret to oneself as to others, to erase all traces of his contributions (the contribution was for the best, or worse. . .) - nor the son can truly overcome the father disowning him.

This is something I learned mostly through my relationship with my children, but (later) through that with some of my former students; and especially with that, of all others, I still me scruple to call the name of "pupil", who felt good from the moment of the meeting that I had to learn 18 (*) The work of Riemann (1826-1866) held in a modest volume of about ten works (it is true that he died in quarantine), most of which contain simple and basic ideas that have profoundly changed the mathematics his time.

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him, much as he did me 19 (*). But it is almost ten years after this meeting, and after 1975 especially since I sometimes ponder the meaning of what I saw and what I witness, I began to feel that **impedes** on him that continued to be dear to me. And I felt so darkly that this secret disavowal of my person and a role that I had in the crucial years of his life, was also, more profoundly, a repudiation **of himself**, (This is, no doubt, whenever we disavow and want to delete

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something that has actually happened, and that it behooves us to pick the fruit. . .).

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However, if not so little self "connected" to "what was in math," and what he was doing there himself even 20 (*) I never measured before to think about it a few weeks ago, how has this obstacle also weighed on it even in what he had invested his all: his mathematical work. Certainly more than one time in eight or nine years I have seen the good sense or the healthy instinct mathematician as deleted by a deliberate disdain (against me) or contempt (against others that it was in his power

discourage) (66). It has also not been the only one of my former students, with or without quotation marks, in that I have witnessed such attitudes towards people who held my heart (or vis-à-vis other).

But in no other have I been so painfully touched. More than once in my thinking two less passed, I referred to that experience, "the more bitter it was given me to live mathematician in my life" - and I also said that she ended up teaching me, at the end of this reflection Crops and Seeds. This penalty was so great, she taught me something of this scope on a person who was always dear to me (as I continued to elude it also taught me about myself and on my past. . .), The question of the effects of this thing on a more or less "creative" mathematics, at home or even in one who was discouraged or humiliated, became fully accessory if not ridiculous.

The note "Denial of inheritance - or the price of a contradiction" is the first written when I was thinking an assessment of what was returned to me in bits and pieces here and there over the years, both on the "state of art", as the work of the one I had so much and so little known. It is also the first time I saw finally, in a glance, all the " **price** ", or weight, even in its work of mathematician, this refusal since it carries with it over fifteen years probably. In writing this note I "retardais" However, since the past two years (And that "one" sees fit to inform me), the grounds were out of secrecy where they had been kept for twelve years. . . And now as I write this final stage (I think) of my reflection on my past mathematician, two days after learning in large

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lines that memorable volume

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dedicates this "comeback" stealth, perception of this crushing weight became striking. This is the weight that likes to hang out, day after day per hundred turns, one that is made to fly - a flexible and light flight, joyful and fearless to meet the unknown, to his delight and that of the wind that carries it. . . 21 (*)

If it flies, and he is content to be a man admired and feared, accumulating evidence of its superiority on others, I do not have to worry about it, If he drags the weight he likes to hang out, surely he finds 19 (*) (14 June) On this deliberately stubborn home to minimize what I had to give, and to deny the reality of a student-teacher relationship, see note "Being apart", n ° 67 e. Obviously there is no comparison between what my Friend has taught my contact ("as if he had always known," certainly!), and what I learned from him. It was probably otherwise, if I had continued intense mathematical investment to date, and the mathematical Contact Regular is maintained between us.

20 (*) I have received since 1970 four reprints Deligne, I traveled quickly (like most Reprints it still happens that I receive), on the field. It was just to get an idea of mathematical work, even in outline or its main themes.

21 (*) I do not mean to suggest that it is the privilege of a few exceptional individuals to be called to "steal" and discover the world, surely we are all called to birth! This capability yet rarely found the opportunity to flourish so slightly, if only to a very limited direction (such mathematical work). But such a person he was ever seen such a particularly striking ability (in the "mathematical" direction) preserved miraculously, to decline thereafter over the years.

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satisfaction - as I also am delighted me hanging weights, and today continues to drag those I did not know yet separate myself along the way. From what I had to give him the best and the worst, he took what he liked. I do not have to worry about his choices, which belong only to him; nor to decree here they are the best or the worst (62). What is "best" for one is "worse" for the other, or sometimes for the same (provided he changes, something unusual it is true...).

But the choices we make and the actions that express (even though our words often the deny), we do at our peril. If they often bring us the expected rewards (that we receive as "the best"), these same rewards sometimes end up having setbacks (we take exception as "worse," and often as contempt). When we finally understood that setbacks are not an insult, often while they are considered as a price to pay, we pay reluctantly. But it happens we also understand that such setbacks are anything but ruthless cashiers, which willingly hurt will have to pay for a good time we took. These are patients and obstinate messengers, who without weary return we always bring the same message; Message certainly an unwelcome and constantly refused - because even more than the setback itself is always challenged his humble message appears as "The worst": Worse than a thousand setbacks, often worse than a thousand deaths and the destruction of the entire universe, including

we have nothing to f. . .

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The day finally where it pleases us to welcome the message, eyes suddenly open and see: what was p. 231 feared as "the worst" is a **release** , a huge issue - and the overwhelming weight of which we here

is suddenly relieved of that which we clung yesterday, as "the best".

14.2.3. The event

Note 62 (April 21) Some will say that if I do not have to worry about, why I lay on the pages and pages about a personal relationship that concerns only me and the person!

If I felt the need of this retrospective reflection on some important aspects of a relationship, it is under the impact of a specific event and that touches me closely (even though I learn two years delay). This second event is in the public domain, so that more evident behavior and routine acts of mathematicians view (such Deligne, or myself) against other less reputable or beginners (although their effect on the lives of others is often of a different scope in this case). The event in question (ie the publication of the "memorable volume" of reading Notes LN 900, aka "Volume Funeral") as his surroundings seemed **unhealthy**, rightly or wrongly. he seemed healthy for everyone, starting to "the person" himself, to give a detailed testimony some ins and outs, which go to the bottom of things as I see them today.

By this testimony and this reflection, I am not trying to convince anyone of anything (else too tiring, and more hopeless!) 22 (*), but simply to understand events and situations in which I found myself involved. If they incite others to a true reflection, beyond use of clichés, this testimony will not be published in vain.

22 (*) (25 May) so I felt the need to repeat here that he was "too tiring" and "hopeless" to try to convince, it is probably somewhere in me, the intention was to convince yet indeed present, and also levied. all reflection between April 19 (when I take cognizance of the "memorable volume" LN 900) and 30 April, is marked by a state of inner tension, division, too, before the impact of an "event" totally unexpected I try somehow to assimilate the message. This tension finally solved with the note "Return of things" (n ° 73) April 30, when at last reflection came back to my own person to provide me immediately obvious key to this message.

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14.2.4. eviction

Note 63

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(April 22) This Article 23 (*) appeared in publications Mathematics in 1968, so two years p. 232

before I left the world of mathematicians. His starting point was a conjecture which I spoke to Deligne, a spectral sequences degenerate property at that time might seem quite incredible, and which became nevertheless plausible through "arithmetic" as a result of conjectures Weil. This was motivation in itself of great interest because it showed all the advantage to be take a "Yoga weight" implicit in the Weil conjectures (yoga first glimpsed by Serre in some important aspects). From that time I was applying fluent in all kinds of situations like, to draw conclusions nature of "geometric" (for the cohomology of algebraic varieties) from "arithmetic" arguments. These heuristics remain as long as conjectures Weil was not established, but still had a great probative value, and represented a **means of discovery** of the first order. The "geometric" proof of Deligne for the particular conjecture in question, using the Lefschetz theorem (established since then. Only zero) had an interest in a direction quite different, in addition to the first merit not depend on any conjecture. The link qu'on distinguait both approaches between two things that could appear without mutual respect, namely a Besides the Weil conjectures (yoga and weights that in time represented for me the most fascinating aspect) and also the theorem of Lefschetz - this link was itself very informative.

The interesting thing here to present my own, and who appeared to me in all its meaning qu'aujourd'hui, is that the reader of this article will be very little chance of realizing that I was for some thing in the original motivation of the primary outcome, and no chance at all to learn in this article What was the motivation. (See also the beginning of the note (49).) The approach **spontaneous** (including, I am persuaded by the author himself), for the exhibition of a result like that, would have been from Guess (admittedly striking), to indicate the primary reason found, equally striking, which was a good opportunity to "sell" finally this famous yoga weights, a more far-reaching itself

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that the main result of the work 24 (*); then continue with the view "theorem Lefschetz" 25 (**)
p. 233

that allowed to demonstrate the initial guess in somewhat more general conditions (basic scheme one, not necessarily clean and smooth on a body), but only characteristic zero. The ex-followed position against begins with generalities of homological algebra (all pretty as it is in doubt, and presented with customary elegance with the author), general he had forgotten since as everyone axiomatisation style Lefschetz theorem. The main result (the only course of which all the world remembers) appears as horn. X the middle section, while in "remark 2.9" some

23 (*) This section Deligne on the degeneration of spectral sequences and Lefschetz theorem (mathematical Publications Ticks 35, 1968) cited in note "Weight canned and twelve years of secrecy", n ° 49).

24 (*) This is yoga precisely which remained secret (to me it seems) for the next six years!

(June 7) And (as it appeared from) which was then presented by Deligne "behalf" without referring either to Greenhouse, nor me. (See notes n ° 78₁, 78₂).

25 (**) (June 17) The idea of using the theorem of Lefschetz ("Cow") to demonstrate a degeneration of spectral sequences is due to Blanchard, who does get the degeneration theorem only with the drastic assumption (rarely verified) that the local system formed by rational cohomology fiber is trivial. I knew the work of Blanchard, and have not failed to tell Deligne, which is inspired by the idea of Blanchard for his demonstration, even if he had not read the article. Greenhouse, reminding himself of the demonstration Blanchard better than me, pointed to his Deligne demonstration was actually an easy adaptation of the Blanchard. This is what Deligne noted in his remarks 2.10. This remark, which he cites Serre is yet written in such a way to give the impression that he was not aware of the idea Blanchard after the fact, which is not the case. So there was retraction of the two main **sources** for its Article: first the **motivation** arithmetic, which could predict a considerable strengthening of the result of Blanchard, and secondly **the idea demonstration** Blanchard, happens to adapt gracefully to get a result Blanchard probably had not dared hope for, and why not even try "to have" his method.

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hand towards the end (the player does not clear why) the word "weight" and my name are pronounced. . .

I no longer remember the feeling that made me the article when it was published - as I was in the

So, I had to content myself to throw a little quick glance. I certainly have felt an intention

"Distancing", but also feel that it was very natural thing my friend has heart not

risk appearing as a disciple (or "colt") of a "master" ^{26 (***)} It is true that if there had been in him

the quiet assurance

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in his own strength, he would have had no hesitation to write a work of a scope more ^{p. 234}

great and useful for all (including probably to itself) without fear of not being seen for what it

East. . . (65).

The situation was somewhat similar with the publication of his first major work year

Next, the mixed Hodge theory. (So I considered this work as a comparable scope to

Hodge theory itself, seeing it as a starting point for a theory of "coefficients Hodge-

Deligne "which unfortunately never saw the day...") As I said, it was a very obvious thing

for him and for me that this work was his "motivation" in yoga reasons which I had managed

in previous years - it was a first approach to a tangible realization of this yoga. Of

emphasize such a link in his work, it seems to me (and he had also seem to me then) would have immediately given

his work a wider scale still scope than it already had its own merits. In

Meanwhile, it was another opportunity to attract the reader's attention on the reality of patterns, sensitive

each step behind that of Hodge structures (63₁).

It is only with hindsight that these omissions make sense, on the bottom of six years of silence

yoga on weight ²⁷, twelve years of silence (not to say a curse) on the grounds ²⁸, of the season

unusual of these in the volume-burial LN 900 of stagnation in the theory of Hodge-

Deligne after a dazzling start. . . But no one can do great things in terms of

Undertaker !

Anyway, if I had had more maturity at the time of my departure from the IHES in 1970, he would

was clear to me from that moment there was a deep ambiguity vis-à-vis me one who

in five years, had been one of the closest friend. Moreover, behind the friendly facade

good company relations in a hushed same institution, finally arranging my departure

everyone, for reasons that I think I see in retrospect, and which were not the same in all.

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ably starting this wonderfully suited my young friend, recently installed in the place, and to which he would ^{p. 235}

enough to show solidarity with me (in front of hesitant indifference other three permanent colleagues) to

reverse a fluid situation. If I did not understand then the meaning of what was happening was that decidedly

I did not understand things well enough yet clear and even eloquent! As so often

in my life, then there was in me an anxiety (never called by that name!) who pointed me

"Take-off" between a reality all that was tangible and simple, and a picture of reality which I

^{26 (***)} (May 26) On this attitude with me, see the note following this one, "The Ascension" (n ° 63 [Ⓞ])

(June 8) In making the comparison with a style all his own of **appropriation** of other people's ideas, I see here

the first typical example, I realize also that the motivation of my friend was by no means the preserve

a "self" versus a "master" prestigious, but to retract the role of ideas of others in the genesis of

his, waiting to also capture these ideas of others (secondly). (See the two notes about "The

Conjurer "and" Ownership and contempt ", n ° 75 and 59 On my share of responsibility in development without hindrance to this propensity in my friend see the two notes "Climbing" and "ambiguity" and "Being apart" (n ° 63 © 63 ©67) which appears the role of complacency which I have demonstrated vis-à-vis the brilliant young man Deligne. 27 (*) (19 April 1985) For corrections regarding the "six" and "twelve", see note b. p. (***) p. 302 (dated part April 18, 1985), for weight.

28 (*) (19 April 1985) For corrections regarding the "six" and "twelve", see sub-note "Pre-exhumation" (n ° 168 1) for the reasons.

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wanted to separate me the image of what had been my role in the institution that I was leaving, and more, Perhaps the image of what had been the relationship with my friend. It is this refusal to take notice of a reality irrefutable, and anguish sign of contradiction to which I clung, that made this episode "salutary wrenching" painful blow on the 29 (*).

Actually, not having never even spent a written reflection on this relationship (except some primers reflection in episodic few letters to my friend, none of which received echo. . .), I was not me made earlier account that the first signs (discrete of course, but who can not deceive) the ambitions valence in the relationship my friend of mine, dating back at least to 1968, so two years before "The watershed ". It was a time when the relationship seemed to be perfect, a cloudless communion the mathematical level, in the context of a simple and affectionate friendship. One beautiful game will blow persifler beautiful "slices" of innocence, the creative child and the rest!

Yet, I know that this communion was a **reality** , not an illusion; like this

"Delicate thing" was a reality - this creative force, whose work ensuing gives a pale re-flounder. "Innocence" and "conflict" are two tangible realities, recognizable perception so slightly awake, not concepts; and they seem to me by foreign kind to each other, one excluding the other.

Yet there is no doubt that these two realities coexist in the relationship of my friend to me, for different levels 30 (**). It does not appear that at the time of which I speak here, "the conflict" interfere with creativity mathematics - at least not in work

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done in solitude, or the one that was in talks

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face to face. It is also true that in the two articles which I have just mentioned, which after all are among the most tangible fruits of this work, the imprint of the "conflict" is already clear. And with the decline fifteen years and thus reflection of the days and weeks passed, I see that footprint (discreet is-it) precedes strikingly going to take the particular form this progressive grip of conflict on the initial momentum, stripping it over the years of his most rare essence - that which makes the great destinies (*).

Score 63 1

(May 26) Compare also the remark in footnote 31 (*) at the end of footnote 60, noting the "Blocking" of the natural development of the theory of Hodge-Deligne, following attitudes vis-à-vis rejection some key ideas introduced by me (here, les six operations - which the patterns are indissolubly related), of the same nature as those examined here so apparent from the publication of Hodge Theory I and II.

The same attitude, endeavoring wherever possible (and beyond!) To erase all traces of my influence is also found in the work (mentioned in note ° 47) written in collaboration with Mumford, the compactification Mumford-Deligne modular multiplicities. (This work is Also prior to my departure.) The work uses a principle of topological results on passage

29 (*) See about this episode footnote ° 42.

30 (**) In two or three other occasions, I have seen such coexistence in one person at one time, there including in my own person at times.

31 (*) A noble lyrical I lost a little contact with the mundane realities. If I describe here the "fingerprint" of "discrete" is that I myself am bundled up in thick, I have a hard time separating me from my remaining blinders dear! Having finally get rid of, I realize that the "footprint" in question is a coarse retraction, I have not want to see complacency in me, which I clearly do realize in the note of June 1 "L" ambiguity " n ° 63 ". As for" the influence of the conflict on the initial momentum "my brilliant young friend, I talk almost like an unfortunate

inevitability that the poor would be the involuntary victim, losing at the same time, unfortunately, the benefit of the "great destiny". However

he is responsible for his fate just as I am of mine. He chose from before my departure gravedigger of the role of its master (to start), and if the circumstances (including the spirit of the time) were conducive to this choice, giving him the galore

role of Big Boss in which all shots are allowed, he also chose to taste the dregs of the privileges and prestige power can give, including crushing (quietly) and plunder. We can not have everything at once, and it is in the nature of things that loses this election (in which he is in good company) earnings much more delicate and less

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the body C (known transcendent way) to the results bus. $p > 0$, which I introduced in the late fifties,

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for the fundamental group theory. From the beginning of the sixties, I suggested p. 237 to use this method to prove the connection modular varieties all feature 32 (*). This idea, however, ran into technical difficulties that had stopped Mumford, who were overcome elegantly in their work by the introduction of **multiplicities** modular, and a "compactification" of these that has perfect properties. The idea of modular multiplicities is "between the lines" at least in my presentations "Teichmüller" the seminar Cartan, made at a time when the language sites and topos did not yet exist. The same language used by Deligne ("algebraic stack") where there was whole language sites, topos, custom multiplicities to express this situation shows quite clearly (in hindsight and in the light much larger future "operations") intent to erase from some of the main ideas implemented in this brilliant work. It is this attitude surely (as I sense the first in the rating "Denial of inheritance - or price of a contradiction", n ° 47) that had a "chainsaw effect", cutting off further reflection on modular multiplicities, which nevertheless appear to me to be among the finest and most fundamental of all "concrete" mathematical objects released to date. Incidentally, the arguments that I introduced in the late fifties allow (Due to the compactification Mumford-Deligne) not only to prove the connection between the multiplicity modular in any characteristic, but also to determine their "fundamental group first to p ", as being the "first profinite compactification p " regular Teichmüller group.

14.2.5. The ascent

Note 63

(May 10) with an additional decline of less than three weeks, I went to this account this attitude which wanted "comprehensive" in relation to this intention "very natural" to take his distances, was actually a lack of foresight and complacency vis-à-vis my brilliant young friend. If I had then relied on my healthy faculties of perception, instead of letting myself be dazzled and give me exchange by clichés waves posing in attitude "understanding" or even "generosity" ("I will still not make her remarks because he did not ride my name hairpin ..."), I would have then look at what I see now, sixteen years later. I could call it a lack of integrity vis-à-vis the reader, vis-a-vis me and vis-à-vis itself. Seeing things simply and without fear the

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call by name, I would have been able to talk just as I am now, and my p. 238 Friend then had the opportunity to take a leaf - or at least he would have understood that even with the means that are his, his elders (or at least one of them) expected him the same honesty in the work that they put themselves there. So I see that in this occasion, which is placed before I left the mathematical scene at a time so I was in no way "out of play" and which I exercised probably a moral influence on my young friend, I have not been up to my responsibility vis-à-vis him, by this **laxity** of which I showed then 33 (*). This was confirmed when publishing of "Theory of Hodge II", which is the thesis of Deligne and where it refers neither the grounds nor me. It is true that at that time already mathematics and the person of my friend were far and appeared to me as through a fog!

32 (*) (September 1984) audit conducted, this circumstance is signaled indeed mentioned in the introduction to work (p. 75).

33 (*) (May 28) The word "complacency" best expressed by the nature of my attitude, that the word a bit elusive "laxity". This complacent in my relationship with my young; brilliant friend came to me more clearly in the reflection of yesterday, see note "Being apart", n ° 67.

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In the light of what I have seen in the evolution of my friend, spiritual and mathematical as (and the two are closely bound), I see that when I did meet him, and when I was impressed by his intellectual, by his acuity of vision and understanding of liveliness math, I do not discerned a lack of maturity in him; or (later) the effects that went carry their vertiginous social rise, in the space of just four years, the student status unknown Featured than the mathematical world and tenured professor, invested privilege and power

considerable, in an already prestigious institution. I do not regret for having facilitated the rise and have made faster - but I find that lack of discernment and maturity in myself. This "Service" that I paid him was not one. It has not been a "service", as long as at least my friend himself has been through with this crop there, it is prepared with my audience carefree

14.2.6. Ambiguity

Note 63 "

(June 1) In the three weeks since what appeared this finding of "laxity" (or "com-pleasure", to use the more appropriate phrase appeared in the meantime) in my relationship to my friend Peter, I have had the opportunity in my thinking to make myself more clearly account of a lack of rigor of complacency in me. They were manifested in my first relationship one more I treated as any other to "be apart," but also to other mathematicians for which I was face elder. What I detected

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so far in this direction is expressed by a certain ambiguity in me, and without

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probably also the one who made figure rises, in situations where it resumed its consideration of ideas and methods he held me, even a detailed contractor for any work he did, without indiquer clearly its source or even sometimes allude to. Such situations were also frequent enough well in the sixties, after my departure and until the last few years. It seems to me that in all these situations, on some level I felt ambiguity, which was expressed in a shadow malaise, never considered before all these days. The motivation that made me get in the game a some connivance, and that made me go over this malaise without paying attention to him, was in concern for me **conform** to a certain image I had of myself, and what was to be a so-called "generosity". True generosity is not born of a conformist, a desire to be (and look, and ahead others) "generous". The discomfort was repressed whenever a clear sign that this "generosity" was dummy, it was an **attitude**, not a spontaneous gift, without reservation true generosity.

In this discomfort I award two different origin components. One comes from the "boss", the "me" who remains frustrated because he has earned both both ways: participating credit for work he knows that there has been a (more or less wide) side and at the same time to live up to a certain image brand, which contains (among many other things) the label-cliché "generosity". The other component has "Child," from that in me which is not fooled attitudes and facades, and that the simple feeling that this situation has forged ³⁴ (*). Not only false vis-à-vis myself, but also

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vis-à-vis the other.

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³⁴ (*) (June 5) When I say here that the discomfort is (part) of the "child" is a way of speaking that misrepresents of reality. This is not the naive perception of a false situation that creates any discomfort. The discomfort is a sign a **resistance** against this perception, a takeoff between indeed perceived reality to a certain level (here that of a false position), and a **picture** of the reality to which I cling (in this case, that I am being "generous" and I can not do less!), the benefit of which I **reject**, I repress the inappropriate perception. In this case, as soon I give up the resistance and allow the perception of appearing in the conscious next to the field, the "malaise" ceased in together with the false position. I was going to add "assuming that this is a false situation involving my present, and not a situation lying in the past. "But on reflection, I realize that these false situations" the past", which I just mentioned, this remained as such until today, or at least until the reflection of it three days ago,

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14.2. My friend Pierre V

In short, my "generosity" was to go into a game where the other has as his own ideas it just another, so that it gives a picture of himself and a certain reality, he and I both know well that it is false. We are united in what can be called a "cheating", where each, he and I, found his account. It is a "cheating" at least according to the consensus that prevailed "in my time" and that, to me it seems, still continue to be the tip of professed lips. Surely I would not be entered in such a game it had been ideas of another as myself, who are used as if they had been found by my "protected" ³⁵ (*). Yet the fact that I give my consent implied that the ideas generated in me are presented as those of others, does not change anything essential, he I think, the nature of the thing - the only difference is that in this case we are two to cheat, instead it there be only. Even apart from this aspect about myself (which I myself participated even cheating, in conduct contrary to the same consensus which I intend to join), it is clear that there is no generosity to encourage others to cheating (even if it seems to be make our own expense - this is however not the case), or at least an ambiguous attitude against a consensus also pretends to join, while the contravention. Real generosity is

beneficent nature to everyone, starting with the one in whom it manifests itself and those to whom it is addressed. My ambiguous attitude, provoking or encouraging any ambiguity in others, and allowing me to ask the "Generosity" so that, logically, the other should appear as a little cheat on the edges (and that the fact we cheat either) - this attitude is a blessing neither for me nor for the other. It was enough to examine the thing for the evidence to appear, without having to refer to a former experience, an "Event lesson." Yet these are the events that eventually led me to this exam, making me finally discover evidence that I was also able to discover there are thirty

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years, p. 241

even before a student is appeared on the horizon to teach me a trade, and soak in my contact with a certain spirit in the exercise of this profession. I had occasion to speak of the "rigor" in the work. Also, I think I demonstrated (see "Discipline and rigor", n ° 26). But now I see Also, outside of "work" itself, a lack of rigor, speaking by ambiguity, by complacency that I said. It seems to me that this ambiguity in me I have not been mentioned by any my elders, who (I think) all had in me a similar requirement to the one they had vis-à-vis screw themselves. Beyond the ambiguity of the particular attitude, I detect an ambiguity in my person. Also, I had occasion to speak more than once during the first part of Crops and Seeds. This ambiguity began to be solved with the discovery of meditation in 1976, while some signs of this ambiguity, speaking in become habitual attitudes and behaviors (including in my relationship with my students) had to persist until today.

Obviously this ambiguity in me has found fertile ground in some of my students. What had made by tacit agreement has even become, it seems, a base note in the manners of the "big world" mathematical today, where fish in troubled water (with or without the agreement of "the person"), see looting in order (as that which allows part of the elite intangible), seem to have become so common more no one seems to be surprised, so that everyone is careful to talk about. The "boss" in me the mere fact of never having been examined and thereby resolved. I am still a prisoner, to the point of reproducing mechanically the same situations as soon as the opportunity arose. The knowledge of my "power" of meditation (which I mentioned in the Section "Desire and meditation", n ° 36) then served me anything, failing to pay attention daily to situations where I am involved, and the incessant game of perception and the "tri" perceptions, this game the child and the boss silencing. . . 35 (*) The expression "my protege," had used one of my former students to refer to one of my students from the moment had to make great things in mathematics, made me cringe. However, the situation of ambiguity that I am examining, on balance, establishes a false relationship in which one of the two protagonists did indeed figure "Protected" on the other.

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would love to stand out, denouncing offended - yet doing so, I only perpetuate the same ambiguity in me that I can see the prolific harvest today.

14.2.7. the gossip

Note 63 "

(April 24) ³⁶ (*) Thumbing it two days ago reprints of Mebkhout that I had just received, I came across a reference to a work JL Verdier entitled "Derived Categories, State 0" appeared in APG 4 1

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(Lecture Notes n ° 569, p. 262-311). I am excusable for not having seen earlier this publication, having never before had the honor today to hold this volume in his hands, which Verdier nor Deligne (who is the author)

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have seen fit to send me a copy to its publication or later.

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I do not know whether C. and R. Chevalley Godement, which to me were the jury that awarded the JL Verdier title "Doctor of Science" on the basis of a 17-page introduction (still unpublished), were treated them ten years later to receive "State 0" (50 pages this time) this "thesis" like no other! I seem to remember having held hands one day work seriously foundations of several hundred pages, which could reasonably be a good doctoral thesis, which corresponded roughly to work foundations I proposed to Verdier 1960 - except that it had already become clear at this time that part of the "triangulated categories" developed by him (to express the internal structure of categories derived) was insufficient.

It is hardly necessary to say that my name does not appear anywhere in this "state 0" of a thesis. We are wondering although in fact it would do there. It is well known that the derived classes were introduced by Verdier, to enable it to develop the so-called duality "Poincaré-Verdier" topological spaces,

and the so-called "Greenhouse-Verdier" analytical areas until an unknown wave service 37 (*) develops its behalf a synthesis of the two, known as fair (the student could Unknown do less!) "Poincaré duality-Serre-Verdier." After all that, I just had to follow suit and make some adjustments that were needed to develop the Poincaré duality-Verdier and that Serre-Verdier in the very specific context of my faith étale or consistent patterns. . . I just sometimes just to read (useful libraries!) SGA 4 1

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38 (**), where

it made me even the honor of making me appear as co-author, or rather as a "collaborator" (sic) of Deligne (without judging myself useful to inform and consult me even less). This is obviously a precursor memorable "funeral volume" published five years later, I had the pleasure to acquaint just a few days (see notes n ° 50, 51 and following, inspired by the event). But I did not have to hold hands the pre-funeral volume, with this exhibit a ghost thesis that dare not speak its name, to understand from last year that the next state of this "thesis" will never be written by someone other than myself. So I set out to work with the **Continued**

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Fields where

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it had pleased my former student shows to stop, there this seventeen.

36 (*) This note is from a footnote to page "The instinct and fashion - or the law of the strongest" (n ° 48) - note in which I stated that Verdier work on derived classes had never been published, without realizing that a "State 0" of his thesis was published in 1977. For an overview strange twirling Verdier view in relation to the theory that was supposed to be working thesis, see note "credit Thesis and comprehensive insurance © n ° 81.

37 (*) See note "The unknown service and the theorem of God" for some information on the dubious character (note ° 48 ©

38 (**) see on this volume, the note "The clean slate", n ° 67.

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14.2. My friend Pierre V

14.2.8. The inauguration

Note 64 (April 25) I found yesterday in yet a copy in my office at the college. This is actually two reports which follow a year away, written in April (?) 1968 and April 1969. I reviewed, in seventeen pages, fifteen works, pursued for three years of scientific activity in IHES. Among them - this, there is the work on the conjecture Ramanuyam, one on the compactification modular sites and the extension of the theory of Hodge. All work reviewed in this report (even if that by the only work that I have mentioned) shows a prodigious creativity, unfolding with perfect ease, as if in play. Leaving aside the proof of the Weil conjectures, in stride yet this first launched into the unknown, it seems to me that the work later gives an pale image of that single flight of a young mind with exceptional means, and enjoying conditions exceptional also for its fulfillment. We must believe, however, that something in these "Terms Exceptional" had to give food to this other force, foreign to the knowledge drive, which ended by investing and supplant it and divert and absorb the initial momentum. And obviously, too, "some thing" was related to my person... 39 (*)

This short report commented (which I think included in the appendix to this volume) seems interesting in many respects, including the mathematical point of view (although some of the work reviewed remain unpublished to this day). In several places the report I foresee that such work which Deligne was content to sketch the outline and deal with crucial points would be developed by future students. These students have never appeared, saw the changes that have occurred subsequently in its relationship to ordinary 40 (**)

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knowledge p. 244

which was developed by someone else (which would thus figure student Deligne) was the theory the cohomological descent, developed by Saint Donat in SGA 4 (thus still in the period of momentum original) theory has since become one of the most commonly used tools in the arsenal cohomological.

Amusing detail and characteristic, for three of the four works that have been the subject of articles Deligne 41 (*), I take care affecting felt, by the way, the relationship of this work to the ideas

I was introduced to the questions I had raised - as if to take the lead, it seems, on the

Silence the author was going to do about them in articles (each of which was published nor, I think, written, when I was doing the report).

14.2.9. The knot

Note 65 (April 26) It is also clear that to keep written before itself a "yoga" of large-scale (that of weight, and beyond, one of the reasons), which I had spoken well here and there to other than him, but he alone

39 (*) (May 26) On a certain complacency in me which gave food to "something", see note (later of two weeks in this note) "The Ascension" (n ° 63 ☺)

40 (**) For the time when I regularly hung around at IHES (in my seminar in particular)) Deligne's relations with other mathematicians, particularly young researchers (often beginners) who came to the seminar were marked kindness. I noticed the same openness to the thoughts of others, even if it awkward to speak confused to see that in our head to head math. He had the ability to follow the thoughts of others in the images and the language of the other, which I always lacked, and which (I think) the more predisposed me to the role of "master", able to stimulate the development a vocation, creativity in others.

41 (*) The only four works in question is not directly influenced by me is the work on the conjecture of Ramanujan, deducting the Weil conjectures. It is located in a search direction (the modular forms) that was one of the "holes" in my most serious mathematics. The other three works are those on dégénérescence of the Leray spectral sequence, on the theory of Hodge-Deligne, and the modular multiplicities (with Mumford), which was mentioned in the note "Eviction" (n ° 63) and the sub-grade n ° 63 1 .

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have assimilated thoroughly and grasp its scope, gave him a "superiority" additional, as exclusive holder of an incomparable instrument of discovery for an understanding of the cohomology algebraic varieties. I do not think, however, that this temptation has played a key role at a time when I was still all there was to present and active in the mathematical world, and nothing left predict my departure sine die. She had to appear with or after I left, which was "an opportunity" unexpected to seize an inheritance (which, however, was his by right!), hiding and inheritance, and its source.

It is here that I see again be in an extreme case and particularly brilliant, node a profound contradiction, which far exceeds any case. I would bet of ignorance, disdain, doubt deeply buried around the creative force based in our own person - this legacy unique and a greater price than everything a person could ever convey. It is this ignorance, this insidious alienation

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what is the most valuable, the rarest in us, which we can

p. 245

envy the perceived strength in others, and covet for ourselves fruits and external signs of this force in the other we have forgotten ourselves. Provided that this desire, this desire to **supplant** take root and finds occasion to proliferate, it channels the energy available for creative fulfillment, alienation in us is deeper, moved permanently. The more we approach the "goal" coveted supplant, oust, to dazzle, the more we move away and we cut this delicate strength in us, and coupons wings to our own creative impulse. In our relentless effort to raise us since we long forgotten to fly, and we are made to fly.

In his relationship to me, since the day we met, I felt my friend perfectly comfortable without any signs that could have made me suspect that he was the least impressed or amazed by my reputation or myself, or there is some doubt in him unexpressed, either about his gifts and faculties in the field of mathematics or any other subject. It is also true, I think, he had received by me in the middle and that was mine, including also in my family, a friendly welcome and affectionate, which was likely to put him at ease. But this simple natural and seemingly without problems attracted me to him as it drew others surely did not expect this meeting to occur and blossom. The impression exuded his person and that made her so endearing was that of a balance harmonious, where his penchant for mathematics did not include any figure of a devouring goddess. Next to him, I was a little "polard" unrepentant if not "gross thick" - and I remember discreet surprise at my lack of deep contact with nature around me and the pace of seasons, I crossed without seeing anything much to say. . .

Yet this "doubt" deeper than I would have been unable to perceive then (or perhaps even aujour-

to-day, placed in similar circumstances), had to be present in my friend long before we met.

Looking back, I see the first sign clearly from the year 1968 and other clearest signs yet all the years that followed 42 (*). These are "indirect" signs yet - none of those I could observe first hand was in the form of a doubt, a lack of insurance - rather, and growing over the years by what may appear to the opposite: a requisite, a

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deliberate disdain,

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even contempt. But such an "opposite" reveals its vis-à-vis, with which it forms pair and which is the shade.

I also learned through intermediaries for such prestigious mathematician (and deemed inconvenient)

he had not had the chance to ever meet familiarly, he was in great tension

the expectation of a meeting, in a kind of irrational fear of not being considered by the great

man as equal to his own greatness. This testimony was so much the opposite of what I had myself have seen in my young friend, that I had to believe may then (this was in 1973). Looking back, it 42 (*) (May 10) In fact, another sign "very clear" goes back to 1966, see footnote on page (*) in footnote ° 82 (p. 329). 306

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Yet intersects division marks which are known by me elsewhere and that all point in the same direction. This division and the role I was playing as a kind of fixer of a conflict that left no doubt diffuse before we met, probably would have remained hidden under usual circumstances of changes a relationship with someone who was (in one direction or another) a "master", or at least someone which transmits or entrusts. So my departure has been the **revealing** of a conflict ignored by all, and I@ perhaps the only one to know.

And my "return" is now a second developer, most likely accidental. I would not be able imagine what he shows me, beyond what he taught me now on my own past and my present, and beings that I loved and which I still linked today. Or it prove to one who for a week has been the focus of this final stage of my reflection, I had called the month last (and I do not think so right...) "**weight of the past** ."

14.2.10. two rotating

Note 66 (April 25) This deliberate disdain and antagonism in the relationship of my friend Pierre to me limited itself exclusively to mathematics and professional level. The personal relationship remained up now a relationship of affection and friendly respect, occurring more than once by the attentions delicate that affected me, surely signs of true feelings and without a second thought.

In the intense years since I left the IHES, it ended up being forgotten, as long misunderstood the teaching that brought me this episode. Also, for more than ten years yet, my friend remained for me (as a matter of course) my interlocutor in mathematical ticks; or more precisely, it was between 1970 and 1981 the only interlocutor (an episode about) that I dream to speak during periods of my ac

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sporadic mathematical tivity, when the need for p. 247
interlocutor was felt.

It is also, as the mathematician closest to me that I addressed equally spontaneously in the first opportunities (between 1975 and 1978) where I had to ask for help, support or bail for students working with me. The first of these occasions was the defense of the thesis of Ms. Sinh in 1975, she had prepared in Vietnam in exceptionally difficult conditions. It was the First I have contacted to serve on the thesis committee. He recused himself, suggesting he could be where a bogus argument, to which it was no question that he brings his bail. (I got the address Yet reaching circumvent good faith Cartan, Schwartz, Deny and Zisman to lend me a hand for this deception - and the defense took place in an atmosphere of interest and warm sympathy). It took three or four experiments of the same kind in the subsequent three years before I eventually understand that there was in my prestigious and influential friend a deliberate antagonism vis-a-vis my students "post-1970", as also with regard to work only bear the mark of my influence (At least those undertaken "after 1970"). I do not know if attitudes manifest contempt I have seen in many of these opportunities are also found more or less in its relation to other mathematicians that considers far below him. The very spirit of a certain elitism that excessive honors profess makes me assume so. Still, that since 1978 I have refrained from speaking to him for anything. That did not stop its power to deter has found occasion yet to manifest effectively.

It was around the same year as that appeared the first signs discreet of all, an attitude disdain vis-a-vis my own mathematical activity. The first occasion was my reflection on the cards cell after a discovery about them that had me flabbergasted (see on this: Sketch of a Program 307

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by. 3 "Body numbers associated with a child@drawing"). This discovery (admittedly "trivial" and who had nothing to excite or even interest my friend prestigious) was the starting point and the first material this other **dream** mathematics, of dimensions comparable to that memorandum, which began to take shape just three years later (January to June 1981), with "The Long March through Galois theory". These notes and other of the same period (in the two thousand handwritten pages) are a first tour through this "new continent" a trivial remark on a child@drawing had made me see.

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During this intense work, I est@rrivé two or three times to write to my friend, to inform him of
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some of my ideas, and submit questions on the occasion of a technical nature. When it pleased him to speak about my questions, his comments were always as clear and relevant, and showed the same "means" who had impressed me already in his young age. But sufficiency had blunted this eagerness to understand who had enchanted me then, and this right also to understand the great things through things "small", such as to understand or design great designs, listening to each others. This power that is not of the order of the intellect, a simple "efficiency" or a "control" of an already constituted discipline or known techniques. It reflects, at intellect, a thing other than gasoline -to him this **wonder gift** for the child. This gift in him seemed off, as if he had never been. So it was at least in his relationship to me, after he had been the first in his relationship with my students "after". He had become an important man, and his mathematical approach had become neither more nor less that this attitude "sporty" I examined for the first time there is a month or two ago, and which myself have not been abroad. . . Maybe I would have managed to make me a reason for the apparent lack of passion in this communion common, this deep bond that had connected us once. I@be satisfied, no doubt, to submit (When the opportunity arose) matters more or less technical or simple requests for information to the trick from my friend, and his vast knowledge of the world of mathematical things. But this year (1981) the signs of this disdain disease have suddenly made so brutal 43 (*), I lost everything interest in communicating with him again on mathematical issues, even occasionally. (⇒ 67)

14.2.11. Clean slate

Note 67 (April 26) This is by writing the above lines, yesterday I made the connection between this turning point in our relations and the publication in 1982 (thus practically at this turning draconien) of "remarkable volume" reading notes, devoting my mathematical funeral without flowers or crowns! While I was ordained as "dead" mathematically, it was a kind of grace in short my friend made me continue here and there still answer math questions, basically, had no place to be. . .

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Trying to put myself listening to the meaning of events, I feel that this is not a happy.
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Sardinian if the first appearance of disdain, a mathematical disinterest (things overlooked, moreover, that its "Healthy instinct" mathematical had to tell her they were hot and juicy), in its relation to my own person at least, stands roughly around the time of the publication of the volume of pre-burial SGA

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Five years before 44 (*). The circumstances already surrounding the publication of this volume attest to them 43 (*) (28 May) for a new lighting of the second turn, see the note "The Perversity" n ° 76.

44 (*) See note on the subject "The comrade" (n ° 63 ") of the days before it.

(June 5) The reflection of this note is included in this note and the following three ("The clean slate", "Being apart", "Fire green ", " Reversal "), which foresee the sense of" APG 4 operation 1

2 "and its link to the" dismantling "of mother-seminar

SGA 5. This thought is repeated again in the procession "My students" and in particular to as "My students (1) - (7)" or gradually reveals a picture of a massacre of the seminar where my cohomologistes students learned their craft.

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only a willfully disdain, discreet and ostentatif both. Merely introduce myself as "col-laborateur "Deligne, without deigning to consult me or even informing me, and taking care not to make me send a copy, seems itself an eloquent speech. Besides this book

Deligne was meant, in essence, make them more accessible to a wide audience the work I had developed over fifteen years ago, at a time when I had not heard even pronounce the name of my brilliant friend! Disdain, and subsequently arrogance, had to be fed, firstly by my absenteeism which meant that I was aware of nothing and me "encaissais" in fact without knowing but then also by a climate that made this kind of nonsense could "pass" without apparently arouse any comment Still, I have received no response from anyone (especially among the many friends I thought I still have in the world of mathematicians) on this volume, nor about the volume funeral-he has prepared.

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In the introduction, the author there is indeed no punches to announce the color. The purpose p. 250 the volume is to avoid the non-expert "the use of exposed bushy SGA and SGA 4 5", "to prune unnecessary details, "" allow the user to forget SGA 5, we may consider a series of digressions, some very interesting "(how nice anyway for these" digressions "!). The existence of

"Soon will publish the SGA 5 as is" - mysterious assertion because one wonders What this publication (something we advise to forget) that had already dragged on for a dozen years, and presented a set of perfectly consistent results (and who did not Deligne expected to be released and proved) could be subject to the existence of SGA4 1

(*)).

By asking the question, I also foresee a simple answer, and a possible explanation of the vicissitudes this poor seminary SGA 5 (68) (which I had developed extensively in 1965/66, eleven years before the SGA publication of Volume 4 1

Deligne) 45 (*). Ear We already see the dawn when it is said (page 2) in the original version of SGA 5 "formula Lefschetz-Verdier was established only by conjecture" (that cow which is to Verdier, which is believed to have demonstrated a theorem, which is prior to SGA 5 46 (**)) and that "more local terms were not calculated." This may seem a regrettable gap for the non-expert reader (which is addressed first this volume). The somewhat in the game player knows, him that such local terms are still not "calculated" today, and the brilliant and compelling author himself would be hard if he asked him what he meant in this case (in general) by "search" 47 (***) (but apparently nobody has thought to ask this indiscreet question). An ambiguous phrase "seminar (?) Contains another dice

demonstration, complete it, if par- p. 251 ticular the Frobenius morphism "seems to suggest that SGA 5 does not give (it would have suspected, for Throughout this operation lasts a casual contempt, the "discreet disdain" (which I have seen the appearance around the same time), in the relationship of my friend to me, was just a pale reflection.

Another association came to me there a week or two, for now this "first turn" in relationship My friend of mine, end of 1977 or current 1978. It was in 1978 that my friend had "the medal" well-deserved (for demonstration the Weil conjecture). The way this new title (related to the demonstration of a conjecture "of proverbial difficulty") was internalized by my friend, appears strikingly in the Eulogy Funeral (about my deceased) and counter part (on his own), it is true published just five years later in a "great opportunity". On this subject the note "In Praise of Death (1) - or compliments," n ° 104.

45 (*) See note footer (April 28) in note "Green light" (n ° 68) for an elucidation of this "mystery".

46 (**) (June 10) See, for details about the sub-footnote ° (87) of the note "massacre" n ° 87.

47 (***) (Jun 10) In the general formula Lefschetz-Verdier, for a cohomology correspondence between a beam coefficients and himself, "local terms" (corresponding to the connected components of the set of fixed points) are defined unambiguously thereby to write the formula. The issue of "calculation" of these local terms only takes precise meaning in that case, one of the simplest is that of the Frobenius morphism, where they are given simply by ordinary traces induced endomorphisms on the fibers at these points. This formula was fully demonstrated in Oral seminar as a special case of another much more general.

14. B) STONE AND GROUNDS

volume digressions!) at the end of ends, a full demonstration of the "result" that main an-nuncio, a trace formula thus involving rational functions L Weil; Fortunately that "it seminar "comes to save, better late than never, a very compromised situation...

On page 4, we learn that the purpose of the exposed "Arcata" was "to give the demonstrations fundamental theorems in étale, freed from gangue non-sense 48 (*) around them

SGA 4 in. "He@charity does not extend over this unfortunate nonsense plaguing SGA 4 (such topos and similar horrors - the reader can boast of having dodged the appearance providential

This brilliant volume, finally making a clean sweep of the unfortunate "matrix" that preceded it. . .) (67) (67 1).

Walking through the instant introduction to the volume and introductions to its various chapters, I re-product appraisals and statements of intent that seem most clearly announce the color, among two or three other (style digressions, certainly, but "interesting") which appear for me especially to "sweeten the pill" (which indeed happened without problem). Thus, the author has the honesty to say clearly at the beginning that "for complete results and detailed demonstrations, SGA 4 remains indispen-sand. "This volume, while it is ambiguous in his mind and in his motives, is not akin to a operation scam 49 (**). Its role seems that of a straw poll, apparently concluding, he there was no real place for so much trouble!

There is a kind of **escalating absurdity** (apparently unnoticed by all!) Of a volume as it

p. 252

prepared (SGA 4 1

2

And LN 900). In both, we see a man with impressive means, made to discover and browse and probing vast worlds, seek to "redo" the work of a predecessor, myself even first, an alumnus of me (Saavedra) Then, while doing so he had nothing essential to bring the work of these predecessors, which were made with care and going to the bottom of things. (This that brought the total could be exposed in some twenty or thirty pages I think.) In the first cases, the reason given was plausible: allow the non-expert user access without tears cohomology spread 50 (*), without having to support large seminars SGA SGA 4 and 5. (This is the first time yet seen from the author such a concern for the common man, here taking precedence over pleasure do math. . .) The second time the job was practically **copy** essentially the thesis Saavedra had made with me! This thesis was a perfect reference, and that the demonstration a statement there was false and another statement contained an unnecessary hypothesis was certainly not the reason to rewrite the whole article. Of course, no "reason" was given for such a strange thing.

48 (*) The accepted term in English "general non-sense" (in the sense generalities sometimes painful but often necessary) had not "my time" pejorative, rather a little good-natured and blagueuse It is no coincidence that surely qualifier dedicated "general" was here "forgotten" so to say "no sense", which means nothing less than nonsense in good French, and suggests the idea of bombinage of "bullshit".

49 (**) (May 26) However, see note two days later, "Reversal" (n ° 68 ☺) where I come back to this impression, which proves Early = In the following reflection, gradually reveals a major operation "SGA4 1

2 - SGA 5 "that is made,

for the "benefit" of Deligne mainly with the help or the tacit agreement of all my students "cohomologistes," "Honesty" I think I can see (on the basis of the statement, on line 7 of the introduction, which has been cited), plays the role of "line-control" designed to deceive, in the purest style "go!" My friend used this style in 1968 (see "Weight canned and twelve years of secrecy, "and" The eviction ", notes n ° 49 and 63). See also the notes "Go! "and" The dress of the Emperor

China ", n ° 77 and 77 ☺.

50 (*) (10 June) In writing this note I "disembarked" barely felt and not yet had the true meaning of "SGA operation 4 1

2 ☺and

its connection with the vicissitudes of SGA 5, which I had only to have a sudden prescience). I understood from the motley collection of texts published under the misleading name of SGA 4 1

2 (see note "Reversal", n ° 68 ☺is removed

not as a popular book ("without tears") seminar SGA SGA 4 and 5 (which is the heart of my mathematical published work) but it is a move to replace it (making a precursor

a little mud on the banks) and to appear as the true masterpiece on the étale, which is due

to Deligne. For a striking formulation (a pen remained anonymous) of such fraud, six years after the "kick probe "named SGA 4 1

2 , see "In Praise of Death (1) - or compliments" (note ° 104).

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I have not yet had to hold hands SGA 4 1

2

To feel the sense of this thing in appearance

absurd Deligne "remaking" the thesis of Saavedra, ten years later! This is surely the same as the direction of this thing hardly less absurd that had prepared: Deligne making (twelve years later) a "digest" (a

condescending at the edges), in a certain part of the published work Grothendieck. This is the part

just that it can in no way pretend to happen, if indeed he continues to be interested ☺

cohomology of algebraic varieties (which he manages to come off). And the thesis is the work of Saavedra among all published and branded my influence, he can not in any case happen if he wants

resume "own account" the No.

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tion group of motivic Galois I had ☺eveloped, and finally exploit p. 253

(fifteen years later!) this concept obviously crucial. By writing SGA 4 1

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First, and five years

later by Milne-Deligne-river section (aka Saavedra) in LN 900, my friend☺good pleasure to give a false sense of liberation from something he certainly felt as painful

obligation: having to constantly refer to the same one that comes to supplant and deny, or even just than another which refers to him.

In reaching this inner conviction on common sense to these two acts "absurd", points were

I need all traverses (fifty one) publications prolific my friend, which I have received (First) list there are ten days. To be honest, I have not even thought to go to new four reprints in my possession 51 (*), to seek confirmation that I understand. If in the future it still happen to see the work of my friend, it will be to find something other than what which to me is already sufficiently known elsewhere. Surely I will have fun while learning the beautiful things mathematics, than before I had the pleasure even greater learning oral and mouth!

Score 67 1

(1) (June 14) I noted two other micro scams (retail) in SGA 4 1

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. One in the "Fil

Ariane 4 for SGA, SGA4 1

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SGA 5 "(admire the suggestive away!), Where the author writes (p. 2) to establish étale in a "duality formalism similar to that of the coherent Grothendieck duality ... used the resolution of singularities and the conjecture of purity ", giving the impression that this formalism is ultimately established by it, Deligne, in case (sufficient for many applications) patterns of finite type over a regular pattern of size 0 or 1 (see the same paragraph). He knows that the formalism six variances (thus the overall duality theory) was established by me without any "guess" and that its restriction is based only on bidualité theorem (or "local duality") - which suddenly becomes elsewhere in SGA 5 (from the pen of Illusie) "theorem of Deligne!"

Moreover, on page 100 there is a section entitled "The method of Nielsen-Wecken", which is the method I introduced in algebraic geometry to prove a formula like Nielsen Wecken, proven by these authors (in the transcendental context) by a technique unusable in triangulations

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the context p. 254

algebraic. Deligne has learned this method (and the names of Mr. Nielsen and Wecken, which he did not need to read the fine article in German!) by my mouth in SGA 5 seminar "technical digressions" that SGA 4 1

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is intended to forget! In this section, there is neither hint GAS 5, or me and the reader has the choice, for the paternity of this method, between Nielsen Wecken (if poorly informed) and the brilliant Copyright modest volume.

Interestingly, throughout this volume, demonstrating "Woodshoie" Verdier, a formula of including traces if I needed (for Frobenius morphisms) is not mentioned. This demonstration (apparently been forgotten in favor of the more general method developed in SGA 5) was the missing link to fully justify my cohomological interpretation functions 51 (*) Besides the works that are in the Publications Mathematics IHES, the director, Nico Kuiper has kindly send me for almost fifteen years.

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L. Obviously, there was agreement (perhaps tacit) between Deligne and Verdier - Verdier abandoning to the Deligne Credit trace formula for the Weil conjectures, in return for part of SGA 5 he had recovery on his own last year (in 1976). (See the note about "The good references" n ° 82.) Other compensation: The publication in SGA 4 1

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of "State 0" derived and triangulated categories, which my name is missing as well. Four years later, moreover, written Deligne, duality spreads out algebraic geometry takes the name of "Verdier duality" - Verdier had not made a bad deal! (See end of Note ° 75 "The Iniquity - or the sense of a return.")

14.2.12. Being apart

Note 67

(May 27) 52 (*) The passages quoted, as all of the circumstances surrounding the publication of this remarkable volume named SGA 4 1

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Testify to my friend about a deliberate déri-sion and vis-à-vis defiance of the central part of my work, represented by the set of two seminars intimately interdependent SGA SGA 4 and 5. These "circumstances" that proved during the reflection from 24 April (see the note "The gossip", n ° 63 ") to May 18 (see notes" The body... ", "... and body ", n ° 88, 89), the sacking of the original seminar SGA 5, materializing by publishing-massacre 1977 is not the slightest. (See especially note "massacre" n ° 87.)

This deliberate derision in my friend makes sense if we remember that oral seminar SGA

5 shows the first contact of young

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Deligne man with diagrams, technical cohomological

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including the duality formalism, and the χ -adic cohomology, when he arrived in the IHES in 1965 at the age of 21, with the specific purpose of learning "algebraic geometry" with me. It is in this Oral seminar, and notes the seminar SGA 4 which took place two years before, he had the privilege to learn first hand the ideas and techniques that have dominated his work until today even ⁵³ (*).

This essential aspect of the context of "Operation SGA 4 1

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- SGA 5 "and beyond it, the relationship

even my friend Pierre to myself, this was obviously not writing the previous note ("The

tabula rasa (1)", n° 67), nor in the part of the reflection on the Burial before it. The memory

This "young man Deligne", landing in the seminar SGA 5 where he still had everything to learn and where it does have (and very fast) learned a lot, has ended up in the last stages of reflection,

as my defending body. The deliberate in me since the year of the emergence of young

Deligne in my "microcosm" math, not to count the number of my students (as if it

I would have missed making a modest obligation vis-à-vis a person as brilliantly gifted) me

is also minimize, or rather, ignore completely until the last few weeks, a reality

however obvious and tangible, which is commonly expressed by this double designation (I *récusais*) of

"teacher-student" ⁵⁴ (**). It pleased me to forget, ignore that there had indeed been "transmission" of some thing from me to him, something that for me and it was a great **value**, in a sense

certainly very different for him and for me. What I transmitted in these four years of close contact

mathematical between him and me, was something I had put the best of myself, fed a thing

⁵² (*) This note is from a footnote page to the previous note "The clean slate", which it complements, wrote one month to the day.

⁵³ (*) At almost exactly the same comment can be made also for each of my other students cohomologistes Verdier

Illusie Berthelot Jouanolou - see the note about "Solidarity" and the four notes that follow (Notes n° 85 to 89).

⁵⁴ (**) (June 14) This is apparent deliberate in how I Resolve To finally talk about him (as if doing

I was breaking an obligation of discretion or modesty, vis-à-vis the man who liked to stand out of me. . .) there is Four months in the note "Jesus and the Twelve Apostles" n° 19.

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14.2. My friend Pierre V

my strength and my love - something which (I think) I was bestowal and without measuring or even, perhaps really feel the price.

Surely it was I gave food to a passion to know him

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attuned to that which ani- me p. 256

mait - and **something** also that I have felt much later and still without binding to the "transmission"

which had taken place and he liked to ignore. To put it differently, what I gave was received **also** at a

Another level that remained hidden from me, not as tools to probe a fascinating and inexhaustible unknown, but as **instruments** to supplant (first), and later to establish dominance, ruthless

"Superiority" over others.

Without even from what is returned to the "child" in my friend, eager to learn, and what income

the "boss" in him eager to supplant, to dominate (and, to crush), but the most superficial point of view

the part that take in implementing some ideas, techniques, tools - this was an unexpected discovery

during the last six weeks, at which point the work of my friend, who took off from the year

our meeting, would be fed up again today what I had sent him. I am silent

imagined, leaving mathematical scene there will be fifteen, that "little" I brought my

Non-student friend (a "bit" of which I could see yet the role in its impressive initial momentum) would be

a first stepping stone for a flight that would take him far beyond its starting point, that **the move away** from

my work and my person. It happened by cons is that my friend has remained until today

still attached to this starting point, **attached** to the same work that he acted at once to deny, to deliver

derision or neglect, and "use". This is the typical case of a conflicting relationship to the father or the mother,

indefinitely retained in the orbit of those it is intended to leave and go beyond, one who likes to cultivate

the conflict in him, rather than rush to meet the world. . .

I see today that by this deliberate treat my young friend "being apart" and not simply

as one of my students who had the good fortune to have more means than others - and also the deliberate

minimize or forget in my relationship to him the price of what I transmitted (and **power** as that of

Therefore I was putting in his young hands. . .) - these attitudes I alimentais without my knowledge a conceit and a

conflict in him, which remained hidden to me either. At the same time, I entered a game - or rather, there was a game for two in a perfect agreement, I would be hard to say who "had begun" (to assume that the question has meaning): myself with "modesty" claiming that my young friend was too brilliant student for anyone, and that the little that I could give him was not worth the trouble to talk about - and himself standing out (even before my departure) of myself and my work, denying (Under my eye com

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pleasant) the soil that had well and truly fed.

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It was not until writing this note that I finally see clearly the game, including a diffuse perception de-Vait be present for a week or two. And I also see that this "modesty" and "humility" in me was false modesty, false humility: a lack of simplicity, to see things simply for what they are. There was in this game vis-à-vis complacency my young friend - sowing that proliferated hundredfold! - and, more subtly, a kindness to myself, making a kind of pedestal to a "special relationship" extraordinary and everything 55 (*). (Like any lack of simplicity perhaps, or nearly so, is basically a self complacency. . .)

55 (*) compare with the note of May 10 "Climbing" (n ° 63 ☺ where for the first time I see this complacency ingredient in what was my relationship to my friend Peter. This perception remained isolated and fragmentary to date, where she specified in the reflection that took place in this note "Being apart".

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14.2.13. The green light

Note 68 (April 27) Actually, I never thought about the meaning behind the strange vicissitudes of the seminar SGA 5. His oral progress in 1965/66 had not given rise to particular problems, while Writing by successive and often fail volunteers dragged on **eleven** 56 (**)! It was in 1976 that Illusie finally took things in hand, taking care to write what remained plan and publish all. Today is the first time (after nearly twenty years that have passed since this seminar) that I realize that "there is something to understand." Perhaps I am the only one. . .

The first idea that comes to me is that among listeners more or less active of the seminar, and more or less familiar as previous seminars SGA SGA 1 to 4, it had to be a phenomenon of **saturation ration** with respect to the tide "grothendieckeries" breaking on them as a kind of tidal wave unanswerable 57 (***)). Obviously, faith has missed some editors, who have not been feeling very well where all this was going, and why on earth I had been so stubborn, for a whole year, and to want tossing and turning in every direction until completely control the formal properties are

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the sensate

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étale, and the entire arsenal of new concepts related to it. Especially the fact that there is track or the exposed end of the seminar, setting open problems and conjectures (never published my knowledge), or the introductory reviewing the formulas of Euler-Poincare type and Lefschetz in various contexts, is a particularly eloquent sign of a general disaffection. I do not remember not have received this disaffection then (or even after, until today 58 (*)), I was in embroiled my tasks of the moment.

The fate of SGA 5, which originally had such a strong **unit** that none of my other seminars, which has seen **dismantle** gradually (68) during the eleven years of non-writing that followed could have been me show that large projects I pursued so stubbornly, and for which I had found during

few years arms to support me, were by no means become a joint venture, but me remained personal. My program aroused here and there occasional collaborations, without turning in key idea in any of my students then - into a force that would have incentive to work longer breath and a broader vision than he had continued with me in his thesis, whose main role in life has been to make him learn what mathematician profession he had chosen.

Only, it seems to have entered a whole (if endorsed) a certain overall vision, beyond the framework of a "collaboration" special on such type of questions or to the development of such special tools, was Deligne. That why probably I had to see him (not that the thing has ever be formulated) more a "heir" any designated a "pupil". The term "heir" here better identifies what I want to express that the term "follower" who introduced himself to me first, but that might suggest the idea a work that would be limited by a received inheritance. I felt rather this "legacy" as a simple

contribution I was able to

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deployment for a personal vision, which would feed

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56 (**) The drafting of the entire seminar, based on my detailed notes for oral presentations, would have been to I few months barely work.

57 (***) This joins the impression of students who would have remained "a little stunned," expressed in the letter cited in note "Failed to education (2) - or create and conceit" (n ° 44 ☺)

58 (*) (May 26) This is after I returned a little more "in the bath" seminar SGA 5, I was reminded of an impression discomfort I had had when I looked through (it was to be in 1977, the year of its publication) copy of the seminar published I had just received. This impression of "mutilation" (which then remained as diffuse unformulated) was due mainly, perhaps even entirely (I have not had to spend much time to look closer, then it would have earned from shot ...), lack of introductory and final presentations, and especially (I think) the ease with which this absence was announced, as almost anything for granted - why would we take the trouble to include them! I had a certain level "feel something," I have taken the trouble to let up and consider that this month (nearly seven years later!), in the note "massacre" and the two notes "The body...", "... and body" which follow it.

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many other contributions (as was the case in fact already from before my departure), and was called to effortlessly exceed anything that had preceded and nourished.

To return to the plight of SGA 5, thought that had touched me yesterday was that this spell was perhaps not not unconnected with the ambiguity of the relationship Deligne to myself and to my work, especially given the as-Cendant its strong mathematical personality could not fail to exercise on all of my students 59 (*).

Surely he had to find his account in his heart in the vicissitudes that have hit the notes that seminars, stripped of what made the unity and momentum of oral seminar. On reflection, it is clear yet it ☺ **not** in the provisions of one among the participants that is the root cause and es-sensate these vicissitudes. Without even discern clearly the cause, there is no doubt in any case that it primarily concerns my own person **and** those who had to take mine 65/66 supports writing seminar. Surely it is in their relation to my person or as may also, in their relationship to a certain way of doing mathematics (or a program, or some vision) that I incarnated for them. The fate of SGA 5 now appears to me as a **revealing** eloquent and tenacious something I never even bothered to look, for lack of I knew it only counts, and that at this moment I do still glimpse 60 (**). Perhaps these lines They encourage such protagonists of this collective misfortune to tell me about his own impressions on this subject.

0 Perhaps there he has a lesson yet (at least temporary) that I can draw now the episode p. 260 SGA 5, which was first foreshadowed, and then shown, this **stop** dramatically after I left, almost the line, the famous ☺ **program** ☺ on which I was embedded. Contrary to what I had to believe more or less euphoric sixties (all happy that I have finally found good will to assist me!), it seems to me that today the implementation of a broad vision personal by a tenacious and meticulous work can not be in the nature of an adventure or business **collective** . Or rather, if "collective endeavor" there, it ☺ **not** one that would come true in a work of ten or twenty (or thirty) around one person. Provided that the vision should become a legacy common to all, it will play here and there under the sole pressure of needs, through the work day to day like or another who may know only the name (and again!) the predecessor, whose vision was too wide for its arms alone are enough to make him body 61 (*)

59 (*) (April 28) An eloquent concrete sign of this influence is that the publication of SGA 5 has ended up doing that at the moment where Deligne has seen fit to sign Illusie to actively deal - that is to say, the **moment** where was itself need as a basic text for its "digest" SGA4 1

2 , intended to be substituted for it. (See this end of the introduction to SGA 5, written by Illusie.) It enlightens and gives meaning to this statement (which I still qualifiats of "mysterious" before yesterday in note "Clean Slate" (note ° 67)), that "the existence of SGA 4 1

2 will soon publish SGA 5 as is ". The "Tel quel" is here a touch of humor that I was probably the only one to feel (even before yesterday), and to appreciate the value! (Seen the

"Rollback" that represents the published version compared to the original seminar.)

60 (**) (May 26) This is the "something" just referred to in the penultimate footnote page, and that eventually surfaced during the discussion the past few weeks, and especially from the time (May 12) where I finally bothered, for the first time since its release in 1977, to look a little closer what had become "a splendid seminar" in the hands of my cohomologistes students in publishing-massacre was made eleven years later.

61 (*) (April 28) Maybe "my arms alone" would have been sufficient to achieve the comprehensive work program that I was considering the late

sixties, but on condition that I do for twenty or thirty years to follow the exclusive servant of this program. I am happy today not to have followed that path, that could have been mine, and I see clearly

14. B) STONE AND GROUNDS

14.2.14. Reversal

Score ! 68

(April 28) As an example (among many other ⁶² (**)) of the dismantling, I thought back lots a presentations Key SGA 5, which ended up being written by none other than Deligne (which I was responsible think in 1965, for "keep" its commitment eleven years later. . .) In my oral presentation, to be incor-Pore without further ado in SGA 4 ₁

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! This is the formalism of the cohomology class associated with an algebraic cycle on a regular pattern that develops fluently passing cohomology "to SUP ports "in support of the proposed cycle. Like almost all buildings in étale (helpful also in many other contexts, they became common practice), I developed it late fifties as part of coherent cohomology (here cohomologies Hodge and De Rham, who, as part of algebraic geometry "abstract", are studied for the first time in a of my first exposed Bourbaki). It is so natural

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it obviously implies compatibility

p. 261
usual with the cup-product ⁶³ (*).

As I write this I realize that the conjuring trick (passing this crucial statement in APG 4 ₁

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) Allowed to reach this brilliant result Deligne who did not participated in the seminar SGA 5 ^{65/66} ⁶⁴ (**), **not listed** on the cover the number of my "colleagues" (something that had me already hit yesterday, flipping the volume published Lecture Notes n ° 589) and that it is by me that is against right (eleven years after the seminar) to figure "collaborator Deligne". This is a **reversal** of pretty awesome situation, it must be said! At the time of publication SGA4 ₁

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, Which I collaborated well without knowing it, it was seven years since I had stopped any public mathematical activity - to the same point I never took care of the publication of this poor SGA 5, which for me was part of a past I had left behind me. . .

(30 April) As for SGA 5, it now appears as a collection of somewhat disparate texts, tailless or head (they got lost on the way!), and who "stand up" by reference to the text SGA 4 ₁

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Remarkably, and I noticed that in this moment, even the name SGA 4 ₁

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suggests indeed this text **above SGA 5, which only exist in reference to him** ⁶⁵ (***) . If the author of this

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text was p. 262 in less ambiguous provisions ⁶⁶ (*), and see that for sentimental reasons to insert his "digest" ("Plus some new results") in the series of SGA where he had played his part, the name that was needed SGA course was 5 1/5.

I see a second pass-pocus, which makes me measure the share of Deligne in the fate of USG 5 is heavier than I thought he would have three more days. This also makes me reconsider the feeling ⁶² (**) (28 May) I decided myself to go around this "dismantling" in reflection of 12 May, in the note (for @ore appropriate) "The Massacre" (n ° 87).

⁶³ (*) (28 May) in the coherent framework, see my presentation Bourbaki n ° 49 (May 1957), § 40 In the note "The good references" (n ° 82) May 8, I discovered that these ideas, and those I had developed in the same seminar SSA 5 for classes homology related to the cycle (and many others) have been taken to their account by JL Verdier, without a word the existence of a seminar SGA 5 or my person. This operation is up in 1976, a year before the "operation SGA4 ₁

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(Which it seems to me closely bound) and the full knowledge of all former listeners and participants of the seminar mother SGA 5

1965-1966.

⁶⁴ (**) (28 May) And even there he heard about first things he exposes so brilliantly in the volume-

pirate SGA 4 1

2 ! On this subject the note "Being apart" of yesterday (n ° 67). Compared with the processes of his friend Verdier year before, and those that he practiced himself on other occasions, my friend here however remains below the limit obviousness looting, since present myself as the author of the presentation on cycles (it is true with the brilliant result of power introduce me as his assistant), and it does not mine simply ignore that I am for something in the theory of étale, trace formula, etc. For a breakthrough in that path, see

However, the note "In Praise of Death (1) - or compliments" (n ° 104).
65 (***) (May 28) for a deeper meaning of this "violent integration" of USG 4 1

2 between the two parts 4 and indissoluble SGA

SGA 5 from one end, forming the core of my written work, see note "The body..." (N ° 88).

66 (*) (May 28) The term "ambiguous provisions" here is definitely an understatement!

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14.2. My friend Pierre V

expressed before, that SGA 4 1

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is not akin to a scam operation. If person apparently (starting with Illusie, whose good faith is certainly not in question 67 (**)) did not notice the "operation" this is probably due to this "bottom" that I have seen, and so I think the charm of the person My friend, who either place him above suspicion!

14.2.15. Squaring the circle

Note 69 (April 27) Around the age of eleven or twelve, when I was interned in concentration camp Rieucros (near Mende), I discovered the plot sets the compass, especially enchanted by rosettes six branches obtained by sharing the circumference into six equal parts with the opening of the compass transferred onto the circumference six times, making it fall on the stack base. This Experimental observation convinced me that

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the length of the circumference was exactly equal to **six** percent. 263 times the radius. When later (in high school Mende I think, where I ended up going), I saw in a book class that the relationship was meant to be much more complicated, which had $l = 2\pi R$ with $\pi = 3.14 \dots$ I was sure the book was wrong, that the authors of the book (and probably those who preceded them since ancient times!) had never had to do this very simple plot, which showed clearly that we had everything simply $\pi = 3$. Typical enough, I realized my mistake (which was to confuse the length an arc with that of the chord joining the ends) when I open myself to my astonishment on ignorance of my predecessors to someone else (a prisoner, Maria, who had given me a few lessons Specific volunteer math and French), just as I was about to show him why we must have $l = 6R$.

This trust a child may be in his own lights, trusting in his abilities rather than take for granted the things learned in school or read in books, is a precious thing. She is constantly discouraged by yet entourage. Many will see in the experience that I report Here the example of a child presumption, who had to bow to the received knowledge - the facts finally making a burst ridiculous. As I experienced this episode, there was not yet a sense of disappointment, ridiculous, but that of a new discovery (after that I had hastily interpreted by the wrong formula $\pi = 3$): this error, and at the same time that we had to have $\pi > 3$, because obviously the length of an arc is **greater** than the chord joining both ends.

This inequality was also good in the sense of the formula challenged $\pi = 3.14 \dots$ which, suddenly, was taking reasonable paces, at the same time I had a glimpse then there might be people not so silly it had to have that addressed the issue At this point, my curiosity was satisfied elsewhere, and I remember not wanting to know more then about the ins and outs of these, so important,

67 (**) It is also high time to take this opportunity to thank Luc Illusie the care and selflessness with which he took care of finalize a drafting some exposed in distress and a publication of the "package"; and this in Conditions certainly been encouraging, including my total absenteeism was certainly not the least! (May 26) In the light of further reflection, continued in notes ° 84-89 and especially in note "The Massacre," these acknowledgments provided to Illusie take a comical dimension huge and unexpected that I was far from sense while writing these lines! It is true that I wrote against a reluctance in me, which is expressed in particular by "forgetting" Thanks (already planned) in the "main" text of the note, so I had to "catch up" by Footnote. This reluctance was probably due to the discomfort I had felt ever since the first time I held hands this volume whose name SGA 5 (and I have not had occasion to hold hands, I think, before these recent weeks), malaise I mentioned in the footnote on page (dated today May 26) in the previous note "The signal". This inattention illustrates the importance, in meditation, with careful attention to what is happening in his own person in the same instant. Without such vigilance, reflection here fell short of meditation, at a level superficial - so that attention to this reluctance would have brought me to probe the origin and thus to take a closer look also

14. B) STONE AND GROUNDS

he had to believe, that destined him a letter on his own 68 (*)

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This experience was probably one of the first who taught me caution when

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my own lights seem to contradict knowledge generally accepted: that this can deserved
ter careful consideration. Prudence, which is a result of experience, wife and complete (without altering) the
spontaneous confidence in his own ability to know and learn, and gives the assurance that knowl-
original ciency of this power within us.

14.2.16. The funeral

Note 70 (April 28) Resongeaunt last night in this cover story SGA 4 1

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Where I figure unknowingly

as a "collaborator" of my former pupil illustrates the thing seemed so amazing to me is a doubt
come if I was not betrayed by my memory, and had not actually been consulted and have given my agreement
without much thought to anything. But this assumption is so much against the grain of the attitude that was mine
until last year again, that he was no question that I still publishes math (and higher
reason, not as "collaborator" of someone, and yet someone whose relationship to me seemed to me
then as already charged with a profound ambiguity) - it is more "amazing" though it
was supposed to "explain", and basically nothing mysterious or inexplicable to me! To salve
conscience, I still checked in the letters of my friend between 1976 and today (there are none
the masses and it was quickly made thing), without finding, of course, no reference to the publication of SGA 4 1

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Still, I wrote a few lines to the individual himself, asking him if he could give me
explanation of this "hoax" I hardly appreciated. . . 69 (*)

When my reflection in it three days ago I raised the turn which took place three years ago in my
relationship to my friend Peter, when I lost interest

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to continue to communicate with him on issues ma-

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themes (see "Two turns" notes (66)), I was reminded of a certain impression, which had been
so strongly present. To locate it first I would have to specify that during the ten years that had
passed, while my friend had played for me the role almost of single contact mathe-
matic, I expected (like something from equally obvious that the role I was playing him) that
would the **relay** mathematical thoughts and ideas that I expressed it, to communicate its
turn to mathematicians who might be interested. As I explained elsewhere (see section 50,
"The weight of the past"), is the feeling of having such a contact relay that gave my periods
sporadic mathematical activity a deeper meaning than the satisfaction of a craving in
connecting them to a collective adventure than my own person. It is this feeling also, no doubt, that
68 (*) (April 28) The mention above has brought up other memories, which show that this famous number π intrigued me
more than I first thought to remember. The approximate value $344/133$, found in a book (perhaps the same), I had
struck - she was so pretty that I had trouble believing that it is only approximate! Do so knowing that other numbers
mixed numbers, I was intrigued by the look that could have the numerator and denominator of the fraction
irreducible expressing π - it had to be very remarkable numbers! Needless to say I did not go far
in these childish thoughts on squaring the circle.

69 (*) (May 26) My friend has kindly honor me with a reply, which ended dispel the last trace of doubt. It made me include
as a "collaborator" indeed because of the presentation of SGA 5 he had written and included in SGA 4 1

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worth asking my agreement to the transfer, or to be included as a "collaborator" nor thought it necessary to send me a
copy of the volume at which I had worked so well, because "it made seven years that I was more math."

(June 5) I just got (better late than never!) A letter (dated May 30) Contou-Carrère, responding to a
letter of 14 April when I asked him (for conscience) he had never seen a copy of SGA 4 1

2 among my books.

It seems that there was indeed such a copy, that Contou-Carrere had kept in his possession (unless it has purchased the
and remembers more?). On the other hand the Deligne answer seems to confirm yet that he had not seen fit to
send a copy: "He could indeed have been a good idea to send you a copy of $4\frac{1}{2}$, I thought in
doubt that you would not have seen so interest "(letter of 15 May).

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14.2. My friend Pierre V

that was for so long, I have not felt the shadow of a desire to publish what I found, and still under the shadow of a regret I had retired mathematical scene. (Such regret, however, is never appeared, and I "reappeared" on said "scene" without deliberation and before even realizing it!) I can not say besides how my friend responded to this expectation - can he play the role also waited a long time he kept to me this mathematical availability, driven by curiosity and affectionate sympathy at a time, which had made possible and natural the exceptional role it played in my relationship to the world of mathematicians (and also, to some extent, in my relationship the mathematics itself). When I asked the previous question, there is a day or two, I received (as in immediate partial answer!) a letter from Larry Breen, sending me copies of various correspondence from 1974 and 1975, including two lines of Deligne 1974, accompanying a copy of a letter (which I had to write to him about Picard fields of formalism), who asked his opinion about my letter. It refers to my person by "the master," I think I feel intonation Half joking, half-affectionate. I do not remember another occasion that I be returned echo by others of things I told my friend since I left in 1970. It is possible that there have been and I forgot, besides even during episodes of my mathematical activity, it was relatively I rarely feel the need to consult my friend, and until 1977 or 1978 reflections which I was him share the occasion were limited in scope. So there was not much to "relay" to pro

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strictly speaking, p. 266

up to that moment ⁷⁰ (*).

Things changed in 1977, when for the first time since the sixties, I strongly "Hooked" on a substance of exceptional richness. It was the beginning of my thoughts on the cards, and wire as needle (about the same time), a new approach to the regular polyhedra (see Sketch of a Program by. 3 and 4). From this point also, it was clear to me that the facts on which I had to pinpoint opened unsuspected perspectives of a wide and deep comparable to those I had interviews (and glimpsed later) with the birth of the concept pattern.

It is strange that on this occasion, I am still sent me to my friend with the expectation that he would echoed these things that had amazed me and what they were doing me a glimpse - while total silence who for seven or eight years already surrounded the same name of "reason" was eloquent enough to teach me my expectation was illusory! This lack of discernment wonder illustrates the deliberate that was in me (even after the discovery of meditation one or two years earlier) to give no attention to my relationship to mathematics or mathematicians supposed to be part of a distant past ⁷⁰ (*) I could do except my initial thoughts on unscrewing theory laminate structures, which I had a word with Deligne to the early 70s he hosted my expectations about it with sympathy indulgent, somewhat that which grants a big kid who doubts nothing. (These are provisions that often had in his relationship with me, and that surely were often based!) skepticism of my friend motivated by his knowledge of some wildness phenomena I did not know, yet does not convince me - rather, the facts that pointed me made me suspect from that moment that the context of "topological spaces" widely adopted "to make the topology" was inadequate to express some flexibility topological intuitions that I felt essential, such as "neighborhood tubular ". Over the next ten years I have hardly had the opportunity to return to these thoughts and I had to forget my little "suspicions" that are current again become (and then became a firm conviction) by my reflections December 81 - January 82, driven by the needs of a theory of "loosening" of the "Teichmüller tower". (Compare this to Sketch a program through. 5, 6.)

(June 5) As another exception, I could count my reflections on virtual and virtual diagrams related reasons (at over a general database schema), I seem to recall having expressed a Deligne. As these were related things close to a yoga he had decided to bury (until the exhumation in 1982), it is not surprising that he did not mine cling to the ideas I explained to him and, of course, enchanted me for some information about them, see Note n ° 46 9 .

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14. B) STONE AND GROUNDS

and well beyond! My first thought up yet in this

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meaning ⁷¹ (*) is placed precisely in 1981, p. 267

the second "turning point" in relation to my friend, whom I had occasion to speak. But even in this meditation that lasted for several months, the relationship with other mathematicians had barely

touched, and the relationship to the one among them who was probably closest of all (at least at our level of passion) was not even touched, as far as I remember. That would have been nevertheless very useful!

Still, hindsight and my present reflection, it becomes clear that what happened at that time and which had so surprised me and rough (the sudden appearance of a discreet disdain, where I expected to share Joy still fresh of a discovery that made me a deep impression) was well what was arrive. This is the **scope** precisely what I had to communicate, which had motivated my expectation of an interest in tune with mine, which was to arouse my friend, for the first time in his relationship with me, the reflex **discourage**. This reflex was to be even stronger, I was already "pre-buried" from this moment by the release of APG 4 1

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. When I returned to the charge three years later, when my friend (armed his beautiful theorem on absolute Hodge cycles) was going to take care of the funeral well standing, with the "memorable volume" published a year later ^{72 (**)}, the same reflex played, but with any brutality. (This episode ended when a communication to the mathematical level, but without me "Discourage" either. . .)

In either case, disinterest obviously was sincere, as he had also been in other cases, when it was expressed vis-à-vis other than myself. It was not the first time that I saw in it (or other) foreign forces to neutralize thirst to know it, and replace the flair mathematician.

It is in these two occasions, in 1978 and in 1981, I glimpsed for the first time, as a Flash, the "**price**" of this contradiction by my friend who had known me for many years, but the scope, and as such hinders limitation in his work and in his understanding of things mathematical ticks, was never clear to me before. But it is only during meditation I pursue month, on the meaning of a **funeral** held insidiously since I left, that this

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eventually reach gradually appear in full light.

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At the manifest level, the funeral that I discovered over the past few days and weeks, tipped for a few years but I think of it given a special role to anyone, was primarily the funeral of **my mathematical work**, and through it, and above all, of **my person**. Best placed While all to get their hands on this funeral (as many others in their hearts called to vows), and to preside over the funeral anonymous, was the friend who had once for all to fact Figure legitimate heir. If presided, surely it was not only to participate in the funeral! But more deeply, the one my friend and buried discreetly throughout these twelve long years, was other than **himself**; this thing in him, not that impressive person, a tricky thing and elusive as the scent of a flower or fruit, and that is priceless. (⇒ 71)

14.2.17. The tomb

Note 71 However, following the thread of associations, I got away from my purpose, which was to evoke a some "strong impression", the memory comes back to me insistently for three days. this impression is placed at the "turning point" in relation to my friend, when I saw myself confronted with signs 71 (*) On this thinking, see "The killjoy boss - or the pot Pressure" (s. 43).

72 (**) This is the volume Lecture Notes 900, see note "Memories of a dream - or birth reasons" (n ° 51). 320

14.2. My friend Pierre V

(Both felted and brutal evidence) of a kind of deliberate contempt - these signs that have me is to end our relationship mathematically. I realized then that the time had come when I had nothing left to wait for the continuation of such a relationship, and the "decision" was made itself without division or regret, as the first fruit of this late (and very incomplete) understanding.

There was no anger in me, much less bitterness. (I do not remember in our relationship have felt angry gesture towards my friend, or bitterness except when Episode I left the IHES, where he was not the only fact to be included in it.) But there was a sadness, turning that page in the relationship to a being who continued to be dear to me, so the strongest bond that had me attached to it had withered and perished. And as a spur which is still remained in the following years, he also remained not resolved this frustration, this joy that I brought to share with him, to the one that seemed the closest and best placed to share and who had met with closed doors of sufficiency. This frustration was finally resolved, it seems to me, by meditation I am pursuing at the moment. Even today, it still comes back to show me that what happened to me was what had to happen,

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and the first responsible for this frustration is no other p. 269

I myself, who had seen fit to indulge myself in an illusory image of a certain reality, rather than to make use of my faculties and healthy look this reality with eyes awake
It on the bottom of this sadness, and that as of this frustration of expectation, what emerged this strange feeling, which then was not like the result or outcome of a reflection (which has not been place then), but as an immediate and undeniable intuition. It was all I could tell my Friend the mathematical level, and all that I had said for years, it was a **grave** I the confided or entrusted. While I have never spoken of this impression to anyone, and I did not recorded in black and white in some further reflection, I recall that it was this image of a **tomb** who was present, and the same word that expresses it (in French), and I just to describe. This "impression" or picture had to arise at that time, as the visual expression (so to speak) some understanding that, at some level, had to be formed and this long, as the fruit of a whole set of perceptions that had to take place over months and years, without that attention or that retain the memory only registers; of simple perceptions and all probably obvious, but I had not "chosen" because they appeared undesirable to someone in me often able to sort at will. . . Either then or subsequently, this compelling image has partnered with some precise memory, tangible, an "event" along the lines of the image, and could have aroused in me the memory of that sudden picture has been touching me rarely thereafter and today is the first time I stopped a little.

If no memory or association is then presented, surely I did not have the minimum availability to welcome him. Strangely, I was then engaged (if I is well now 73 (*)) in a meditation on my relationship to mathematics without this episode that spoke to me quite strongly after all, some passed through a present, make me think of interrupting the "thread" of my thinking, to include a reflection on the ins and outs of what had happened and then that was not without Therefore in my life.

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The first (and to be honest, the only) association presented itself even now (from evoke p. 270 this image and say that immediately she appeared disjoint from all memory or association. . .) is the fate that had been reserved for my "dream" reasons - the mathematical vision of all that was dear to me, 73 (*) (11 June) intersections confirm that he is indeed the case. This "second turning point" is in the second half 1981.

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14. B) STONE AND GROUNDS

in my past mathematician. If that happened perhaps still even have some secret hold on me, it was by this dream - and that secret way (I think glimpse at time of writing lines) had itself the strength, beyond words, dreams. If, on the legacy of a past investment, a Investment passionate in mathematics, unexpressed and deep frustration could appear Over the past decade, it was that of seeing a dead silence surrounding these things for me were alive, and that I had entrusted my friend as living things and vigorous, ready to jump in daylight! I left, it was he and no other who had power and aims to ensure that hatching to make available all that he was alone (with me) to feel intimately. And without me nor say in these terms or in others - without ever stop (as far as I remember) does serait- that the space of a thought to the fate of what I had left - somewhere in me I had to include at Over the years, this dream was always dear to me, that is a "tomb" I had said.

And suddenly, with this evocation and with this first association it evokes in me, I see a surge other associations occurring in the wake of it, revealing to me that I have indeed touch a focal point - the point of all, perhaps, is exercised where the weight (long ignored) my past mathematician.

But this is not the place, it seems, follow these associations, while this step "ultimate" my thinking already beginning to be long, I seem to have said enough in this reflection about My friend Peter as to the grounds - and probably even too much taste! And I think it is time, in terms of these notes to close them by a kind of **balance sheet** that teaches me immediately, this reflection on a double funeral.

14.3. VI Return of things - or Unanimous Agreement

14.3.1. One foot in the ring

Note 72 (April

29).....

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It seems to me that most of the job description and settling was to be done on the subject that I oc- p. 271

cupe is completed, regarding the "partial images" about a certain situation. (It is obvious moreover, that these notes for publication, provide only a shortcut actual work, then it is out of the question here to explain in detail all the elements that contribute to the formation of such or such "image" partial. . .) Surely also, for the same work some overall picture could man-quer to form, blurred again, and waiting to be formulated to take shape and life and tell me what she has to say. Since my reflection yesterday, I feel ready to hatch and pushes me to lend her voice. Actually, what I was taught mainly the reflection of yesterday (which I just read at once) **do none other except myself** . It is with some relief that I see the reflection back to the farm field of a reflection on myself, then for a week she gave me the feeling often to involve the person of another more than mine. The reflection of yesterday I finally found something surely very obvious: that the strength of my attachment to a past, my "past mathematician" and the particular role that played the famous "dream" reasons. Once the thing is said finally, his evidence is obvious - the latest and clearest sign perhaps being the emotion triggered by the discovery (two years) of some "event", this 74 (*) I thought I here to spare the reader a good page considerations on meditation in general, which have been a way to beat around the bush - a sign of resistance to get into the thick of it.

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14.3. VI Return of things - or Unanimous Agreement

"Stealth return" (and late) patterns into mathematical menagerie, under the leadership of my former "student" and friend! This emotion is reflected immediately by resuming a reflection that seemed finished - recovery materializing as dry by a flood of fifty pages of retrospective reflections! So (and recognition has already presented to me several times during this untimely release) it seems I am not "out of the arena" as much as I thought there was a month or two in exultation one end of the stage and the release of feeling (not illusory) that this stage had brought me -

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with p. 272

teaching that "I was not better than others" and that "I did not have to surprise me if the student exceeded the master " 75 (*) This teaching has not yet prevented me wonder -. it was enough that the " student " beyond me in a direction I had not planned! But if education did not stop that "I am astonished," he was nevertheless valuable more than once during the past thought to myself preserve usual pitfalls (or at least **some** of these traps).

To return to the force of this "influence" the strength of my attachment to that dream of reasons, it is already appeared in many other parts of this volume in both Crops and Seeds (which speaks of reasons several times and well enough eloquent terms) than in the Outline of a program (or "Objectively" the reasons had nothing to do), or in the Sketch Theme (where the patterns are a little figure of Non-incubated eggs in a cloud of vigorous chicks). In the latter text, which dates back to twelve years and is visibly posted in remote provisions, that last paragraph on the grounds is the only, I think, where we feel a sudden move heat. . .

The remarkable thing is that this attachment is never occurred to me during these fourteen years since my departure until yesterday when I finally glimpse of the obvious, to finally formulate me today. the During the meditation there nearly three years (July to December 1981), I finally found a first Obviously, namely permanence in me a passion for mathematics, which had expressed years gone well eloquently. But my attachment to the past, as far as I recalls went unnoticed at the time, and remained so until today.

I had yet to begin with reflection glimpse "The weight of the past", came as salve consciousness while meditating on my past mathematician seemed already completed (except I have not yet been able to perceive the **weight** of the past!). I felt also by writing it I was left on the surface of things, without really penetrating. The notes I have been led to add later (first (46) (47)) then led me into a direction for quite a while away from my person, in focusing my attention on mathematical work (and the aspects of it that seemed the more "important") and on the vicissitudes of this work and the role of others in them, rather than myself.

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I just reread this reflection "The weight of the past" (s. 50). Towards the end of it, I begin to p. 273 glimpse into effect as "tilting force" (a mathematical investment to other episodic) could be the fact of a "commitment ftu past" (mathematician), but rather to "past the last ten years past "after 1970" Therefore, not the past already written things in black and white things done, those before 1970. "A few lines later I remember yet, but only" in passing ", in the "vast program I had then before his eyes... only a small part found itself realized." As I write this, I had to think especially the parts of the "broad agenda" that were immediately feasible, the motivating force (!) was nevertheless far short of that which represented the Dream

reasons. "(His justification (but not its formulation) then appeared as a major task "on the horizon". . .)

75 (*) See "Finish the ride!", N ° 41.

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It is clear that my attachment to "dream of reasons" is (as probably all attachment) primarily (if not exclusively) of ego kind. It is the desire not only to **contribute** to a collective work, but also to see that contribution **recognized**. Assuming that the "vast array of reasons" has indeed been brushed across the scale I was seeing him since the late sixties, but the part that had mine was in the blossoming of this vision is killing my displeasure would probably not least (and maybe more?) than I have experienced by reading the "memorable volume" (which I see many times certain concepts and ideas I had identified and brought to light, but (so the least I felt) deprived of breath and intense life that had so fascinated me in them) 76 (*).

As will be consumed this egoistic desire to see "recognized" such things from my past mathematical distant or later, it is probably premature to claim me "out of the arena." The "carousel" mathematical not tick me **contains** more as he once content and as such it contains my friends. But surely I still keep a foot, and I suspect that the foot will remain there as long as I meddle making math!

14.3.2. Return of things (or one foot in the flat)

Note 73 (April 30) I thought back sometimes draw the seminar SGA 5, and how this spell has been linked to publishing SGA 4 1

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. This situation was confused, and I have discussed in these days and glances

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by the way, seems to me to this very clearly. I just add a note

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Footnote 77 (*) about this at my reflection in it three days ago (see "The signal" notes (68)), and it seems with the comments that I made the day before yesterday (in footnotes page also) and the thinking of the day before ("Clean Slate" notes (67)), I expressed myself clearly enough to make it unnecessary to make even a summary overall picture of a situation that now appears in sufficient eloquent 78 (**).

At this point, it is important that I note that the first and primary responsibility for the "plight" that hit SGA 5, and the use that was made of a situation of abandonment, is none other than myself. If the various "volunteers" (who are responsible for essays they did not really want to do) were apparently not clear with themselves, I was not more, who am stubborn me not to listen the lesson yet eloquent situation and rest on "collaborators" without conviction, instead to take things in hand and make myself the editorial work that therefore my responsibility After all three full years elapsed between the end of the oral seminar, and the time of my departure mathematical world (which is translated immediately by an almost total lack of interest in me for my published work, during the fourteen years that followed). It is true that during these three years I was fully busy with my other work, including the continuation of the seminar SGA (with SGA and SGA 6 7) writing EGA, reflection on the often juicy issues arising daily, and among celles- one, the progressive maturation of a overview of the reasons ... Taken by these tasks, I made the choice blind eye to the plight of a past seminar, which was (together with SGA 4 of the previous year) the deepest mathematical contribution I could make, at the fully accomplished work I hear, and that also has probably the most extensive.

76 (*) (14 June) This "displeasure" is due primarily, it seems, this impudence printing, willful disregard of a link that affect to ignore, keep negligible. The situation is quite different when ideas or findings we uncovered are rediscovered by others, something that commonly happens.

77 (*) This footnote prohibitive page length became a separate note "Reversal" (n ° 68 ©)

78 (**) I nevertheless returned 9 May and the following days, see notes n ° s 84-89.

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14.3. VI Return of things - or Unanimous Agreement

The situation could still deteriorate that after my departure without return, allowing the most prestigious among my former students that brilliant operation to insert his famous SGA 4 1

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between the nonsense gangue and

superfluous details SGA SGA 4 and 5, making me the honor to promote me collaborator of what present as the central key-text, for (as he says with that candor is its charm) to "Forget" charitably the heavy gangue that surrounds it. . .

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In short, the choices I made, even before my departure and I left, implied consequences p. 275 for the fate of my work published, or (for SGA 5) awaiting publication, as for the part My "work" was left in the dream state - dream **unpublished**, what is more. I do not regret my choice, and it is not for me to complain, when I see today some of the consequences of these choices not to my taste! It is up against me to consider these consequences (and especially as they I dislike!), to get a general picture of the facts 79 (*) (what is done), and draw the lessons they can bring me. This is what I have to do, and thinking today will may be, at least, a first step in this direction. Some comparisons were made in me from these recent days, I would first like to put black on white.

The main force, the "drive" was behind the investment I made in my students in general, the first period of the sixties, it was the desire to find " **arms** " to perform " **tasks** " that my instinct appointed me as urgent and important (at least from the perspective of mathematics of mine). This "importance" surely was not purely subjective, it was not a simple issue "of tastes and colors" and often (I think) the student who made his task so I proposed felt she "had the weight," and also, perhaps, what could be its place within broader designs.

Yet in terms of this "drive", this motivating force in me that drove me towards achieving tasks, it was not some "objective" importance was at stake - while the "importance" of the Fermat conjecture, the Riemann hypothesis or that of Poincaré completely left me cold, that I do not "felt" not really. What distinguished these tasks any other, in my relationship with them is they were **my** tasks; those I had felt, and made mine. I knew of them have felt was the culmination of a deep and delicate work, creative work, which had identified the concepts and key issues that were the subject of such a task or another. They were, without doubt (largely) they are still a part of my person. The tie that bound me (Or still binds me) to them, was not settled when I entrusted this task to a student - well however, this link was acquiring a life, a new force! This link was not to be told

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(and I "say" here, p. 276

were it to myself, for the first time). This link was obvious both for the student who chose to work with me, and on such a task of his choice, for me, and also (I am sure) to any other.

This is the deep connection between one who designed one thing, and that thing - and that is not altered, but (it me seems) strengthened by those who, according to him, are "their" as this thing and give him the best of themselves

It is a bond that I never considered carefully. It seems deeply rooted in nature

the "me", and universal nature, It is a bond that sometimes affects to ignore, as if it was above such pettiness - it is even possible that I happened to enter such an assignment 80 (*). But the

sometimes, in recent years (or in recent days and weeks), where I happened to be confronted

an attitude that affects others ignore this link (which he is aware) that connects me to this task that

79 (*) (28 May) Read here, "the facts known to me." From the day after, entirely unexpected developments will revive thinking about the burial and take me to triple the volume of the notes related thereto.

80 (*) What is certain is that I followed the "good tone" of ignoring things like that, contrary to the image of rigor!

(30 May) See this link about the note "... And the body", n ° 89.

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been achieved (by another, or by myself) or only designated, I touched a sensitive spot.

We can call this place "vanity" or "conceit" and dress up with other names - and I do not claim that these words are moved here, but whatever you call it, I have no shame to tell or

being as I am, and I know the thing which I speak is the most universal of the world! No doubt this attachment of a person to "his works" not he has the same power of a person to another. In my

life, or "Do" was from my childhood the constant focus of my great energy investments

this link has been strong and the rest today.

I can therefore say that the main force that drove my relationship with my students is that I saw in them

"Arm" welcome to the realization of "my" tasks. The formulation may sound cynical, as she does

express an obvious reality, surely felt by my students as well as by myself. The fact that

it was "my" tasks did not prevent the they also make "them" - and it is this identification with them

their task mobilized in them the energy required for their achievement; as identification

this same task mobilized in me the energy that had created and take shape, and still

mobilize energy as I continued to invest in the subject. This energy was essential for me to

same "function" as the "master", that is, as the elder who teaches a trade (which is also an art) and that can not happen without mobilizes considerable energy. Never in my teaching past I felt a contradiction

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in the fact that the same task was deeply "hers" for students who worked

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with me, while remaining as deep "mine". I do not believe that this situation is the least world of a confrontational nature, or that it never gave the opportunity to conflicting impulses of it hook ⁸¹ (*). In this simultaneous investment situation in the same task and identification with it, both the student and find myself (I think) our account in a working relationship that was perfectly clear, and that by itself (it seems to me) contained no contentious element. the strictly personal level, against this relationship remained superficial - which did not prevent to be cordial, friendly look and even affectionate.

The investment in my work, and **through them** with my staff-students for these tasks was (I have said) of ego kind (like any investment, no doubt). Surely the realization of these tasks was mostly for the "me," a way to expand, by conducting a comprehensive work to vast proportions as "my only arm" would have been able to complete. From a certain point in my life mathematician, there was this constant ambiguity of a cohabitation of close interpenetration between "Child" and his thirst to know and discover its wonders in interviews and in those things closely examined, and also the **ego**, the "boss", rejoicing in his work, eager to enlarge and increase its glory by the proliferation of works, or the stubborn and relentless pursuit of a construction of all the grandiose dimensions! In this ambiguity, I see a division continues to weigh on my life and print him a deep mark - a division that may remain for as long as I live. Such a division certainly is not unique to my person, but maybe in my life filled the "best" as the "worst", this division then took more extreme forms than in others.

So I can say that for this "me" intrusive and eager to enlarge (which was not only in the place but it was indeed!) my students were above all "collaborators" welcome, not to say the "instruments" - "arms" welcome to building an imposing work that would say "my" glory! ⁸² (**)

⁸¹ (*) If, encouraged by a certain context, it happened to one of my students want to retract a role that was mine in work done with me, the thing was done at a time when long ago he was not in a position to student.

⁸² (**) I wrote this sentence with some hesitation, and weighing my words knowing that we can seize it as a kind of cynical admission of the horrible Mandarin finally throwing the mask! But I know I will not one that shall prevent envi drown a troublesome fish to at ease. This does not prevent me from continuing my remarks to discover and tell the obvious things, including the humble truth written above, which will surprise only those who have never bothered to watch

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14.3. VI Return of things - or Unanimous Agreement

This is something, it seems to me, that appeared quite clearly

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already during my meditation there are three p. 278

years of my relationship to mathematical (and beyond, to "make it" in general), even if he happened to forget a little later. That@the thing that was present in my thoughts, these last days, to make the rapprochement with the other remarkable fact that it is precisely by one of my students (with quotes, never mind!) in that time, and one more that was between all the closer to me, and the only also "feel" without effort and in general these great designs in me that seemed to push me without respite to realize - that he is among all that after my departure (and in his heart, probably even before.

".) Has implemented over the years this **Burial** dimensions of the work (the capital letters are here not too much!), and finally "presided over the Funeral" (with a capital again, for good measure!).

What is striking in this situation is the **comic** grotesque, huge, irresistible, of the thing! I have felt this comic confused in recent days, but it just be me in its true nature

only in this moment, where I placed the latest capitalized on my solemn funeral - in a sudden and irresistible laugh! It is the **laughter** precisely who missed so far in this step called "ultimate" reflection, where the keynote was rather pained the "well sir" disappointed in his legitimate expectations (or even horribly wrong), when the air does pained gave way to comments sarcastic and many sent (it is customary to speak, or you do not!). I feel that I am decidedly back on track after this long digression (that word reminds me of something...) in sad tones.

And at the moment also comes the name that is needed for this "note" (we do not know too well what a note, but no matter.) it@time to close. It will be " **Return of things** ." (⇒ 74)

14.3.3. The agreement Unanimous

Note 74 I finally feel - phew! - I touch the end of the "final stage", which is stretched over twelve days which (as before) everyone was as "the last". Perhaps the last word has been said, there

just a few minutes. My funeral (symbolic) was a **turn of events**, a crop sowing made by my own hands. (And my burial

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flesh, if I have the happiness to die leaving p. 279

behind me of living men and women who can bury me, will return as something

I left when I was born ... 83 (*).) Anything that can keep adding even, it seems, will not not only in terms of **epilogue**.

The famous "expensive among all student" was not the only one of my dear students to bury me with enthusiasm, and those who indeed had a hand in the dough are perhaps not alone among them, present at the funeral without displease them! But no matter myself at the bottom of who will and who it! (To learn more about this, if is just that, not teach me nothing more.) I finally understood this "return things" and having understood I collect the benefit.

Yet I have not yet removed all the stuff this benefit holds. I do not clearly discern yet **how much** exactly my person that some former students have found their account burial and funeral. Is it only the "greed" of which I spoke, that (I think) not me in himself.

83 (*) (May 28) This sudden association with my own death presented itself forcefully. I have been tempted to dismiss, then that delete this unexpected interlude, which seems to come out as the hair on the soup. I refrained, by a kind of respect. Strangely enough, the next day I learned that evening of April 30th where I continued my reflection in the town where I live, sister (seriously ill) a friend is dead. I saw Denise for the first time, and on his deathbed, the same day. The next day on May 2, I joined my friend and many other living men and women to wear in land, a beautiful spring day. . .

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14. B) STONE AND GROUNDS

not distinguish so many other "bosses", and they were accommodated without difficulty (and probably without even out, at least not at the conscious level) when they made their debut with me?

Then "opportunity" (my departure etc.) which would "makes the thief", and which would have been **indicative of a general propensity** in them as in "student among all" bury his "master" or "father, when the circumstances are favorable? Perhaps I was more "master" (or "father" ...) that nature, that this fact played to trigger with a beautiful set that "burial syndrome"? ! For the now I can not see! Maybe the feedback I gather (I hope) they will allow me to view it clearer, and better assimilate the unexpected food before which seated me here.

There were no students to discreetly attend the funeral and the funeral, although no Non-former student was in position (as far as I know) to play a prominent role. Obviously many my old friends have found their account. The thing for once does not seem too mysterious.

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As I had occasion to say in passing, more than once I saw the deep unease created

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my old friends by my untimely departure of mathematical scene. It is the unease everything how dimly it feels like a **provocation** to deep discounts in question, for renewal.

In this case, it was natural that this malaise among mathematicians is strongest among my friends, among those so who had known me, and could feel all the investment force that had been mine in the values which always remain theirs; besides each of these friends to himself made and continues to make an investment of comparable strength in these values, and substantial "Returns" that they offer him. I had already had ample opportunity to observe such a malaise among others scientists, from the beginning of the period survivrienne. But that did not stop it was every time a surprise when I found among some of my old friends, which still bind me the same sympathy, the unequivocal signs of a move away, and sometimes enmity. What was supposed to make my "abandonment" particularly intolerable to some, it is just that I was supposed to be a "best" of them, the latter surely they would have suspected that he would play them such a trick! (And I have indeed increased feeling sometimes a tone of **resentment** in some of my old friends in the mathematical world.) It is natural when they find their account in a fashion which decrees that all these "grothendieckeries" after all, it was a lot of paper to not much etc. etc. One Person, if prestigious it is, is not enough not to make a fashion - it is still necessary that the way we want to launch meets an expectation, a secret desire, among many others, before becoming a consensus and to law 84 (*).

I tended perhaps, throughout those fourteen years since my departure, to underestimate the discomfort that it has created in the "big world" - so for me it starting in June 1970 was done so so natural, that there was not even a "decision" to make: the new tasks had taken the day day replace old, who had suddenly fallen and had been absorbed as a past far! (It is also true that I have not been confronted with such uneasiness among my colleagues at the University of Montpellier, which form a completely different environment from the one I had left.) Perhaps I sub

estimates as much the role that could play such discomfort also among my former students "before 1970", including Many are part of the same medium, and "put the package" in their mathematical investment. he is possible that

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This malaise has played an equally strong role in them than the other friends I thought I had
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in this same medium. Anyway, every situation (between one of my old friends and pupils, and me) is a unique and different case of all others, and general speculation that I do not have a very limited and temporary.

Returning again to the more solid ground of the case, I am struck by the fact that the two ex-students 84 (*) (May 28) See in the same sense the note of May 14, "The Gravedigger - or the whole Congregation", n ° 97. 328

14.3. VI Return of things - or Unanimous Agreement

I have seen active participation in the funeral of the dear master, are also the same people who were first reported to my attention by attitudes of contempt, by a desire to discourage: with respect to younger mathematicians who were "students after 1970", where in which the influence of my ideas and my approach to mathematics was clearly visible. This coincidence certainly nothing to surprise (which has not prevented course that events on every shot surprised me!). Other interesting coincidence is that one and the other were those with whom the personal relationship was more friendly and even affectionate (and for one, this relationship has continued, and in this tone up today). This is in line with this general statement, that it is the closest relationships have especially under attract and fix the conflict of forces.

Another coincidence struck me yet. Of all the students I@ had for almost twenty-five years, there are two which for me are distinguished from all others by both "means" exceptional, by investing in mathematics to the extent of these. (An investment of a force comparable to what I was doing myself for twenty-five years of my life.) For both, however, I scruple to count the number of my students, while it is true they have one yet and the other taught my contact with things that were useful to them 85 (*). It was in the nature of things the both discover their own tasks, without my having to offer them to those I had (or have) in reserve - and the thesis of one or the other has accomplished independently of me 86 (**).

Here are many
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common points ! As a point of dissimilarity, I will say that the youngest (I believe) of p. 282 two is now "the highest honors" (which I@ spare the reader, and known modesty of the person, the detailed list), and is one of the most influential mathematicians, that is also one of powerful; the other is currently delegated assistant, a position that the incumbent will resume soon next year. There are other points of dissimilarity, which explains to some extent the difference fortunes - as there are also other points of similarity on which it is unnecessary here to dwell.

If not yet it, that of all the students I@ had is with both the relationship Personal also was the closest and most friendly, while a common passion was immediately created a strong bond between each of them and me. The **coincidence** now I want to discuss is that provided as I know, these are the only students also (with quotes is a done thing!) that vis-a-vis the "great world "have done everything possible to minimize or erase, as far as possible, this link very simple and clear to my person.

This is a very striking coincidence, and whose meaning still escapes me at the time of writing lines. In either situation I could invoke reasons different from one to the other. And he is quite possible and even probable that at one and the other, at a certain level which is probably more than fully conscious intentions, such a result (of conceit in one of caution in the other) played.

Yet I doubt that any explanation found to provide an understanding of it, in one case nor in 85 (*) (May 28) This is an understatement, as I finally see later against my will! On this subject the note Yesterday "Being apart", n ° 67.

86 (**) (May 28) It@not quite accurate. The both have essential way used in their work tools that I had shaped and they made learning my contact. Beyond this role, the Hodge-Deligne theory in the work is his thesis (Hodge Theory II Publications Mathematics n ° 40, 1972, p. 5-57) comes directly from yoga reasons he was holding me - "mixed Hodge structures" being the "obvious" answer to the question (also "obvious" in view of the reasons) to "translate" in terms of "structures" Hodge "(" in a suitable sense ") the concept of pattern not necessarily semi-way on the body complex. Beyond a "translation exercise" brilliantly conducted, there course in this work original and profound ideas that are "independent of my person." But it is also clear that the theory Hodge-Deligne would not exist at present (or probably almost all of the work of Deligne or one of my other students) if they had been available ideas and tools I introduced mathematics and they had the scoop to my contact.

14. B) STONE AND GROUNDS

the other. Surely, even more deeply, other forces had to play, the true, behind the familiar appearances of complacency or timidity. Surely these acts that express have something important to say to one and the other. But surely also the appearance of the same acts in two as different, as if they were given the word (admittedly unthinkable, given the difference fortunes!), has also something important to tell me, and no one but myself. Would it yet either more nor less than the reproduction of eternal **rejection of the father** ? This one has yet

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spoiled for choice

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among the open him ways to express yourself! Or is it because this instinct so sure of the unconscious, which the made touch "stack" the most sensitive or vulnerable places (when it comes to "touch") has that both have fallen in the **same** place? I would be inclined to actually think. But this is a deducted thing, not something seen, while lack of eyes with the gift of seeing clear and deep, I feel like a blind man who somehow groping in the dark, trying somehow to "see" with hands or ears or skin, that are not really made to see.

To not however conclude on this note of **puzzlement** (damaging to my reputation), but on a note pleasing for a caring, hypothetical reader, I will only say the name conclusive, appeared earlier, which seems to me to express the common content to various considerations of this **epilogue** (for reflection a funeral), namely:

The Unanimous Agreement!

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15.1. VII The Symposium - or bundles of Mebkhut and Perversity

15.1.1. Iniquity or the meaning of a return

Note 75

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(May 2nd) Decidedly I'm not finished learning! I just got acquainted with two

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15.1. VII The Symposium - or bundles of Mebkhut and Perversity

texts, which throw an unexpected light (for me at least) on "the retraction" (of the work of Mebkhout) which has already been mentioned ("The unknown service and the theorem of God", note (48)). It's about role played by the two illustrious colleagues and ex-students whose disdainful indifference to the Zoghman Mebkhout, without however questioning their professional good faith. Both texts are part Proceedings of the **Symposium of Luminy** (from 6 to 11 July 1981) entitled **Analysis and Topology on spaces singular**, appeared in Asterisk ◦ No 100 (1982).

The first of these is the introduction to the Symposium, signed by **B. Teissier** and **JL Verdier** (the same who was the official thesis director of Z. Mebkhout). This text, a page and a half, begins by explanations about a certain "Riemann-Hilbert correspondence", which is clearly called to play a leading role in the Colloquium (and which is none other than the "theorem of the good God" alias Mebkhout.) In this correspondence (and that is what makes its charm and depth, and requires the introduction of the derived classes) to a regular holonomic **module** (ie a holonomic complex regular reduced to zero degree) is associated a constructible complex of C-vector beams, which can be characterize (is it said) purely topological properties that keep meaning for complex constructible bundles on a variety not necessarily smooth, defined on any body.

That is, as it explained, the starting point for the "main theme" of the symposium, entitled "**perversity complex intersection, purity**" - the (complex

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de) said beams "**evil**" ¹ (*) being other than p. 286

which, "morally", correspond ("to the Mebkhout") to the simplest of the differential operator complexes regular holonomists, speaking using a single 3-module.

The second text part ² (**) long section of **AA Beilinson, J. Bernstein and P. Deligne** on perverse bundles, which is referred to in the introduction as the central work of the Symposium. As in testify the table of contents and other pages that I have, this article dedicates the comeback force suddenly derived and triangulated categories in the public square, in the wake of the obscure works of Mebkhout and the famous theorem "says Riemann-Hilbert".

Amazingly and yet true, in both text the name of Z. Mebkhout is absent, as he is also missing from the bibliography. I note that not only was JL Verdier fully aware of the works of Mebkhout (and for good reason!), but Deligne was just as much (and it would be difficult even to conceive that it may be otherwise, for someone so well informed about the mathematical news, and when he This is more the subject that touches the closest ³ (***)).

I do not know what it is B. Teissier ⁴ (****) and other participants in the Symposium Luminy, including the two co-signatories with Deligne cited article ⁵ (****). It seems that none of the participants was so curious to know the paternity of the ideas and the key theorem which had the virtue of mobilizing them.

¹ (*) (May 4) See footnote 76 ◦, "The Perverse" about this strange application.

² (**) (May 4) I have since received the full article, confirming what had already shown me the part I had.

³ (***) I remember in particular that the work of Mebkhout and "theorem of God" constitute a decisive advance over to earlier works by Deligne (1969), which he refrained from publishing. See in this regard footnote 48 ◦ @already mentioned.

⁴ (****) (June 12) B. Teissier has long been interested in the work of Mebkhout and was thus one of the very few to have an encouraging attitude towards him. So he was perfectly aware of the scam, to which he lent his

competition with full knowledge of the facts. He justified himself to Mebkhout, assuring him that, in any case, he "would not have nothing could change there."

5 (*****) (28 May) I have since learned that AA Beilinson and J. Bernstein were informed of the results of Mebkhout P. Deligne (in October 1980) and by Mebkhout (in a very detailed way in November 1980, at a conference in Moscow). These two authors are used in an essential way the theorem of the good God in their demonstration of a famous conjecture of Kazhdan-Lusztig even before the June 1981 Luminy Symposium - Compare the quote from Zoghman Mebkhout's letter in the note "A sense of injustice and helplessness" (note ° 44 ").

(3 June) For further details on the solidarity of all participants of the Symposium, see the following note "The Symposium ", n ° 75.

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15. C) THE BEAUTIFUL WORLD

I assume it was self-evident, a little (a lot) like in the Notes LN 900 reading volume that was going spend the next year re-entry patterns on the same "public square" 6 (*****); that the pater-nity belonged to the most brilliant among the brilliant mathematicians who had taken the initiative of the Symposium and had animated him. What was sure in any case for all is that it was neither Riemann nor Hilbert, otherwise the brilliant Symposium

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would have taken place in 1900 and not in 1981, two years after the defense of the student's thesis
p. 287

Unknown by Jean-Louis Verdier.

The kind of operation I have seen here today may be commonplace 7 (*) and perfectly admitted, as long as it is practiced by mathematicians who have the upper hand, and whoever in the expenses is a vague unknown figure (which we were kind enough to invite to make him happy). That one of those men who practice it should appear, by his means as well as by his works, of great mathematician (which places him above all suspicion from the start), does not change the nature of the thing. Surely I'm old-fashioned - in my time this kind of operation is called a **scam** and it strikes me as a **disgrace** for the generation of mathematicians who tolerates.

The brilliance of genius does not detract from such a disgrace. He adds a new dimension, unique perhaps in the history of our science 8 (**). he

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can make glimpse, behind the apparent absurdity and gratuitousness of the act
p. 288

(made by someone whom fate has filled beyond all measure, and yet who takes pleasure in stealing ...), the action of other forces perhaps only the desire to shine, or the free desire to humiliate or despair he who feels helpless and voiceless.

As decidedly here I am in full "table of manners", I point (almost as a matter of course) that my name is just as absent from the texts quoted. I was pleased to note, however, that there is not one page of the article cited (among those in my possession 9 (*)), which is deeply rooted in my work and carries the mark, and this even in the notations that I had introduced, and in the names used for notions that occur at every step - which are the names I gave them when I made their knowledge before they are named. There are certainly adjustments of rigor - so the theorem of bidualité I had cleared in the fifties 10 (***) is renamed for the occasion "duality Verdier, "Verdier always the same, there is no mistake... 11 (****). It was not possible, however, that my name appears at least implicitly, by occasional references to still irreplaceable texts (despite SGA April 1

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, which is not quite enough to his vocation), namely EGA and SGA. (In the explanation of the acronym SGA = Algebraic Geometry Seminar of Bois Marie, my name of course does not appear, but in EGA, one is honest or one is not, the complete designation is given, with the names of the authors including the mine. . . Another detail that struck me, and that testifies to the obsessive force of the burial syndrome (in someone who, however, has no "profile" obsessed): the two references I saw at SGA make it a point each time to explain clearly "Mr. Artin's theorem in SGA 4.", for fear that the badly inspired reader may have idea that the said theorem might be due to the person carefully not

6 (*****) See in this regard notes ° n s 51,52,59.

7 (*) I think of two other "operations" that go in the same direction, and that eventually resulted in the publication of LN 900 (cf. note of b. from p. above) and APG April 1

2 five years (see notes about ° n s 67, 67 @68, 68@

(May 9) For the third such operation closely bound of the previous, see note "good references" (No. 82 °) on another "memorable article", this time feather from JL Verdier.

8 (**) I have never heard either talk about something like this in the history of another science or other art that the mathe-

matic.

9 (*) (May 4) And the others also, which I have learned since.

10 (**) Same for the duality theory spread, which becomes "Verdier duality" in the writings of his generous friend Deligne!

11 (***) (May 5) compare with the notes $\circ n s 48 \text{ } \textcircled{C}63$ ". Throughout this long Burial which continued for nearly fifteen years, and also throughout the discovery that has just made, during the past month, the main "anticipated deceased", JL Verdier definitely seems inseparable from his prestigious friend, who lavishes on him without counting the sheaves of flowers de rigueur

in this funereal occasion.

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15.1. VII The Symposium - or bundles of Mebkhut and Perversity

named, while it is clear that the presentation was indeed made, thank God, by a nominable author!

(77)

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All this, we must believe, is good war in the "beautiful world" today. Without please me (and p. 289 she is not made for that. . .) this guéguère is not really prejudicial to the anticipated deceased, whose sym-

The body is thus delivered to the hazards of this rat race, which I discover with wonder.

for two weeks now. It does not corrodes my life with a sense of **unfairness** received in the powerless

ciency. She did not break the joy and momentum that bring me to the meeting of mathematical things and those

of the world around, it has not burned in me the delicate beauty of these things. I can consider myself happy, and

I am ...

And I am happy also for my unexpected "return" whose meaning escaped me. If he were not to teach me that what I have learned in these past days, this return will not have been in vain, which has already filled me. (\Rightarrow 76)

15.1.2. The symposium

Note 75

(June 3) I had some details about the other participants at the symposium, which dispels all doubts. While no presentation of Mebkhout had been planned in the official program of the Colloquium, Verdier was forced to ask him on the spot and in extremis to make a presentation, to make up for the shortcomings of a official presentations (which had been entrusted to Brylinsk \textcircled{C} unaware of the theory of 3-Modules). Mebkhout was thus able to expound his ideas and results, and in particular the theorem of the good God, so as not to allow no doubt about the paternity of this theorem, and the philosophy that goes with it, which allowed the spectacular restart of the cohomology of algebraic varieties, which is concretised in particular by this col-foulbrood. Thus, **all conference participants were made aware of this fatherhood**, for this presentation. I also assumes that all without exception have been aware since the Acts of the Colloquy, and in particular of the Introduction and article cited by Beilinson, Bernstein and Deligne. Not one, apparently, found that he there was something wrong with it - or if he found it, he did not suggest it. Zoghman Mebkhout did not collected no echo in this sense. Thus, all the participants of the Symposium can rightly be considered as solidarity with the mystification that was made during this conference.

This collective mystification was clear already from the moment of the Colloquium, since nobody found something abnormal that in the oral presentation of Deligne on the beams called "perverse", the name of Mebkhout is not pronounced. The lecturer confined himself to stating the theorem of the good God, saying

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that he was not going to prove it in his presentation. He did well out elsewhere (with the modesty which he p. 290 is customary) that "there is no merit" in guessing the extraordinary and unpredictable properties beams he calls "perverse", obviously suggested by the "Riemann-Hilbert correspondence"

he had just spoken $_{12}$ (*). Everyone has found it normal that they refrain from naming the person who

had the "merit" of discovering this providential correspondence, and that it gives the appearance that the author was none other than himself, even though they had just learned, or were going to learn in the days

following, that it was not so. It must have been considered that it was by a kind of inadmissible maldonne that a

The wave appearing at the Colloquy was to be the author of such a remarkable theorem, and each one of his own

to rectify the situation and establish a consensus that attributed paternity to the person who was clearly

for this - one that **should have** been the author $_{13}$ (**).

$_{12}$ (*) Compare with pages 10 and 11 of the cited article.

(June 7) For details on the art of the retraction, see the following note "The Magician", n \circ 75 ".

$_{13}$ (**) (June 5) also everything fits! The reflection which continued in the procession "the Student" (following the procession "The Symposium"), and a certain tone too (especially in a recent and brief exchange of letters with Deligne, see first note Footnote to Note "funeral" n \circ 70) show me that Deligne cohomologists and my other students, it is clear

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Detailed feature **the presentation of Mebkhout does not appear in the Proceedings of the Symposium**. Verdier had asked Mebkhout not to write his presentation, saying that the Symposium was intended to present results while those of Mebkhout had already been published for more than two years.

When we do not let ourselves be imprisoned in a technical discourse, and we look at what really happened passed during this brilliant Symposium, at the level of the forces and appetites which animated the uni and the others, it is believed to be attending a film about the reign of the mafia in the shallows of some distant

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Megapolis, this is

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yet a picture of ours, and the actors are among the noblest jewels of French science and international. The Grand Chief who regulates the operations to the finger and the eye, is none other than the one who was a modest and smiling spiritual son, or at least a legitimate heir (no less modest and smiling). As for the workable and tailor-made, the "soft" in a world of "tough" that do not make neighborhood, by a strange "chance" that I do not yet fully understand the meaning, it is also closely linked to my person. He is my "pupil" as is the Grand Chief (and like him "pupil" with quotation marks ...) - that who went to school when for years I was declared dead and buried. . .

15.1.3. The conjurer

Score! 75 "

(7 June) We will admire in the "memorable article" (which is mentioned in the two notes previous) the consummate art of casual retraction. The equivalence of categories that was the motivation essential of all the work is introduced for the first time at the bend of a sentence at the fourth rage of the Introduction (page 10, lines 9 to 15), without attributing a name to him, to follow immediately with the string of consequences for the concept of "perverse" beam (pages 10 and 11). It is no longer in question until the end on page 16, where we read ¹⁴ (*):

"Note that the following points, **which would have found their way into these notes**, we have failed to task.

- - The relationship between perverse beams and holonomic modules. As mentioned in this introduction, she played an important heuristic role. The key statement is 4.1.9 (**not shown here**) ... "

(To link up with other "points that would have found their place ...")

I hasten to look, what is this "essential statement" that the authors have not found the leisure

to include in their work, or at least not the demonstration. Seek n ° 4.1.9 ... I came across a

"Note 4.1.9" it does not have to be that, I'm looking for an "essential statement", a theorem in form or scholia, with a reference **where** the authors demonstrated that will demonstrate, as they do not prove it **here** ...

But no matter how hard I look, there is no trace of a "theorem 4.1.9" - there is only one passage that answers the number 4.1.9- So I start reading the "remark" at random (without conviction

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- there must be an error of

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dialing. . . I read that "the analogue of 4.1.1 in complex cohomology is true ...", unfortunately, I will have to

Does it go back to 4.1.1 to try to see what it is? I ignore and walk the following text - and

that it, I did not believe it, eleven lines later, a sentence that starts with "We know that ..." and ends with "induces an equivalence of the category ... with that of the evil beams".

Whew - so that was it, finally! But I can look even further, not the slightest hint

to clarify this sibylline "We know that ...". The reader who does not "know" it already must feel silly, not at the

for a long time that Deligne also should have been the author of the discovery of étale cohomology, and of its

mastery; and to a certain level (the one which controls behavior and attitudes) are penetrated by the conviction that **the bottom**

it is indeed him, beside whom I would be a sort of rough auxiliary and clumsy, which would harm rather than something else the harmonious course of a theory (leading to the Deligne-ex-Weil-conjectures theorem) and to a distribution roles satisfactory to all concerned. . .

¹⁴ (*) This Emphasis in the following quote.

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height of the whole situation. What is clear to him in any case (except that he is not up to the task) is that this result "which would have found its place in his notes", which we "remember" here in the bend of a technical remark the reader should know - it is obviously due to the authors of the

"notes" in question, or to one of them; the most prestigious perhaps and who wrote the article (there is a "style"

house "which does not deceive ...), the one who made the oral presentation, and whose well-known modesty prevents him of course to say "it's me!" - but everyone understood without having to say it. . .

It reminds me immediately of memories of my thoughts in recent weeks. The very first,

it is the first work of Deligne in 1968, that I finally took the trouble (sixteen years later) to look at a

closer in the note "Eviction" (n ° 63) April 22 (three days after the discovery of the pot-aux-roses LN 900). I find here the same style, with variations probably due to the "burn-in" intermediate of thirteen years. In the 1968 article, whose main inspiration came from me, he names me by the way and so sybilline near the end of the article, just to be "in order". Here he does not take such care anymore - experience him shows for a long time that it is absolutely no longer worth it! On the other hand, in the article of his young age, since he felt compelled to name me, he compensated by completely dismissing the initial motivation of his work (and weight yoga with, to take him out under a spare fatherhood six years later, in waiting for the exhumation of the grounds eight years later still. . .). Anyway, even hiding (and keeping for his sole benefit. . .) the essential arithmetic motivation of the article, this one "stood", this article was perfectly understandable, live up to the reputation of the author to do things so

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perfect. p. 293

Here, the theory he develops would be incomprehensible without the heuristic motivation. He therefore indicates this one, referring to it by the qualifier "the essential statement", while treating it from below the leg - without honoring it with a name, or a statement in form baptized theorem or proposition, there is not even a "correspondence" (so-called of Riemann-Hilbert) - he left this care to his friends Verdier and Teissier. He does not have to give him a name (given the bit 15 (*) - surely it would show in five minutes) or appoint anyone - of others will do well in his place and to his complete satisfaction. There is obviously a yoga, a philosophy, that the author uses with perfect mastery and authority, without having to name anything - this "little" that he pretends to disdain ("which would have found its place in these notes"), he knows he will have it in addition, as long as he knows how to keep quiet about and wait. The first time he played this game successfully, this "little" was "weight considerations" which was alluded to by a sibylline remark (waiting to bring out the philosophy of fanfares, six years later) The second time, to my knowledge, was when I left in 1970 - the "little" was the "dream of motives" which did not deserve for twelve years to be honored with a word (think so - a dream, and the dream of a deceased still, and not published by the market!), waiting for discover the real motives this time (and what we can do with them) and wear them, always so modestly, the undisputed paternity 16 (***) .

15.1.4. The evil

Note 76 (May 4) I well remember the first time I heard the name "perverse sheaves", there must to be two or three years old, that he had hit me unpleasantly, it aroused in me a feeling of unease. This feeling reappeared the two or three times I heard this unusual name again. There was a kind of "recoil" interior, which remained on the brink of consciousness and would probably have expressed itself (if I had stopped to examine it

15 (*) (June 14) To put this "little", I recall that Deligne had devoted a seminar IHES to try to develop a translation of discrete constructible coefficients in terms of continuous coefficients, without reaching a satisfactory result. See Note about "The unknown service and the theorem of God", n ° 48.

16 (***) For further comments on this technique of "ownership contempt", see note next day n ° 59 ©
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then) by something like: what an idea to give such a name to a mathematical thing! Or even

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anything else or be alive, except to a person - for it is obvious that of all the "things"
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of the universe, we humans are the only ones to whom this term can sometimes apply. . .
It seems to me (without being entirely sure) that it is none other than Deligne himself who for the first time spoke about the so-called "perverse" bundles, when he came home after the Symposium of Luminy 17 (*). It even had to be one of the last mathematical conversations between us - there are none had others after his visit. It was during this passage precisely that this "sign" appeared, which brought me a few weeks or months later (as this sign was confirmed in the exchange of letters mathematics that followed the meeting) to end a call mathematically 18 (**).

(See notes for this episode of "Two turns" n ° 66.)

To return to the so-called (wrongly) "perverse" bundles, it is obvious that "normally" these bundles had to be called "bundles of Mebkhout", which would have been only justice. (More than once I happened to give mathematical notions that I had identified and studied the name of predecessors or colleagues which were bound much less closely than Mebkhout to this beautiful notion - which, moreover, would seem to me more in the "sublime" tones that perverse!) The arrangements in which Deligne was at the time where he discovered and named this notion from the work of Mebkhout, preparing to steal him while himself was already "filled beyond measure" - these provisions can rightly be called "perverse". Surely my friend himself must have felt it in his heart, to a certain level where we are not fooled facades that we like to display. In the attribution of this name (which seems aberrant to first view) I feel an act of **bravado**, a kind of intoxication in such a complete power, he can afford even

display (symbolically, by the display of a provocative name that **no** one will read the true meaning, however, brilliant!) its true nature of "perverse" spoliation of others.

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It seems to me by no means impossible that at a certain deep level I perceived the tone of these provisions
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in my friend, and this has contributed to the malaise that I spoke 19 (*). This discomfort was expressed in particular by inattention to the explanations he had to give me, whereas I do not think there was any opportunity before this meeting, where I followed with a sustained attention what he said to me, and especially when it came of mathematics. There was in me a sort of blockage vis-à-vis this notion called (God knows why) "perverse" - I did not really want to hear about it, even though it was closely related to questions of which I have been (and remains to a certain extent) very close.

To put it all, this whole article by Deligne et al. they were "**grothendieckeries**" typical and all

17 (*) If this is so (as I am now convinced) it is necessary to honor the modesty of my friend, because I

did not suspect (at least consciously) that it was none other than him who had introduced and named them. It took that I read the "memorable article" to realize it.

(May 28) Actually, the thing is not more said in the article in question, that it is said that Deligne is the father of the Riemann-Hilbert correspondence. Yet I had no doubt about his paternity on the name "perverse bundles", and this one was confirmed to me afterwards.

18 (**) On a purely personal level this relationship continued in the same tone of affectionate friendship than before, without apparent change. My friend used to come every other year to visit me, during

some hike most often. I had his visit again last summer, which was a welcome opportunity to do too knowledge of his wife Lena and their daughter Natacha still very small. It was I believe the return of another Symposium Luminy again, and on which I hardly had any echoes (except some vague and vague allusions of Mebkhout, to whom we had He still does the honor of inviting him and who has found nothing better to do than to enter the game again. . .). They are stayed home two days or three, and the contact was excellent all the way.

19 (*) I would even be inclined to think that this is indeed the case. More than once I have seen in myself how much the perception depth of things is of a delicacy and an acuity incommensurate with what touches on the level conscious or flower of conscience. The man fully "awake" is the one in which these perceptions are constantly integrated into the vision conscious and conscious lived - so he who lives fully according to his true means, and not only on a portion derisory of these means.

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spitting, which could just as easily have been my pen (with the sole exception of the name of the main notion Cipale)! It's a bit what I have already said in the second part of the previous note (n ° (75)), and what I have felt already from the moment I read the article cited - but without this diffuse feeling is incarnated again in this striking observation that I have just made. This one makes me again in a striking way, this profound contradiction of the one who can not help himself (in a certain meaning) to reproduce and assimilate to the very one that we must deny, to to bury, and that is also at the same time

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that we **want to be** and (in some sense) it **is**.

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As early as the day before yesterday, in writing the previous note ("Iniquity - or the meaning of a return"), I had been struck already by this coincidence, that this turning point in the relationship between my friend and me, impoverished suddenly from a

communion into a common passion, which had been its *raison d'être* and the most powerful one, was my friend's very return from this memorable Symposium, whose meaning had just been revealed to me. What had me aback when we met in July 81, which at some level was as friendly and affectionate that

other occasions when we met, it was the "sign", discreet by the tone and air, and

Yet a brutal evidence of a deliberate disdain. It was like a kind **of deposit** that

My friend took, at this time of personal relationship, on the implicit disdain and just as "discrete"

(And an equally "brutal clarity") he came to the Symposium Luminy express vis-à publicly

screw me, as a public figure, so in the context of a brilliant technical virtuosity deployment

between the stars of the day. It was the same "disdain" also had just express (but this time with even

a different brutality "perverse") vis-a-vis the one who had dared (ever so slightly) to avail himself of me, and

thus was condemned to be more for my friend Peter (at some level at least) that "another

Grothendieck " 20 (*) that it was now crushed at all costs...

15.1.5. Thumb!

Note 77 (May 5) Another detail struck me browsing this memorable Article 21 (**) that dominated (at this they say) that no less memorable Symposium Luminy June 1981. The last chapter, under the name suggestive "From F to C," describes in great length a remarkable principle that I introduced in geometry

Algebraic there must be twenty years old - it had to be before birth of the concept of pattern (which in gives the most illustrations

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Deep via Weil former conjecture). This principle ensures that for some p. 297 types of statements regarding type schemes ended on a body, you only have to prove on a base body finished (thus in a situation "kind of arithmetic") to deduce the validity of any body, including Body complex - in which case the algebraic-geometric sometimes contemplated result can be reformulated by transcendental channel (eg in terms of integer or rational cohomology, or in terms of structures Hodge etc.) 22 (*). My friend taught by none other than me and through me, in many examples Over the years 23 (**). The authorship of this principle (which in elemental form is very explicit in EGA IV - do not ask me what paragraph and what number. . .) Is also notorious 24 (***). To the point that when 20 (*) In our personal relationship, my friend calls me by the affectionate diminutive (of Russian origin) of my first name Alexander, that also whereby call me since my childhood my family and closest friends.

21 (**) See footnote ° 75 about "memorable article".

22 (*) (May 6) It seems to me that the first example of using such a principle is in the Lazard theorem on nilpotence algebraic group laws affine space E (on any body). His demonstration was very much hit, and I am inspired to many other statements, and to make it a "philosophy" that has dominated my thinking about patterns theory.

23 (**) See note "Eviction" (n ° 63) for one of these examples.

24 (***) (June 5) It may be unfair that I pretend the "father" of a principle which the first application that is known to me is due to Lazard (see Note (*) above). My role, as in other occasions, was feeling the generality of another person's idea, 339

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the award of the Fields Medal to my brilliant friend, the Helsinki Congress in 1978, N. Katz could help the passing reference in his speech in honor of P. Deligne, grinding and (mine nothing) to "forget" routine a bit annoying his illustrious winner. I have read that speech he A few days ago, along with the "memorable article" itself.

Still, in this article, passage of the philosophy of "arithmetic" to the "geometric" is presented in such terms that it can be no doubt to an uninformed reader that the brilliant author main (excuse

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odd. . .) Has just discovered this wonderful principle of such great significance.

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It is true that I have not patented the method, and that my brilliant friend nowhere says that he is the brilliant inventor; nor does it purport clear that he is the father of the famous "correspondence" (Admire the term, smelling his nineteenth century) modestly attributed to Riemann and Hilbert (Men worthy to sponsor the children of such a prestigious successor) - nor does it specify in the "memorable volume" (LH 900) that this is indeed he who invented patterns, Galois groups motivic and a philosophy that goes with it (and he still has left a piece). Nothing to say no more for this famous SGA 4 1

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Where they even made me the honor again to make me appear as a "collaborator"

This volume, which develops so brilliantly ab ovo the étale, by deigning to use (despite their Regrettably gangue superfluous details etc.) to the two satellites volumes 4 and USG USG 5, doomed to oblivion but which generously recognizes the merit of providing some technical additions and digressions (some even "interesting") 25 (*).

In all these cases, and many other micro-event as I've seen in the five or six last years without the idea ever come to me to **understand my discomfort** and give a name to what I witnessed or co-actor 26 (***) - in all these cases, I recognize the same **style**. My friend is always and totally " **thumb** " - it can be used at home, with good conscience that gives complete admiration (all there has based) of his peers and his odd, guaranteeing impunity.

15.1.6. The Chinese emperor's robe

Note 77

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(May 7) Of course, those who see to my friend Deligne and are so little "in the know"

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for the ins and outs, I mean those who do not disembark and do everything just learned math "that are" in the publications of the person himself, or other bright stars (without always golden) of his generation - those colleagues there (and they are not so rare after all) is well aware, at **some level**, of what is happening. They must have felt good in the case "a bit big" this little particular discomfort I felt myself more than once before these "micro-case" a hundred times less

and systematize the point of making a "jerk" or a "second kind". As part of yoga and weight reasons, probably the first to use this principle was Serre (not me) with his idea of the numbers of virtual Betti me put on the road just a general yoga weights and patterns. (See footnote 46 for the idea of Serre in question.) It is also true that it is common practice to attribute authorship of a "principle" became current reasoning, not to author where we find the first trace, but one that for the first time perceived the general, who systematized and popularized. In this sense, we can say that the rectification of N. Katz (discussed in the following sentence), assigning me authorship of this principle, is justified.

25 (*) For details on "operation SGA AT", see four notes "The clean slate", "Being apart", "The Green Light", "The reversal ment" (notes n s 67, 67 68, 68)

26 (**) The first step to just "understand my discomfort" in a case was made in Crops and Seeds there are fewer three months in the reflection (which proved very laborious - and for good reason) "Note, or the new ethic" (Section 33). This thinking is reflected in a note to this reflection, "The snobbery of youth, or defenders of purity" (note 27), and then again there are less than two weeks (under the impact of the discovery (the day before) of "memorable volume" (LN 900))

with footnote 59: "The new ethics (2) - or the rat race." In writing it, he remained in me like a shade hesitation to use it quite thickly term "rat race". The discoveries which have followed since have shown me no hesitation was not yet in order.

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big as these. But what they felt was so **huge**, so **incredible** that it never have surfaced -

as it finally began to surface in my house, in a **work** that was expressed by these

two texts around a micro case discussed in Note b. p. former. I did not hear

indeed the thing has been unparalleled in the history of our science or other. Instead of doing

surface "in some" it "had more **to school**, or at least be considered **normal** - as long

a man obviously brilliant, admired by all, practiced with the largest natural world, in full view

of everyone and without the thing ever (as far as I know) does not raise any comment.

In recent days, I could not help but well resonger of both the tale "The dress of

Emperor of China", which said Emperor abused by unscrupulous crooks and by his own vanity, makes

announce that appear in solemn procession with the most sumptuous clothes the world has known, that

just prepare it at great expense so-called artists tailors. And when it appears in procession surrounded

with great pomp by the Court in great finery, by "artists" making bows and the imperial family

full complement, or person in the procession or the people together "to contemplate the seventh

wonder, does not dare to believe the testimony of his eyes, and all make a point to admire and go on about the

unsurpassable beauty of these clothes which ready it. Until a child who had strayed into the

crowd exclaims: "But the emperor is naked!" - and then suddenly everyone as one voice

exclaims with this child "but the emperor is naked!".

And I feel like the little child who believes the testimony of his eyes, even though he sees is

quite unheard of, never seen again and ignored and denied by all.

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Whether the child's voice will be enough to bring back some of the humble testimony of their healthy p. 300

faculties is another story. A story is a story, it tells us something about reality - but it is not

not reality 27 (*).

15.1.7. Dating from the grave

Note 78 (May 6) It only been five days since I got to the end of ends, this generous packages

papers My friend Zoghman Mebkhout, including especially the two texts already examined

"memorable Symposium" - that Colloquy built around a **hoax** monumental! The note "the Iniquity -

or the sense of a return, "when I try to assimilate quite incredible sense of this new" event, "

was written on the same day (after the first of May) I received these documents in emotion yet the

Discovery 28 (**).

Since April 19, when I had finally read the "memorable volume" readings Notes (LN 900 -

see notes (51) (52)), this was the third great discovery about the great solemnities of Burial,

it is also one that seems the most far-reaching, both by lighting it provides actions

27 (*) (14 June) After writing this note, the name "The Chinese Emperor's robe" struck me as a subtitle natu-

rel to Burial expressing a particularly striking appearance thereof. Thereafter, the reflection is being moved

all of my students, even "the whole Congregation" of mathematical Establishment, this subtitle appeared less

win. But I finally realized that the parable who first came to me thinking about my friend Deligne, applies

also to all aspects and events of the Burial, which each come short of the grotesque in the incredible

(That everyone is committed to ignore modestly) yet is true. For reflections in this sense, see

particularly notes "You can not stop progress!", "The Symposium", "The Victim - or both silences", "The joke -

or complex weight", "Spoofing", "The Deadman - or the whole Congregation" (n s 50, 75 83, 85 97), including

none specifically for my friend Peter.

28 (**) With the "Note - or the new ethics (1)", this note is the only note or section that I was forced to rewrite several times, because what "out" in the first version (and even in the following) remained weighted any inertia a vision that I was customary, and remained far below the reality that it was considering.

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people to whom I have been closely linked, by its implications as "table manners" of an era apparently unique (but it is true that I am ignorant of history...).

The second discovery was followed closely the first - that of exhumed

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tion of the "reasons" for twelve

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years buried. After the "memorable volume," I got to the "memorable seminar" - this "seminar" which has never occurred, wearing a phony name (SGA as the number 4 1/2), and enriched with "State 0" a thèse-ghost, besides a central exposed the (true) seminar SGA 5 (which is higher figure, while is older than twelve years); exposed "borrowed" for the purposes of the trial without further operation.

This brilliant operation, and the role it played in the strange vicissitudes that have hit the poor seminar SGA 5 (dismantled the head, tail and middle!) gradually revealed during a reflection that continued between 24 and 30 April. (See in this regard the five notes "The crony" "Clean slate", "The Being apart" "The signal", "Reversal", n ° s 63 ©67, 67 ©68, 68©

Just this discovery then digested alongside my retrospective reflection "My friend Peter" pull to an end, and when I came on April 30, proudly putting the final and definitive mark (where it was safe - this time I was finally i) in this endless Burial, with the "final note" on behalf doubling euphoric "Epilogue - or Unanimous Accord" - I get this evil package, which challenges endpoint, epilogue, layout and numbering. . . A quick look at the documentation and the annotations and letters that accompanied it showed clearly that it was screwed up my end point, and beautiful scheduling of a first class burial I was about to fine tune the final details - I was good to return to emcee harness. . .

God knows he© had time to inform me of the situation, my friend Zoghman! It must make it lasts ten years in latent form, and at least three years under "acute" (and still it is a euphemism) - from the Symposium in question, where he has been feeling the wind without waiting for the publication the year after the "Acts" high official under the patronage of his former boss shows and protective. A few months after defending his thesis (in February 1979), he had come to bring me an exam-please the village where I had lived for six years. Bad luck, I had to leave (never there return, except in passing. . .) A few days before, to retire to solitude. He has met my daughter, who gave me the thesis later. It©a year later I think

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we finally met at college

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Montpellier, where we had a chat for an hour or two. I was not connected to the math at this time and had not so much remind me neither a thesis that I had to flick in a few minutes, or the name of its author. That did not stop the contact was warm. I remember well a current immediate mutual sympathy. We did not so much about math (not that I can remember), but mostly more or less personal things. Zoghman told me later (something I had forgotten) that could still explain a bit the "philosophy" of the 3-Modules, and that he was glad the meeting, for making me feel "vibrate" so little that it is learning from him about things, and yet also (a way) "expected". What I remember most is the feeling that made me the person - a sense of calm and stubborn strength, that of a "go-getter". At that time, much more than in our meeting last year or in the correspondence that followed, I felt a strong affinity of temperaments - from this side "go-getter" in particular. But two or three years that have passed between the two meetings appear to have begun not bad. . .

I do not remember that at our first brief meeting Zoghman has spoken of isolation in which he worked, to the lack of any encouragement from the "luminaries" who were my students. If he has hinted he did not have to insist. Even at that time the thing was not for me

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surprise 29 (*). I can not say whether it was before or after the symposium Luminy June 1981 30 (**). Yes it was after, he would have anyway of all hot things on the stomach - and it really gave not printing. Rather that of a man who knows what he wants to do and what he wants, and following his

quiet road, seeking noise and without him we seek noise.

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We did not then continued to write. But I remember him well, and at the beginning of last year I have him p. 303 writing a word, just in case, to ask perhaps if he was availability situation to tackle a magnificent work of foundations for a "moderate topology" that (it seemed) was waiting only that someone of his caliber harnessed it. Without Zoghman me first say clearly, it turned out that he was not really interested in that perspective - against it by seemed happy to take this opportunity of a new meeting. Then I was too out of it to fully realize the situation, I imagined that 3-modules theory was now done and closed, as is say the duality theory consistent (78 1) and that Mebkhout was perhaps short of "major tasks". With our summer meeting last only that I realized that the same theory that he had started, the "great Tasks "abound - and some have not even begun, because they have only been seen! Still, it was an opportunity all found a second meeting, this time not gale like the first. Zoghman had to stay home maybe one week last summer at June I think. At the mathematical level, our meeting served primarily to inform me as yoga-so 3-Modules. I was slow to me "thaw", having a little lost contact with my cohomological old loves, and being embroiled especially in the writing of "Fields of Pursuit" which fits in quite different registers. Zoghman has not discouraged me a listen ear a little distracted, he returned to the charge tirelessly, with touching patience. I ended my trigger, I think, when I realized that these famous 3-modules were nothing more than what I had long ago called **crystal modules** , and as such it kept a sense of singular spaces. Suddenly, I saw up forgotten depths of a network of intuitions of my past cristallino-differential, and reset a bit rusty reflexes of my past "six operations" ... This is Zoghman which suddenly was a little downwind perhaps, or is it an afterthought rather he decided he would not risk his fingers into gear this one (not more than my friend Pierre has wanted to put the his - when he was all fire and flame as I was around. . .). (⇒ 78)

Score 78 1

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Yet there are a number of results "for" consistent duality, including the structural p. 304 ture of "dualisantes differential modules", their relationship to the differential modules "naive", and track applications and residue in the non-smooth flat case, I had developed in the late fifties and who have never been published to my knowledge. This prevents essential to the dualistic theory coherent ity (in the schematic part at least), like that of duality spread (and its variant for the discrete cohomology of locally compact spaces, developed by Verdier Model spreads), or linear algebra or general topology, theories appear as essentially **Acheson Veas** 31 (*), so in the nature of **tools** fully developed and ready for use, and not a **substance** as 29 (*) (May 30) This is not entirely true - I reprojects the past disillusioned latest provisions. I remember when meeting with Zoghman last summer again, he was surprised that none of my cohomologistes students (especially Deligne, Verdier Berthelot Illusie) have shouldered Zoghman in his work. This surprise was renewed when changing Deligne home, about ten days later (I had to touch a word on Zoghman without encountering echo) and the Subsequently, in a telephone conversation with Illusie. (See the note about "Spoofing" n ° 85 © 30 (**)) (3 June) This was before in February 1980, one year after defending his thesis. 31 (*) (June 12) This is not quite true to the duality spreads, as speculation of purity and "bidualité theorem" does will be proven in all generality.

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is little known that it would penetrate and assimilate.

15.1.8. The victim - or both silences

Note 78

Our meeting took place in a friendly atmosphere of trust and affection. this atmosphere yet has not kept its promises. I now realize that from that moment the trust was far from complete my friend. It was two years after the famous Symposium, and a year after the publication of "Acts" in Asterisk 32 (**) - at a time so his whereabouts to the cost of a scandalous spoliation. But he kindly let me know there are just four days! When he came last year, he came from another symposium Luminy 33 (©**) (this time outright themed 3-Modules)

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where it

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still had generously invited and where he was eager to rush. He spoke in terms of both bitter and vague, suggesting that now that he had pulled the chestnuts out of the fire, they were "the others who had everything" I could imagine the picture indeed -. especially Verdier suddenly remembering fatherhood

triangulated categories (and also derived, for that matter!) that he had left out for ten or fifteen, just tolerating his "pupil" Mebkhout uses in its work. . . (81).

No he wanted then explain clearly Zoghman were big on heart it seemed about Verdier, understandable thing given the bleak behavior of his former boss. However, cohomologistes my other students, Deligne, Berthelot Illusie no longer had deigned to look at it and support was more or less. But it was almost as for Zoghman it could self that going, never (would they say) experienced a different attitude than that one from his elders. If he wanted then someone from my former students, it was solely and exclusively to Verdier. According allusions Zoghman (he obviously did not wish to specify), I realized that "we" mini-banked systematically the scope of what he had done - a point and that it. This is after all the thing most common in the world. The appreciation of the importance of something being largely subjective, this is common and almost universal to award more merit and importance to its own work, those of his friends and allies, as those of others, especially those we want to minimize fear one reason or another. (And "reason" in this case does not really had a mystery to me!) Nothing could not let me suspect that far beyond these prevailing attitudes, here there was an operation outright fraud, where there was no question of "minimize", but **to retract** without more paternity Mebkhout on ideas and results that redonnaient life where there was stagnation. . . Yet if there was one person in the world that it was natural that my friend opens, that was me whose work had inspired him during these years of persistent work in the bitterness sometimes against the tide fashion of the day - I affectionately received him in my house, making me a little

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his pupil to my
p. 306

round learning my best he delighted in teaching me ³⁴ (*).

32 (**) (October 9) Zoghman tells me that the "Acts" are actually published as early 1984.

33 (***) (May 7) There is a slight memory of confusion here - I rather think he was about to go to the Symposium. From that time many Sure, there were plenty of reasons for these "bitter words" (and waves) which I remembered. But the bitterness was still boosted by its passage Luminy after his stay with me. I have heard echoes a call that he gave me his return Luminy. From that moment I had the distinct feeling he was rushed to Luminy for the pleasure of being bullied by "people" (not too much to ask me which) who had generously invited for fun, them to process it negligible quantity. I had to say or suggest, what has not been so improve the provisions of my friend My respect.

34 (*) No more than his own funeral, Zoghman not also spoke of mine, as soon it was ten years yet he was really a ringside seat to watch the proceedings! In short, its "protectors" (a little reluctant on the banks) had kindly as he carries his hands a small corner of the coffin bearing my body - but they did it not forgiven from alone among the guests who sometimes allows it pronounced all other silent! So, my friend would feel cantilever in his relationship with me, and he could not find in him the simplicity to assume
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After passing my friend in an environment of warm affection, there has also been a "return crank" immediate. I had this impression that he had decided to postpone my person mistrust and bitterness that had accumulated in it over the eight or ten years, spurred on indifference and disdain he had met with some of those who were my students. In the months ensuing correspondence between us never left the aigredoux register - she finally stopped on a new year greeting card, which never received a reply.

It only the end of March I contacted Zoghman to send "The weight of the past" and notes I was then added to this section (n ° s 45, 46, 47, 50). It was asking if he agreed that I do figure as I had done in the short reflection on my work (in the note "My orphaned" n ° 46), then it would be clear to everyone that I was using information he had given me, and he could judge they were confidential. I was not sure my friend would not prefer (as others before him) "crashing rather than offend." That would have made me of the sentence if he had been. I found a long time to have his reply, received ten days only. I was expecting it a little would be even half flesh, half fish - but

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this time it was downright friendly. He gave me his ^{p. 307} agreement without reservations, moved even with the terms in which I was talking about him. It on page 6 of its long letter (eight pages) indicates that, in passing and about the "number impressive" of his theorem applications ("both in the topology frame spreads in the transcendent framework") that it is still in the literature as the "Correspondence Riemann-Hilbert" ³⁵ (*). He says of the way if almost incidental, and that illegible handwriting as pleasure, that it almost entirely pass to ace! I still remembered, it was really something

strange. Strange though it seemed hardly believable, and then maybe my friend was exaggerating, obviously he wanted everyone including me who nevertheless did not want him well, it was still clear enough.

So I added a note (sacred Zoghman, I thought I had done yet!) Called "The unknown service and the theorem of God ", in addition to two other" Instinct and fashion - or the law of the strongest " (I also thought a lot about him, among others, by writing it) and "Weight canned and twelve ". This note on" The unknown secret service, "I wrote to first without full conviction; Zoghman seemed so tied up and full of contradictions that I wondered what I was getting myself just making me its echo, so without knowing the facts for myself. The thought was not me grazed there could be a scam, let alone Verdier or Deligne themselves were involved. Nothing in that Zoghman had said could suggest. . .

But both one and the other were linked so closely to the theorem of God, his paternity could hardly be retracted without at least tacit agreement. It had to work in me in the days followed. I remembered that there was plenty Deligne thought, this problem solved (ten years later) by Zoghman - and then Verdier after all, he was director of research function; even if he was not much tired to his student and he would rather beat cold and discouraged than anything else, it should at least know what the two main theorems in this work - surely it Zoghman explained, during the famous "interviews" Verdier

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agreed to grant him! So I enriched the note p. 308

a commentary on the relationship Mebkhout to work with an earlier attempt Deligne, and a Note b. p. the role of Verdier. It was also a time-even straw poll vis-a-vis my friend a past charged (as was mine) ambiguities, and tell me plainly and clearly. Talking about his funeral, it was also talk of mine and of the role that he himself had played there. . . Still, if I come to find out that famous Burial in all its spendeur, this was against a kind of "conspiracy of silence" that included as much my friend Zoghman my friend Peter - and also probably the most friends I had in the "big world" mathematical. (June 3) For further details, see footnote ° ! 78 "below.

35 (*) See quote from his letter in the note "A feelings of injustice and helplessness", n ° 44 ".
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Zoghman. . .

One might think that suddenly, Zoghman will jump at the opportunity to unveil finally, finally, its batteries, hidden for three years, which will finally bring out the truth and clear triumph of the cause of the oppressed! But not at all ! Fifteen days of silence, followed by a letter which speaks of all (math) unless the Theorem of God - or rather, it merely about him to give me the exact reference in his thesis that I had requested. (I still wanted to know where it was proved that famous theorem on which I was getting into so firmly!)

It took in my response to this letter, I say a few words about "the vast scam with regard to my work "that I had just discovered (with the" memorable volume "LN 900, and more me "promising much pleasure" in the coming days to meet with SGA 4 1

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the library

Fac) - for, after another pause ten days yet, my friend finally triggers!

This time he finally "put the package" - a **large** package, for once, of carefully selected materials, allow me (to me that hardly haunted libraries, or even reprints batteries piling up in my office at the Fac ...) to get a balanced idea of an "atmosphere" in which many are still those who are not involved in my long and solemn Funeral 36 (*). Next to the main "exhibit" (both products of the famous Symposium, breaking the incredible mystification) and another "memorable article" (this time from the pen of Verdier 37 (**)). there was the speech N. Katz on the "Winner Fields" Deligne, in addition to a presentation by Langlands and another of the same Manin Congress Helsinki 1978; then "Hodge Theory I" Deligne Congress Nice 1970 (where it is made still referring to the line 3 in a "speculative theory patterns Grothendieck" (78 1),

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and "Weight in
p. 309

Cohomology of Algebraic Varieties "of the same Deligne Congress Vancouver 1974 (where my name is not pronounced (78 2)); more then a match with A. Borel (another old friend, whom I learn while he is back in Zurich. . .) And two notes to CRAS Mebkhout, one from 1980 is a summary of Chap. V of his thesis (passed last year), putting a little more value theorem of God 38 (*). Without even counting a document, hush! statement under the seal of secrecy, and I here will not say another word. . .

Two letters that accompany substantial sending (letters of 27 and 29 April), one very long and both

substantial. Now that he has finally spill the beans (real this time!), Continues Zoghman Yet to urge me to extreme caution, as he did since I had contacted. If I listened, I would keep well to make public my reflection notes, which remain subject to secrecy Absolute between him and me - not the part at least that involves anyone, given that "they" were "all authorities "and that" everyone is with them " 39 (**)! But I had Zoghman well aware that these notes I sent him the extracts concerning him, are intended to be made public, and in most promptly.

All elements seem reunited for the triumph of the just cause of the oppressed, but the "victim" seems to do everything yet possible to continue his muddy the waters as fun - as a

36 (*) (12 June) Still, Katz, Manin, Langlands do not seem to be in it. . .

(March 1985) In another bell sound for Katz, however, see note "The dot the i" n ° 164 (II5) and "The maneuvers "(n ° 169)," Episode 2 ".

(April 1985) Similarly to Langlands, see note "Pre-exhumation (2)", n ° 175 .

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37 (**) see this article about the note "The good references" n ° 82.

38 (*) For a detailed reference for the note, the thesis Mebkhout and the theorem of God, see note "The pavement and the beautiful world - or bladders and lanterns ", n ° 80.

39 (**) (30 May) Carried away by my momentum, I exaggerate a bit here. At no time does Zoghman suggested I refrain from publishing any part of my notes. Lately, he insists it would even appear that these notes indeed as book for the benefit of "posterity", while a limited edition kind preprint it seems a bit "a stab in the water."

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15.1. VII Conference - or bundles Mebkhout and Perversity

secret regret (would hearsay) of selling the famous "wick" which has had to be Zoghman (until fateful May 2) the sole holder. This ambiguity is reflected in each line (I barely exaggerating) until the last letters again that I just received - including the latest when it sends me dark triumph the "memorable article" in full force (whereas with the "big package" sent First, it was still managed to separate than the first twenty pages of this exhibit Mistress 40 (***)).

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As for the friend I mean Pierre Deligne (not Peter or "friend" for everyone ...) is p. 310 just that he does not sing the heartfelt praise - it looks like once it©not him, Zoghman which is a "victim" but no, but Deligne, the poor, which was influenced so so bad by those who around him - the only ugly, and who so badly surrounded, it is Verdier (and still rather follow my gaze.....) I definitely "had to do something" Verdier for it to be like that as cow for the sole pleasure to harm, besides it©me who also was her boss and also I who awarded the doctorate and the glory and the rest - the means sum of "absolute power"! 41 (*) Obviously, if my friend wants to someone, it©not really his illustrious former boss, he had the honor of meeting for a "maintenance" only three times in ten years in all and for all (have I understood he wrote me most recently) - a dizzyingly remote man, completely out of reach - but it is that he can come and see when it pleases him, and share his bread and shelter. . . 42 (**).

Each time when a new Zoghman did not disclose any new element, making me know a little more a situation of theft in which to figure victim (and can help so slightly to untie it), I feel that it is like a **tear** , the culmination of an exhausting inner struggle. There is has a **role** to which he seems to have identified the body and soul, clinging to it as its most valuable asset - this role of **victim**

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he can maintain that now about this role and the situation warrants, p. 311 the absolute secrecy 43 (*). And it can be torn into effect and hate me more than ever now where, with his reluctant cooperation (torn almost by the logic of a situation created by none other me, with these misguided thoughts on a burial without stories. . .), This secret will end, and it can also be the role in which he has been pleased to continue, I can not say since when. This "burial" My friend Zoghman was carried out under the conjugate **two silences** , each doing response to the other and in turn causing, in a flawless round where the role of each spouse closely the role of the other - the spoilers and the despoiled. If more than once I was struck to see that "the enterreur" was same time and more deeply her own "buried", I was seized much to see in the person of another a friend "buried" which is at the same time more deeply, his own "enterreur" - in close collusion 40 (***) (9 October) Zoghman specified that made me, he had not first in his possession a Xerox of the full article, he drawn only later.

41 (*) This is not the first time I heard this story on the "absolute power", by which we would be convinced of its own powerlessness and justify. If someone invested anyone to "absolute power" over his own person, his Zoghman, it is none other than Zoghman himself!

42 (**) (May 8) It is also surely no coincidence that the unmistakable signs of the conflict, in my friend's relationship I have appeared to aftermath of this same room where he "shared my hand and my house" in an atmosphere of affection unconditionally abolishing a sense of "distance" that our first brief meeting probably could not completely erase. I encounter a situation that is familiar to me long, on which I speak (in relatively general terms) in both notes "The enemy Father (1), (2)" (sections n o s 29, 30). I had no idea, writing in the comment to reflections that preceded, how the situation archetype that I am describing was constantly at the center of a much thought yet to come, when I thought I was almost touching the end of this journey!

43 (*) (30 May) Since these lines were written (May 6), the attitude of my friend has changed dramatically, and I have not recently seen signs of a commitment to a victim role. It is understood that the following lines (as those before) relate some episodes in the life of my friend, and do not claim to understand a temperament or describe an ongoing bias.

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with even those he delights to be the willing victim.

And I see that the primary responsibility for its own spoliation is none other than my friend Zoghman himself. Similarly, who for three years nods his silence to his humiliation by those who are at ease with him. He had everything in hand to fight - and he chose three years to forget even that he had hands, and be defeated without having fought 44 (**).

Score 78 1

I had never held hands this short preliminary notice, but only the most circumstantial publications "Hodge Theory II, III" appeared in the Publications Mathematics.

That's why I was under the impression that Deligne did not bother to ever refer to

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a role

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played by the theory of motives in the genesis of his ideas on Hodge theory. I thought if he had the desire to mention a role that I have played with him 45 (*), he would have probably done with "Theory Hodge II" which is his thesis, which was the occasion where ever mention such things 46 (**). I just saw that he was acquitted once and for all the formality of mentioning me by this pithy line 47 (***) referring to "conjectural theory of motives Grothendieck" with same a reference to the key (to the outline of the seminar Demazure Bourbaki).

Nothing to say, again! The idea did not come to him to say that he had learned this theory (all conjectural, do not forget!) by a **source other** than lean Demazure text, which can give no picture of a theory of great wealth (all conjecture!), which is found in filigree through all the subsequent work of Deligne around yoga on weight - meanwhile escalating "Pirate volume" LN 900 which are finally exhumed (after five years) groups motivic Galois (this time without even a terse reference line containing the name of the deceased. . .).

On reflection, this terse quote, I recognize the same style "go!" - a pure quote form, to be left with a reference which is not likely to enlighten the reader (in this case, on the

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obvious and deep relationships with ideas that precisely this is to hide 48 (*) - and that remained

p. 313

hidden during the twelve years that followed), but **to mislead the** .

Score 78 2

I did not have to keep this text 49 (**) the hands (which I learned about it a few weeks ago) to know that my name was not included. This Serre, for that matter, which was the first glimpse of a "philosophy of weight", which I then cleared in great detail.

44 (**) (30 May, This is certainly a subjective vision in someone in whom a wrestler temperament, someone who this fiber-there might seem absent. It would seem that since these lines were written, the combative fiber is woke up my friend, and he is determined to fight against the iniquity which he has paid the price.

(18 April 1985) For a different light and less "hard" provisions of my friend, see also note "Roots" (n o 171 3).

45 (*) (30 May) I minimized indeed systematically, until a few weeks ago, this role. On this subject the note "Being apart" n o 67 of 27 May, which I realize for the first time this attitude with me and perceive the meaning.

46 (**) (30 May) I do not remember not being contacted to be part of the thesis committee. Burial was already good train. . .

47 (***) Greenhouse figure also implicitly in the same line with the sign of reference [3] - the curious reader will find his name in the bibliography at Hodge I. This expeditious line-witness is the only likely between 1968 and today, where he is a reference (if cryptic it may be) the "source" it refers to a breath Serre (aka [3]), patterns, Grothendieck. . .

(May 28) I nevertheless fallen from another such hint, very interesting for the very special occasion. See

this note, "In Praise of Death (1) - or compliments" n ° 104, and the end of the note that precedes it ("The Gravedigger - or Congregation whole "n ° 97), placing this" special sale ".

48 (*) By writing these lines imposed on the association with a first incident developer around the "weight" which is located two years earlier, which was discussed at the beginning of the note "Weight canned and twelve years of secrecy" (n ° 49) and way more

detailed at the beginning of the note "Eviction" (n ° 63). For the "thumb style!" in general, see the reflection of the note "Go!" (n ° 76). It is a style that is becoming very familiar to me!

49 (***) "Weight in the Cohomology of Algebraic Varieties" by P. Deligne, Congress Vancouver 1974 Proceedings, pp. 78-85.
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15.1. VII Conference - or bundles Mebkhout and Perversity

15.1.9. The boss

Score ! 78 "

(3 June) Zoghman explained that he became aware only gradually, and so confused at first, the "scam" that was around my work. The manuscript given to him Verdier in 1975 (see "The good references" footnote ° 82) was providential for him, including & introduce the concept of constructability and its essential properties, as well as bidualité theorem, he was inspired to bidualité theorem (or "local duality") in the context of the 3-Modules. It was only years later, reading SGA 5 (publishing-killing certainly, but not enough massacred for-as to deceive a careful reader like him) that he began to realize some thing. For a long time he was filled with admiration and gratitude for his older remote, convinced that ideas which he inspired was plenty of it. It even seems that for years, he was indeed convinced that the so-called duality theory "Verdier" was indeed due to Verdier, or at least to "clamp Verdier", and like the idea of duality he called "Poincaré-Verdier" is indeed due Verdier. It was around 1979 (the year of its defense) that only started to realize that there was something wrong - but I suspect it had to keep anything let it show respect to its prestigious "boss", nor with respect to me during our meetings in February 1980 and June 1983. It is with the Pervert Symposium only in June 1981,
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then he began to feel that the retraction was p. 314 in the making of his work for him, he also began to realize more clearly what world he had lost 50 (*)! Surely, for him I had to be part of this world, where my former students (or at least some of them) had the upper hand and were looting the posthumous pupil as casually as the late master. The only difference if it is, it was that I "was deceased and that they, they were all there there live and conclusively proved. . .

I can even imagine that after the symposium Pervert, Zoghman still struggled to believe the testimony of its healthy schools, teaching him quite clearly yet what had happened. He had between hands the famous Introduction to the Proceedings of the Symposium, signed by B. Teissier and his "boss-sic" Verdier in January 1984. After challenged the evidence for nearly three years, the shock was all the more severe, I thought I heard. It was two months later that I contacted, sending the end of March the notes "My Orphans "and" Denial of inheritance - or the price of a contradiction "and that@a month later he still I finally decided to "spill the beans" and make me aware of "Hoax of the Symposium Pervert".

15.1.10. My friends

Note 79 And here I am about to conclude and make public this reflection that will end the secrecy that Zoghman himself maintained around the spoliation which he paid the price, and he also collects the unclear benefits 51 (**). Maybe he does it will be unwelcome, as it may be unwelcome to my friend Peter, to whom I will deliver it by hand once it is completed and the clean text and drawn 52 (***) .
What I have to

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best to offer my friend Zoghman as my friend Peter, perhaps both the p. 315

50 (*) Zoghman then ended up so low opinion of his former boss, he was persuaded to kick than anything Verdier had in the sixties (which I reviewed in a note b. p. in footnote ° 81 "Thesis and credit insurance all risks ") it was more or less dictated or at least blown by me.

51 (**) (May 30) I recall that this reflection is inspired by my friend provisions that seem outdated to the present. (Compare two notes of b. P. 30 May in footnote ° 78 ©

52 (***) I do not believe yet that I have the opportunity again in the years that remain to me, in return for some days in the capital. But my friend Pierre has moved quite often, for over ten years to meet me at the bottom of remote countryside, so that in this outstanding opportunity I move, following the same time an invitation often repeated and never again put to use.

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they will be the worst: as a calamity or as contempt. Especially worst, that my testimony is public - just like the silence of the one and the other rites were public documents and engage one as they hire the other.

They reject or welcome my testimony is their choice, and it is the same for Jean-Louis, as I counted among my friends as now Zoghman and Peter. These choices affect me closely, and they are not mine. I have no temptation to predict what they will be. I shall soon find out, and I expect that will bring me the weeks and months ahead with intense interest, suspense - and without a shadow of anxiety. My only concern and my own responsibility, is that what I offer is what I have to offer better - that is, to be true.

It may be that surprised that I speak bluntly of people I call the name of friend and who see in this name a style clause, or even a tone of irony that is absent. When I refer to Zoghman Mebkhout or Pierre Deligne as "friends", it is reminder of feelings sympathy, affection and respect that are in me when I write. Respect says I do not have to "treat" a friend, just as I did in my "spare" - like me, it is worthy to meet the humble truth, and not more than me, he does not need bluntly.

If I am not referring to Jean-Louis Verdier as a "friend", this is not because I consider the least as "good" or less "deserving" my Zoghman and Pierre friends or myself, but because it is that life has distanced us from each other. Feelings of sympathy and affection to me bound to him, there are fifteen years and more, are more or less erased by time and have not had the opportunity to back to life by a contact so little staff. The few attempts I made to restore such contact does not encounter echo, and I do not know if reading these reflections will revive a relationship that was frozen. But even at present it is not for me a "friend", I do not think miss him respect by not leaving the nor me or my friends, and I know that by doing the opposite, I would make the service either to him or to anyone. Besides that both her that my friend Peter, if indeed they are keen to "defend" (or attack) rather than to risk a look at themselves, not not lack the means or downforce. And without also count as where they were able to

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to discourage

p. 316

or crush, more than once as the other one did, ruthlessly and without mercy.

15.1.11. The pavement and the beautiful people (or... Bladders and lanterns)

Note 80 (May 9) It is time indeed that I finally gives a reference to the famous theorem Riemann-Hilbert (Deligne that dare not speak its name) - Adam and Eve - God - (especially not Mebkhout) everyone quotes extensively (including myself), and for which no one has apparently thought even to ask the question where it is shown. Having grown understand my friend Zoghman the "Me-rable theorem" was in his thesis, I indeed found in the table of contents thereof, as the (admittedly down-to-earth and worthy of a cad) "An equivalence classes", Chap. III, para. 3, p. 75. To make matters worse, he did not even entitled to the name "theorem" but called "Proposition 3.3" (And what@worse, my name, and stressed again, on the same page). I admit even, not having read 75 previous pages for me to recognize that I was not entirely sure if that was it - I Zoghman confirmed that yes and I trust him ⁵³. The demonstration (it would seem) is the subject of Chapter V to the thesis - which was passed at the University of Paris VII February 15, 1979 before the jury formed D. Bertrand ⁵³ (*) (17 April 1985) It appears that finally the form generally used the "theorem of God" is not that of theorem quoted here, but a shape close to showing by the same methods. See note "Hatching a vision - or the intruder "(n ° 171 1, including the note b. p. dated today contained therein.

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15.2. Vili The Pupil - aka the Boss

R. Godement, G. Houzel, Le Dung Trang, JL Verdier. Interested persons who do not have received a copy of the author@care (who sent his case to anyone he could to suspect Rightly or wrongly they might be interested) have to ask him, and he will be happy ... He has course sent a copy to each of my former students cohomologistes, none sign of life. They had to change the subject meantime, no luck. . .

Admittedly, he did not Zoghman decidedly chic to sell his wares to the present so clear and attractive - it@things that are learned, and he did not have the good fortune of had my Former students learn the knack with a virtuoso in the art and that does not skimp on his time. But he can not complain, he had his "three talks", and perhaps one of the "luminaries" idea will one day accuse himself for his indigestible receiving pad. He must have realized himself that besides the pavement he went wrong (even if it was not lost nor Riemann Hilbert...): he made a note to the SARC, it@still shorter, to draw attention to his famous theorem, I give you a thousand Title:

"On the Hilbert-Riemann problem"! I knew that my friend Pierre Deligne was not stronger in story as me, it was enough to restore the chronological order,

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and contribute pretty bathmat designation p. 317

"Correspondence" and that was it, Zoghman he will really try ... This Note is the 03.03.1980, Series A, p. 415-417.

Verdier he had knowledge of the theorem in a "three talks" he has given to his student-sic (or at the defense), but he has had to notice nothing if it is. Deligne, he ended up noticing something I can not say when, but what is certain is that he was aware in October 1980, Beilinson and Bernstein as also from what he said to himself. Mebkhout is also gone himself to Moscow to explain its results (and extensively) in Beilinson and Bernstein (in case they would have been difficult to read). I do not know if they or have read Deligne said thesis or note to SARC that followed, but we must believe that they finally understand what was in it, since the "memorable Symposium" of Luminy the next year revolved precisely this, by the merest chance.

To summarize, and given the latest information has communicated to me my intelligence service, there were at least five people fully aware of the situation, which participated in the hoax called the "Symposium Pervert", namely (in alphabetical order of the actors) AA Beilinson, J. Bernstein, p. Deligne, JL Verdier and Z. Mebkhout - more whole Symposium people acultes, surely brilliant mathematicians moreover, that apparently nothing better than being mystified and take bladders for lanterns 54 (*). This proves once again that we, mathematicians, the illustrated medal in the dark pupil unknown, it is not a more malignant or hair wiser Mister everyone.

15.2. Vili The Pupil - aka the Boss

15.2.1. credit thesis and comprehensive insurance

Note 81

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(May 8) It seems time to express myself more detailed manner on the case of "thèse- p. 319 ghost", which I had spoken only" in stride "in two previous notes (notes (48) and (63 ")).

A casual reader or ill-disposed could say that I blame simultaneously to my ex-student JL Verdier two contradictory things - to have "buried" derived categories, and have "published"

54 (*) (June 3) In fact, it appears that all participants in the Symposium without exception had been set up aware of the situation. On this subject the note "The Symposium", n ° 75 ©written today.

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(in SGA 4 1

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) And rely on his paternity; as the same player would say that I blame P.

Deligne both have "buried" the reasons, and having unearthed (in LN 900). So perhaps it is not not superfluous to give a retrospective of the situation, from 1960 to today.

Around 1960 or 1961 I propose Verdier, working as possible thesis development new foundations of homological algebra, based on the formalism of derived classes that I had generated and used in previous years to the needs of a coherent duality formalism in context diagrams. It was understood that the program that I proposed, there were no difficulties serious technical perspective, but also a conceptual work whose starting point was acquired, and which probably require considerable developments, dimensions comparable to those of the book foundations Cartan-Eilenberg. Verdier accepts the proposed topic. His work continues foundations satisfactorily, materializing in 1963 by a "state 0" on derived and triangulated categories, Mimeo by the care of IHES. It is a 50-page text, reproduced in Appendix GAS 4 1

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1977

(as stated in Note (63 ")) 55 (*).

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If the defense did not occur in 1963, but in 1967, it was unthinkable that the text 50

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pages embryo of a working foundation yet to come, could constitute a state doctoral thesis - and The question of course was not even asked. For the same reason, when the thesis defense 14 June 1967 (before a jury including C. Chevalley, R. Godement and myself who presided), it was not issue to present this work as a thesis. The text submitted to the jury, 17 pages (+ bibliography) is present as **the introduction** to a major work in preparation. It outlines the main ideas the basis of this work, placing them in the context of their many uses. Pages 10, 11 give a detailed description of chapters and paragraphs planned for this working foundation.

If the title of Doctor of Science was awarded to JL Verdier on the basis of the text of 17 pages, outlining ideas which he himself says that they are not due to him ⁵⁶ (*), this was clearly a contract in good faith

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between the jury and him he was committed to carry out and make publicly available the work he
p. 321

⁵⁵ (*) This text alone may seem a somewhat meager result for two or three years of work of a talented young researcher. But the most of the energy Verdier was then devoted to acquire the necessary foundations for algebra and homological algebraic geometry, particularly following my seminars, and work head to head. His contributions to the formalism duality (see below) are placed later, after I had developed with Artin in detail the formality of duality spreads in SGA (1963-1964), when I suggested to him (in addition to his work foundations derived categories) to develop the same formalism as part of topological spaces "ordinary" and lissifiable morphisms such spaces. That about the time I started with USG 1 series of my "Geometry of Algebraic Seminars" (1960) that I was contacted by Verdier, along with Jean Giraud and Michel Demazure, wondering if I had work for them - and they struck there at the right place! Coincidence struck me, from the time when already wrote the note "My Orphans" (n° 46) when they contacted me all three, they came to be in a small seminar called "Seminar Orphans" (the theme of automorphic functions, approach calculations zinc strand), as their boss (or the sponsor CNRS?) Had just gone for a year without warning, leaving them unsatisfied and a bit in the air. This vacuum was quickly filled. . .

⁵⁶ (*) is read at the beginning of the thesis:

"This thesis was done under the direction of A. Grothendieck. The essential ideas it contains are due. Without his initial inspiration, his constant help, his fruitful criticism, I would not have to complete it. It finds expression here my deep gratitude.

Thank Claude Chevalley for agreeing to chair my thesis Jury and to have had the patience to read this text.

Thank R. Godement and N. Bourbaki introducing me to mathematics.

"The term" the thesis "can hardly refer to the entire foundation work undertaken, the text is submitted introduction - work that was not, strictly speaking, "completed" when the defense.

(30 May) This inconsistency reflects the ambiguity of a situation in which I was primarily responsible, as director thesis and (to believe the cover of the copy in my possession of this thesis) as President of the Jury. There have been at me vis-a-vis a brilliant student, a lack of "rigor", a complacency that goes in the same direction as the one I made vis-à-vis proof of Deligne (see note "Being apart", n° 67) and has contributed its share to bear the same fruit.
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had a brilliant introduction. This contract was not held by the candidate ⁵⁷ (*): the text he announced, a text foundations of algebra homology according to a new point of view which had proven, was never published.

It is clear that if work Verdier between 1961 and 1967 had merely write skeletal "State 0" 1963, the jury would not have thought of accepting this "credit thesis." Writing of his work was then be advanced enough to predict the completion in a year or two, and for practical reasons it seemed appropriate that Verdier could have the title without waiting for the work that had to rely on was completed.

It should be added that between 1964 and 1967, Verdier had made some interesting contributions to the formalism Duality malisme (81 1) which, together with the work he was supposed foundations continue, could justify the credit that was done to him. All of its contributions to the duality could to them only, strictly speaking, constitute a reasonable doctoral thesis. Such an argument would not yet do was in the style of work that I usually offer, which all consist in the development systematic and through a theory of which I feel the need and urgency (82 2). I do not remember Verdier has thought to raise the issue to present such "thesis titles", and I doubt I would have accepted, although such a theory would have corresponded to nothing "contract" that had happened between him and me, when I told him about the beautiful derived categories, charge it to develop foundations wide scale.

I accept my full responsibility as supervisor of JL Verdier and president of the jury for my lightness of having awarded (jointly with C. Chevalley and R. Godement trusting the deposit I gave) the title of doctor on a job that was not yet ⁵⁸ (**).

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I am not entitled to complain if I now see some fruits of my lightness. But this p. 322 does not prevent me to make the statement publicly, and that acts of my former student JL Verdier make him sole responsibility, and that of no other.

Not hold the contract vis-à-vis me and vis-à-vis the Jury who had trusted him, was a how to bury the view derived classes that I had introduced and that he had undertaken to found a major work. This work may have been done, but was never made available to the user. This was a way to "make a cross" on a set of ideas that he himself helped to develop.

The recovery of the concept of class derived from the work of Mebkhout encountered no encouragement from Verdier (nor from any of my other students who figure of "luminaries" cohomology). The boycott is on derived categories seems to have been complete until 1981 environ-ron 59 (*), when they make their return to power in the "memorable Symposium" Luminy (see note (75)), under the surge needs.

Yet the state 0 of the "thesis" Verdier already published four years ago in 1977 as an appendix to 57 (*) It is all the more remarkable that JL Verdier refused my proposal to be part of the thesis Jury Contou-Carrere in December 1983, with J. Giraud and myself doing research director function, believing that the thesis (fully yet written and read carefully by J. Giraud) and the jury would not offer serious guarantees sufficient, without reference to the Control of Universities Theses Commission **Parisian** (Sic).

58 (**) In this responsibility, I should add that he had not watched over the two years that followed (before I left the mathematical scene) that takes Verdier indeed the contract that he had passed. I must say that my energy was so much committed to continuing the work of foundations that I myself had supported, not counting motivic and other reflections that I should not think too unpleasant task to remind the obligations it to others incumbent. I had to learn the decision of Verdier to give up the publication of the work expected to debut 70s to a while so I was absolutely more connected to math, where the idea would not have come to me to "react". 59 (*) (30 May) These forms of somewhat dubious style are in fact inappropriate. As I confirmed Zoghman Mebkhout (which has paid to know) what I dubiously advance the status was made homological algebra "Grothendieck style" corresponds to reality.

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volume SGA 4 1

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(see footnote ° 63 ☹- so ten years after defending his thesis, and at a time when (to I know (*)) Mebkhout is the only one to use the derived classes in its work to counter current fashion of the seven years prior. Except error (*), it is still the only, until the great "rush" around the famous "Riemann-Hilbert correspondence" to the already named Symposium, where Deligne alias Riemann-Hilbert father figure of this "correspondence" - sic, and Verdier (with his State 0 providential quoted extensively by his generous friend) father figure derived classes and algebra homological 2000 style, without mention of my modest person, much less Mebkhout 60 (**).

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In light of these events, I understand the reason for the unexpected publication of the State 0 p. 323

which (it is said in the introduction to APG 4 1

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by still the same friend) "had become untraceable" and nobody cared then "find", except at most (maybe) Zoghman Mebkhout 61 (*). There was So just what that unhappy in his corner and against all odds; persisted in making use of these concepts of a bygone age, without knowing exactly what he was getting at - if a doubt has finally stubborn began to emerge if sometimes this chap was not going out one day things that would make the weight, never knew. . . After all, to whom he sometimes carelessly refer to as one of his sources inspired (next to the works of the Master), he had proved in the time and found things stuff, things that could not pretend to forget all even if they forgot their author - and the Master himself, Jean-Louis Verdier himself, had he not made his departure to stardom by this formula "Lefschetz-Verdier" it would have been hard to just write and even less prove, without any these good ideas for the trash. . .

While my influential former student for almost ten years (since he had gotten rid of some for-tiresome formality. . .) **Bet against** the derived classes and still would bet against until time X (the Symposium famous), he had to find it prudent (you never know...) to take the lead on events that could occur, a "comprehensive insurance" in sum, publishing (certainly not at work major one day that was supposed to be a thesis but) a "text-witness", a kind of room belief "in case..."; text qui@ttesterait his paternity titles on **orphan** i] had him pleased to take flu, and he continued, until the events, to deny 62 (**).

Score 81 1

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The contributions in question are: 1) Fundamentals of a duality formalism in the context p. 324

locally compact and 2 spaces) that of Galois modules (with J. Tate); 3)

formula fixed points called Leschetz-Verdier; 4) duality in locally compact spaces.

Contributions 2) and 3) are an "unexpected" compared to what was known. The contribution more important seems to me 3). His demonstration follows easily the duality formalism (both for

coefficients "discrete" as "continuous"), which prevents it constitutes an important ingredient in the arsenal formulas "boilerplate" we have in cohomology. The existence of this formula was discovered by Verdier, and was for me (nice!) surprise 63 .

60 (**) compare with the comments in the notes "The gossip" and "Iniquity - or meaning of a return" (n ° s 63 and 75).

61 (*) The fact is that by browsing the bibliography of a working Z. Mebkhout that I had received in late April, I learned the publications of this "State 0", while I had even forgotten the existence of the text of another age. . .

62 (**) If JL Verdier really had the desire to share yoga derived categories, buried for seven years, the introductory text that is his thesis that he would have chosen to publish, rather than a technical text that person did not care and acquires interest and substance of Yoga and its many uses. But we understand that he had no desire attach to the text witness 50 page 17 pages of his thesis, contains statements about embarrassing now the role of the one it is important not to name. . .

63 (*) (19 April 1985) I return to this beautiful formula, its role and its strange vicissitudes during the burial in the three notes "The real math...", "... and the" non-sense "", "graft and creation" (n ° 169 s , 169 e , 169 ©

6) in the fourth
of Crops and Seeds.
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The duality of formality in the context of locally compact spaces is essentially adapting "Which required" of what I had done in the context of the étale schemes (and the difficulties inherent in this situation where everything was still to do). Yet there brings a new idea Interestingly, that of direct construction of the functor $f_!$ (without lissification f) as assistant Rf right $!$ With a presence in the key theorem. This process was taken up in Deligne cohomology spreads, allowing him to define $f_!$ within this framework, without hypothesis lissification. These comments make clear, I think, in 1967 Verdier had demonstrated its capacity for original mathematical work, which of course; was the determining factor for the credit that was done to him.

Score 81 2

As another example, I point out the detailed development of the duality formalism in context of locally compact spaces, in the spirit of formalism "boilerplate" six operations Derived categories, the disclosure of the Seminar Bourbaki Verdier be an embryo. same in the context of the only **varieties** topological, it still does not exist, to my knowledge, word of satisfactory reference to the formalism of the Poincaré duality.

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(June 5) There are two other directions where I regret that Verdier did not bother to go to p. 325 After a work he had begun sufficiently strongly to **collect credit** (I mean, the starting a duality formalism in the context of discrete coefficients and topological spaces locally compact), while the essential ideas are not due to him and he does not care (no more than for derived classes) to be the **servant of a task** and to provide the user a Full formalism (as I tried to do it in three seminars SGA 4, 5 SGA, SGA 7).

The duality that I planned program and I suggested him to develop is placed under the general topological spaces (not necessarily locally compact) and applications between such that are "separated" and which are locally "lissifiables" (ie locally source plunges into a $Y \times \mathbb{R}^n$, where Y is the object space). It was suggested that the obvious analogy with part of the étale diagrams **any** . Verdier was able to see, in the context of locally compact spaces, the hypothesis Local lissifiabilité applications was useless (something that came as a surprise). This prevents the context of locally compact spaces (thus excluding "parameter spaces" that would not locally compact) is noticeably short armholes. A more satisfactory context would be one that coifferait both the one chosen by Verdier, and the one I planned, namely, where topological spaces (? Or topos) are (more or less?) Any and where applications $f: X \rightarrow Y$ are subject to restriction to be 1) separated and 2) "locally compactifiables", ie X plunges locally in a $Y \times K$, K compact.

In this context, an application fibers "admitted" would be locally compact spaces SOMEONE conches. Another step would be where we would admit that X and Y , instead of topological spaces are of "topological multiplicities" (ie topos that are "locally as a topological space"), or even any topos by restricting applications suitably (to clarify), so as to find fibers that are of **locally compact manifolds** , subject to necessary conditions Additional (relatives perhaps the point of view of G-varieties Satake), for example (and last must!) be locally of the form (X, G) , where X is a compact space with operator group **finished** G . To my knowledge, the same duality

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Poincare "ordinary" was not developed in the case of multiplicity p. 326

smooth compact topological cited (smooth: which are locally as a topological manifold). The case of a classifying space of a finite group seems to show that one can hardly expect to have a duality theorem that torsion module (overall absolute), more specifically, working with a coefficient ring which is

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a \mathbb{Q} -algebra. To close this restriction, I would not be surprised that the Poincaré duality (style "six operational tions ") market as such in this context. It is not surprising that no one ever has looked (except Surveyors differential unrepentant, pretending to look cohomology "leaves space" a foliation), given the general boycott on the concept of multiplicity, introduced by my cohomologistes students Deligne and Verdier in mind.

To be honest, it lacks a reflection of fundamentals to the following: describe (though this may be) in the context of any topos and beam "discreet" coefficients above, the concepts of "cleanliness" of "smoothness", "local cleanliness" of "separation" for a morphism topo, for releasing a concept of "eligible morphism" topos $f: X \rightarrow Y$, for which the two Rf operations ι and $Lf \iota$ have a direction (one assistant to another) to obtain the usual properties of the formalism of the six operations. Here the topos are considered non-annealed, or perhaps as fitted with rings (which are assumed at constant or locally constant need), assuming (initially at least) what morphisms topo annealed $f: (X, s) \rightarrow (Y, S)$ are as $f^{-1}(S) \rightarrow s$ is an isomorphism

(81 3). The foregoing considerations suggest that when merely the Rings coefficient characteristic zero (ie which are \mathbb{Q} -Algebra), we can be much wider to the notion of "morphism eligible "to encompass" fibers "which are eg multiplicities (or topological schematic) rather than "spaces" (topological or schematic) Common.

A first primer in the sense (aside from cases handled by me and then by Verdier on the same model) is due to Tate and Verdier, in the context of discrete groups or profinite. The memory of this primer had encouraged me to continue thinking in this direction last year, in the context of small categories (Generalizing discrete groups) serving homotopic models. Without going very far, this reflection nevertheless enough to convince me that there must be a complete formalism of the six operations in the context (Cat) in the category of small categories. (See in this regard the

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"Fields of Pursuit" Chap.VII,
p. 327

par.136, 137.) The development of such a theory (Cat), or in Pro (Cat), as a theory of this type in the context of topological spaces or schematic and multiplicities would like me main interest to be a step towards a better understanding of the "discreet duality" in the context of general topos.

Illusie I heard last year that he had fought with perplexities duality in the case of spaces (Or patterns) semisimpliciaux. This had me well seem to be always the same tobacco - get to detect the existence of a formalism six operations in a case, and understand it. But it seems that the only perspective of a reflection of fundamentals has the gift of icing each and every one of my former students - all at least among my cohomologistes students. If I gave myself a hard time with them, it was with the conviction Yet they were not going to stop battery (the conceptual point of view) at the exact spot where they were went with me, and remain with hand wringing whenever a new situation showed that the work they and their friends had with me was enough. The conceptual work we do is **still** insufficient in the long run, and it is the taking over and beyond, and not otherwise, that the mathematic progresses. Between 1955 and 1970 every year again I realized that what I had done in previous years were not enough to needs, and I changed back to the book as dry, at least when someone else (eg Mike Artin} with the view of "algebraic varieties" in its sense) it was already. But it seems that my students have also buried the example I have given them, at the same time my person and my work.

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Note 81 3

I seem to remember that in the formalism of the six variances in étale (say) the assumption that the beam rings serving as coefficients are locally constant is unnecessary - The key assumption is that these are the first torsion beams to residual characteristics, **and** $f^{-1}(S) \rightarrow s$ is an isomorphism. When we abandon the latter case, one must enter a theory (not explained yet, to my knowledge) that "mixing" the "quiet space" duality, and duality "coherent" (relative to the coefficients of the Rings and their homomorphisms). So, it is envisaged

replace, on the diagrams (or more general topos) X, Y , the coefficients of the Rings s, S by relative patterns (not necessarily affine) X, Y, X, Y , and the morphisms of ringed topos

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$(X, s) \rightarrow (Y, S)$ by commutative diagrams of the type

X

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X

Y

// Y

formalism with a "six operations" in the context of this type. When X, Y , etc. . . are topos ponctual, we should find the usual coherent duality.

15.2.2. Good references

Note 82 (May 8) This section JL Verdier "homology class associated with a cycle" appeared in Asterisk n ° 36 (SMF), p.101-151 in 1976. In a way, this article pretty amazing (yet more nothing should surprise me. . .) Is the counterpart of the "perverse article" Deligne et al. At one reservation, it is substantially **copying** over fifty pages, in a slightly different context, concepts, structures and reasoning that I had developed extensively ten or fifteen years ago - terminology, logs everything is verbatim! I increased my income at a session of the seminar SGA 5 that took place in 1965/66, when these things were explained (apparently satiety participants 64 (*)) for one year whole. After the seminar at least, all these things were in the area of "well known" to people so slightly in the shot 65 (**) Verdier was attended course, as Deligne (the only was never dropped, while this was the first time he put the \otimes to my

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seminar 66 (*) - it was p.329

do it. . .). It true, well, well, that in 1976 it had been ten years since the "writing-sic" of this famous seminary by "sic-volunteers" who had dragged their slap - I see now that one of these

"Volunteers" was still responsible for "writing" in his own way, even before the publication of SGA 5

64 (*) See for comments in this regard, notes n ° s 68, 68 "The Signal" and "reversal" where I examine the vicissitudes Weird writing seminar, and the relationship between them and "SGA operation 4 1

2 Deligne, Reflection follows me

reveals another unexpected aspect of these vicissitudes and dismemberment of the mother-seminar by the combined care Verdier

and Deligne. Publications of the one and the other who dedicate this dismemberment are 1976 and 1977 - they are the "green light" given to prepare Illusie (eleven years later...) the publication of SGA 5 (which, Deligne dixit in SGA 4 1

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be seen as a series of digressions, some very interesting ").

65 (**) For a discussion where I come back to this "hasty" Print see note "Silence" (n ° 84).

66 (*) The year of the seminar was that (I think) where I met Deligne, which was to have then nineteen years. They are

"Put in on it" very quickly, and was even responsible for drafting my duality exposed stretches of the previous year (he had know by my explanation and my notes), and also the presentation on the cohomology class associated with a ring, which he discussed in the note quoted n ° 68 \otimes "Reversal"), and which will be a little issue in it. That with

the means that were his, and complete mastery of the subject, he waited eleven years to writing, to include then in its APG 4 1

2 without informing me, show me now, in retrospect, that from 1966 (and not only

in 1968 as I had supposed - see Note ° 63, "The eviction") - so the first year of our meeting, there was a deep ambiguity in the relationship of my friend to me, speaking from this time a perfectly clear, I

have refrained from taking knowledge until this day!

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1977! We must believe that the vicissitudes of this unfortunate seminar not contrived that the only Deligne taking advantage of a situation of disarray in his way. But at that time, Deligne still cares, while dismantling SGA 5 of one of its exposed key for join its APG 4 1

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as debt,

mention still in its drafting (the cohomology class associated with a ring) "after

a presentation Grothendieck. "(It is true that there was compensation can rely to me

present as his "collaborator"! - see note "Reversal", n ° 68 \otimes

To return to the class **of homology** (not to be confused!) Associated with a cycle (which is from the title the subject of the article Verdier), I developed this formalism with a wealth of detail on several presentations, during oral seminar before an audience besides asking grace (except still the only Deligne

always dashing and cool. . .). It was one of countless "long periods" I developed this year the duality formalism under slack, feeling the need to achieve full control of all points which seemed to me to be fully understood. The interest here was to have a valid formalism not necessarily on a regular ambient diagram - the transition to class **cohomology** in the case regular, and the link to my old building using cohomology racks and giving immediate compatibility with cups-products are immediate. I also found that

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this part of the seminar is
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part of lot of what was not included in the published version - probably Illusie (on which all the work preparation of a sortable edition (ahem) eventually fall) should be all glad Verdier Either loaded, mutatis mutandis (that is to say here without changing anything!).

Next formula now dedicated, "it is hardly necessary to say" my name is not on the text nor in the bibliography (except implicitly by reference uphill SGA 4, when it would even find replacement. . .). No reference to a "Seminar Algebraic Geometry" answering the acronym SGA 5, the author could have heard - as I think I remember having seen yet, wisely busily taking notes (like everyone else, except of course Deligne...).

I exaggerated just a hair elsewhere saying that my name is missing from the text - it is a unique appearance, mysterious and lapidary, on page 38, section 3.5, "fundamental cohomology class, intersection" (we succeeds, the crux of the matter!). The reference is a cryptic sentence whose meaning escapes me I admit: "The idea of systematically using the complex weight (! ??? even the damn weight) is due to Grothendieck and was shaped by Deligne" - without further explanation of these mysterious" complex weight "of which I would have had the idea and I hear about here for the first time. There will be no question in After all (and it has not been mentioned either in the 37 pages before). Figure it! For what is the content of that section, it is copied without more about the seminar SGA 5 that took place ten years before (and at that time the building was old five or six years, see Note ° 68 ☺ seminar he has custody of quote. The reference to Deligne (which would have "developed" an idea that already was when my friend was still in high school!) is a "flower", the idea probably came to the author because the young and newcomer Deligne was indeed responsible for drafting my presentation on this subject (and failed to do so for eleven years for the benefits we know, see note cited). The "flower" is part of the exchange of good processes between the inseparable friends.

Yet there is a result (probably) new and interesting in the article (th.3.3.1. On page 9) on the stability analytically constructible discrete beams by higher direct images of a morphism analytical and clean. Verdier had learned the concepts of constructibility all azimuths by my mouth a fifteen years ago, and

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stability conjecture, that I asked myself (and had spoken to
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who would listen) in the late fifties, before he had the pleasure to meet him. AT read the article, the idea would not come to an uninformed reader (but they are beginning to be rare... I 358

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repeat myself again, I ☹ afraid) that the author is not trying to serve all hot concepts and statements he has just discovered. It does not mean that he is - because that goes without saying. This is the famous style "Thumb" that obviously did school.

To close detail (which, I feel, is in compliance with new guns the art), it should do when even ten pages (fifty) around this interesting result, which present a personal work nel of the author. Relatively speaking, what particularly strikes me as Verdier in Deligne is that it is perfectly capable of making beautiful mathematics. Even in this sad item it shines a sign with the city theorem. But by now (like his friend) in provisions Gravedigger, it works just like its prestigious friend, a paltry portion of its resources. A sign (Which surprised me) of an apparent mediocrity, with a mathematician who gave evidence yet of as-Tuce and flair, was the total lack of instinctive feel for the scope of work of the "student-sic" Mebkhout he was pleased to treat high of its greatness, without ever having been able to work itself deep originality and a comparable 67 (*). This is not than it is perhaps as well as able Mebkhout or me. But it is never ☹ft no chance to do great things, that is to say, to let go the reins to a passion - rather than mathematical and gifts the **instruments** to dazzle, to dominate or to crush. Still far he was content to take as such notions and fertile views everything already cooked. It seems indeed to have completely lost the sense of what it is a **mathematical creation** .

I believe nevertheless remember that when he worked with me, that direction was still present. Nothing ex-

TER AL him Nevertheless this sense

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resurface. As in his friend, in whom I have often felt this p. 332

even eclipse a delicate and lively thing, sealed by the same conceit.

This item Amazing 50 pages, published in a journal of standing, throw me in a new light the incident "The note - or the new ethic" (S.33). where a note to SARC for **a few pages**, summarizing a and solid work **original**, on an important topic (IMHO), fruit **two years of work** of a young highly gifted mathematician, was rejected by two eminences as "uninteresting" 68 (*). One of these eminences was elsewhere other than Pierre Deligne - the same Deligne who did not disdain copied in toto and the humble person doctoral thesis of one of my students (there is also a duty to quote). (This duplicate, enhanced by a prestigious signature, made the biggest item in the "memorable volume" LN 900 in no less prestigious collection! On this subject end of the notes (52) (67).)

Certainly, the "table manners" is expanding day by day, without my having been so far out of my retirement and pounding the pavement to meddle in the "big world". A few hours here and there to flick past in some "great works" well chosen were enough to build me. . .

15.2.3. The joke or the "complex weight"

Note 83 (8-9 May) I thought about this "complex weight" referred to in the "reference - thumb" in the memorable article Verdier 69 (***) - a reference with figure zaniness, outright nonsense. AT the instant I had before me this absurd reference, an association came to me, which continued trotting in my head. This is not the first time, far away, I am faced with something 67 (*) The same lack of astounding flair manifested on the same occasion at Deligne, who has "felt the wind" (the importance Mebkhout ideas) that in 1980 he seems, while Mebkhout working in this direction since 1974. I have had more once opportunity to see my friend the shutter of his natural flair for complacency, especially since the year 1977 (or 78), which seems to have been a first "rotating" (see notes about "Two turning points" and "funeral" n ° s 66.70). 68 (*) For details on this, see note "Coffin 4 - or topos without flowers or wreaths," n ° 96.

69 (***) See previous note "Good references."

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of preposterous appearance, which seems to defy rational explanation - when the meaning is clear and yet Net and is clearly perceived, but at another level than the conventional logic. This was the only one on which most of my life I have worked at the conscious level - with the result that I was constantly overwhelmed "absurd" incomprehensible - agonizing in their saugrenuité irreducible! My life has changed a lot from the time (there is that less than ten years) where I started to live on a broader register of my faculties. I understand that any saugrenuité, while so-called "non-meaning" has a **meaning** - and the simple fact of the

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know, and therefore to be curious sense behind the nonsense, often

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opens me to the obvious meaning of it.

In this nonsense of "complex weight" I think I feel an act of **bravado** similar in the designation "perverse sheaves" 70 (*) - the pleasure in this case to prove that we **can afford**, in a review of standard and in a text that aims to be a standard reference text 71 (**), to tell a saugrenuité parent and that **person** will notify ask only one question! And I am convinced that the challenge contained in this bravado, eight years since the article appeared that this bet **was won up** Today himself: I was the first today to ask the naive question to the author.

Of course, the time (or place) that appears saugrenuité, namely at the precise moment the only and only reference to my person, is not a coincidence; nor the form it takes, here by referring to a type of concepts, the "weight", entirely foreign to the theme of the whole article, and improvisation a composite term "weight complex" that never existed! The association had presented im- ment to me may well provide the key to more accurate sense of saugrenuité Beyond bravado, the demonstration of power. It is the association with a hint equally cryptic and all, as many pure form (but still have the added dimension of saugrenuité!) in the article quoted Deligne at the beginning of the note (49) 72 (***). It was just an obscure allusion, in an article where the word "weight" was rigorously absent and nobody but me Serre would have been able to see them, to "considerations weight" that had led me to conjecture (in a less general form, it is quite clear) the result main labor. As I explain in more detail in note "Eviction" (n ° 63) behind this allusion perfunctory, reflected the intention to **hide** both my role, that ideas (regarding the "weight" and their relationship to the cohomology in general and in particular that of Hodge) which he intended to reserve the sole benefit. This intention must have been all the better perceived by Verdier that he mē

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me "works" on the

p. 334

same page (in his relationship to me, at least, what I think also the main glue between the two inseparable friends). In both cases, an honest presentation would have been to start article clearly indicating the source or sources for the main ideas, or for or issues Article motivated.

This reminded, here is the sense that I see behind the symbolic language of the apparent nonsense: I am allow, without hindering me in the least, display before all a **nonsense** patent, and simultaneously express this nonsense my real intention, with this absurd allusion-reference to "weight complex": is that I have no more intention to leave anything published about the role of Gr. in this work, that Deligne had such an intention with his allusion cage to "considerations **weight**" - which had alluded then no more sense to the reader now that the "complexes- **weight**" I just imagined

70 (*) See note "The Perversity" n ° 76.

71 (**) And it seems that this text is indeed now a standard reference - at least for years he was one of Zoghman bedside texts (who sent it to me lately). It was there he learned including the notion of constructability (which plays a vital role in his theorem), and for a long time he was convinced that Verdier was awesome inventor of this crucial concept to him.

72 (***) This is the note "canned weight - and twelve years of secrecy." For a more detailed examination of this article of Deligne point of view that interests us here, see "The ousting" notes n ° 63, cited below.

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15.3. IX My students

invented at the time, for the purposes of the case and for my pleasure!

I just copied the net this note written yesterday - I was interrupted sometimes by a call from Verdier

I tried to join in the day to ask him precisely. I explained that

I tried later on to learn a little cohomology, something I never understood it

knew, and Mebkhout spent for my education an old article about him, Verdier, a job that

had long been his bedside text. Now I was trying somehow to read, but there was

this cryptic reference - it was nice of him to give me, of course - but I absolutely understand not to

What he meant it.

He was happy even a little flattered but yes, with a broad smile sticking behind an air of paternal joviality, I finish like that in my old age to learn about this ancient cohomology paper to him. I did not expect that the idea of the effleurerait contradict me when I said he knew that I had never understood the cohomology - obviously this was something heard in beautiful long time. . . With regard to the famous "complex weight", I felt his broad smile again after the wire (it will be said that I affabule!), delighted that someone (and recipient himself as well) has ended up something that had happened to you for so long. At the same time there was also a hint as embarrassment - more than (I think) to have been able to hide a

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pleasure (as the pleasure we take at p. 335

some salacious story ...), that of not knowing what to say. Dropped as I was, it was really not to

bother with that side! Without hesitation, he branched out Deligne (which I had not mentioned the name)

who made a demonstration in one of his articles and in which he quoted moreover, he could not remember very

where well - at least there was question of weight but yes, he had almost forgotten, of course - but not weight

Arithmetic in fact, then I had absolutely right it was not the same. . .

The tone was jovial and unanswerable, and he felt he had already given me a lot of his time - the

tunes in a hurry, without departing from this tone natured, somewhat protective. I apologized

for disturbing-like that, for a slightly stupid question, and thanked him for his explanations. My

apology was sincere and also my thanks - I had indeed learned everything I needed to know

73 (*).

15.3. IX My students

15.3.1. The silence

Note 84

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(9 May) I was perhaps a little sharp yesterday, writing that in "good reference" (see note (82)) p. 337

what author and former student copied shamelessly "was part of the field of" well known "for people

so slightly in the shot. "I tried to explain to my information so what were these" people as either

few in the know" - with the conclusion that **it was neither more nor less, that dear listeners of**

seminar SGA 5 in 1965/66 - listeners besides, as I had occasion to say, often

or less dropped - and judging by the vicissitudes of the writing of this seminar in the hands of volunteers

I did not want to feel the lack of conviction, it was often rather "more" than "less" (always

except the same Deligne; certainly). There was no risk indeed be other people "in the know" as

5 long as SGA was not written and published, to just allow people to "get into the

coup "by reading it! This seminar was in fact published (chance would have it) after the two" memorable 73 (*) Even with my tunes dropped, I have not really had the feeling of playing a comedy (I do not have the gifts to), it was perfectly natural - indeed, I am a bit dropped in all this stuff that I have not manipulated for almost fifteen years! But I think even senile and ripe for the hearse, I still feel the difference between an empty and a full nut nuts. .
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publications "of two of my dearest pupils and comrades, namely Article in question Verdier in 1976 (where he makes no mention of the origin of ideas it published under his pen there and the first time), secondly Deligne with SGA 4 1

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he has already been made abundantly 74 (*). After that, we cordially invite Illusie to take care of the publication of the rest! I do not remember in great detail what the participants of the seminar - for example if there Artin was or not. I think more or less all my students the first period should be good anyway - except when even Ms. Sinh and Saavedra (I had not met at that time there) and perhaps Ms. Hakim. There were more Bucur (since deceased). Houzel, Ferrand - I do not count Serre.- who never had a taste for big cohomological furbished, and had just set foot far by far and carefully. While nobody except Deligne not felt perhaps exactly where all this was leading, it seems to me that there must have still ten or twelve listeners (not very participants) who followed at least enough to be considered "in the know"

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The thought that I trotted through the head
p. 338

yesterday, is that among all these people "in the know", thus making authority figure cohomological (If not all of "luminaries" as Illusie and Berthelot, with their theses: "cohomological" which decidedly did weight), and even apart Verdier and Deligne - there must have still a lot that had This article Verdier hands! A certain air Verdier convinces me that nobody him has never suggested that something may be amiss. And I also know that no one ever drew my attention to the thing - I learned of this article May 2 today there are exactly one week with Mebkhout ., which was of course aware of the scam for years. This gives a concrete meaning to the euphoric finding of "the Unanimous Agreement" (to bury my modest person) made it ten days ago (note (74))! This agreement encompasses many (if not all) of my students "pre-1970" that is to say, many of those who now set the tone worldwide mathematic; and includes (or has included) my friend Zoghman himself treated Cinderella beautiful people and clinging against all in a kind of "fidelity to my work" (to use his own expressions sion 75 (*)), which he had the temerity and persistence to ask sometimes, with the consequences that knows. Go to understand something!

In short, I was wrong to imply that such a luxury magazine published a kind of cage section, which merely to copy the "well known". What the author was copying the full knowledge (if not all but) many witnesses was neither published nor "well known" (except the cohomology class of a cycle in the coherent framework, where I had published long ago); and it was more of the ideas I would be ungracious to minimize, because I did not consider wasting my time by spending a year developing these ideas and others in a seminar, before a large audience. Probably Article Verdier is a "digest" useful and well is a small part of the ideas and techniques I had developed: so precisely that they spend in the field of "well known", the daily bread of the one who uses the cohomology (or homology) to the objects that deserve more or less the "varieties".

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From this point of view therefore, Verdier did what he was useful
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to 76 (*), and I have not finally held to be dissatisfied. Yet from what I felt dice my ex-student 74 (*) See in particular notes n ° s 67, 67 ©58, 68© 75 (*) (June 7) Reading all notes Burial during a recent visit. Zoghman tells me that this expression he used to "fidelity to my work" did not properly thought. He had to trust his rather own judgment and instinct in his mathematical ability. who told him that my work brought him some ideas he needed. So this is a loyalty to **oneself** , which is essential thing indeed to truly work innovative.

76 (*) He did, indeed, at the expense of the "dismantling" of the original seminar SGA 5, dismantling he was with Deligne the main actor and "beneficiary".

(June 7) Reflection of May 12, three days later (see note "massacre" n ° 87) showed quIllusie was associated so even more direct Verdier what appears as a "massacre" in effect a dismantling - even if

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and friend today, on the phone, and many other things that I could feel his person (which most "big", or at least the most "spectacular" is the mystification of the Symposium Perverts) - I feel **is something wrong**. This memorable Symposium was certainly very bright, mathematically speaking, in many ways. This "bell" is at a different level than this. I could try to identify it with words, but I feel that it makes little sense. Whoever does not feel what's wrong this symposium and in many other forums as surely without deception or anything - it does not feel one hair again, when I bring this essay to "understand" and that I am the same happened to my satisfaction. . . The open question for me is whether this "sign" that represents this news item probably relatively commonplace today (one author, presenting as his own unpublished ideas of others) - if this sign is that of a general deterioration of morals, so if it's just a typical sign of a "zeitgeist" in the mathematical world today, or has rather to give me instruction on my person special - the one I was and now returns to me, through my attitudes towards those who were my students.

The two possible meanings in no way exclusive. The relationship of my former students I could not find this way there to express, if a certain state of morals is not encouraged. I have also seen even before this "sign" many others that seem more eloquent at a "table manners". What hit me in this sign it is this characteristic that distinguishes from all the others is that it seems **involve both most of my former students**.

That fact can not be coincidental. To put no more on account of a "degradation morals" (everything is real) would be a way to evade his most personal sense, which involves me as it involves every one of my former students. If I say "everyone", which seems to go beyond the am

This real plitude p. 340

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sign is weighing my words. For this sign reminds me opportunely that it is hardly conceivable that a is my former students at least been faced with such situations. I felt for years a "wind" about myself, blowing in the world of mathematicians I left (wind I see clearly now the source and reasons, it seems). It is not possible that of them had never felt the breath of this wind, either on the occasion of an "incident" as the publication This article-gravedigger, or any other occasion. That the person wanted or not, such a meeting inevitably asked him (or rested him) the question of his relationship with me, who had taught him his craft. And the sign that I see, beyond that which comes from me bring is that **I had echo on it by none of those who were my students** 77 (*). This is a "coincidence" whose meaning still escapes me - but which can not have no sense (84 1).

The day dawns - I feel it is time to stop. I'm not sure this is the time place in Crops and Seeds, to pursue further the meaning of this striking coincidence. It's a Harvesting can be reserved for other tomorrow, as long as my thinking of that night encounter an echo in one or the other of those who were my students. ⇒ 85

Score 84 1

(May 16) This perfect match between my former students, in this complete silence vis-à-vis me, going in the same direction as other signs. One is the complete silence which also hosted the episode "Aliens" (see section 24) - silence about which I have already asked myself somewhat in Note ° 23v. has not been "beneficial" and that he acted for the account of others.

77 (*) (May 31) Interestingly, the only person who ever suggested to me the existence of a funeral is African friend who had spent with me a thesis of 3 ° cycle there ten years (thus "student after 1970", and status modest), with whom I remained on friendly terms. The letter in which he suggested should be there two or three years, at a time when it had nothing to surprise me. I have not asked details about his impressions on which he returned only very recently.

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On the other hand, except Berthelot who sent me many reprints and Deligne that me sent four (over fifty publications) and of Illusie, I have received no reprints of my former students. This speaks volumes about the ambivalence in their relationship to me. Send prints hand, even though it was doubtful if I can do

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never use in my work 78 (*), was how the

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obvious to inform the one who taught them their trades, as this business into their hands not remained inert, he was alive and active. But it is also true that for at least some of them, publications also demonstrate their participation in a tacit whose funeral it was better not informing the anticipated deceased, trade or not trade against by ... I received numerous reprints several authors working in crystalline cohomology ⁷⁹ (**), and even many reprints of Analysts colleagues that I do not know that name, when their work resumed (and sometimes solve) questions I had asked thirty years ago or more, when it was obvious that I would not return about that I had left and that the point of view "utility", they were reprints wasted. But these colleagues had to feel something that my students did not want to feel. - Of course, in the years sixty, my students were first served for all my publications, as my articles that large EGA and SGA series, and each of them (except Ms. Sinh and perhaps Saavedra) must be in possession of my Complete work published between 1955 and 1970 (in ten thousand pages I presume). It is true that my former students are in good company: none of my former close friends in the "big world" mathematical, even among those whose work is closely tied to mine or who have been role in the development of my work program in the sixties, have found it useful to continue to send me reprints after I left the common medium ⁸⁰ (***) . Lately even among fifteen or twenty old friends

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(Including some students) to whom I sent the Outline of a Program

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(Which among others spoke the resumption of intense research after a break of QUATORZE years on research topics closely related to those that we continue together once) only two (Malgrange and Demazure) took the trouble to send me a few lines of thanks. The echoes a little more detailed (and more warm) I received just me young mathematicians I know recently, and my friend of long standing Nico Kuiper, who nevertheless is NULL-LEMENT connected to the stuff I do. He had knowledge of the text through intermediaries, and showed all happy with my "comeback" unexpected ⁸¹ (*).

⁷⁸ (*) (May 31) It might even seem excluded until 1976, while in the early 70s I said quite clearly that I thought not ever take a mathematical activity. The conference held in 1976 at IHES on complex De Rham with divided powers, then showed quite clearly that I continued to be interested in mathematics. ⁷⁹ (**) (May 31) It is young authors I do not know personally, and I presume that they followed the example of Berthelot, which to them must groin figure. The slightly odd thing here is that at least two years (since Symposium Luminy from 6-10 September 1982), Berthelot actively put your own to bury me (on this subject see the note b. p. May 22 in note n "joint heirs..." ◊ 91) - is it a recent turning point in his relationship to my person? I do not remember not received the print of the article-survey on the crystalline cohomology and others, where it passes under my name

silent - he has had to keep sending me!

⁸⁰ (***) (May 31) Of course, the psychological reasons that could prompt them to send me were much weaker than in the case of my students - but, one might think naively, much stronger than my analyst colleagues, or even among many algebraic geometers which I received reprints, and I do not know or little personally. Apparently, after I left the common medium, having been friends created or strengthened, with my old friends in the mathematical world, the rejection of automation that I had the opportunity to see. (See about these attitudes, which he is alluded to in passing here and there in Crops and Seeds, the note "The Gravedigger or the whole Congregation" 24 May n ◊ 97.)

⁸¹ (*) (May 31) This is almost the only echo from one of my old friends (or one of my former students), in the sense of acquiescence to my "comeback". It certainly did nothing to surprise, while the appearance of the deceased so breaks the normal conduct unbecoming of a funeral ceremony. . .

(June 17) Yet I had the pleasure most recently receive a warm letter of Mumford, who said he was "thrilled" and "Very excited" by the ideas outlined in the Sketch, which confirms that the technical key-result I needed

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15.3.2. Solidarity

Note ⁸⁵ (May 11) The story of the unfortunate seminar SGA 5 continues to trot my head. The maid reference " ⁸² (***) definitely illuminates the story of a new day, and suddenly also gives new meaning to bright "APG 4 operation 1

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The more I think, over the history of SGA 5 seems **big**. My first impression when I "disembarked" there are only a few weeks (see notes n ◊ s 68, 68 ©) was a situation of disarray among the

poor former listeners of the seminar in 65/66 was put to use in his own way by my friend Peter, for his famous operation, and in it no one else was for nothing. And for the misfortunes of SGA 5, this was neither he nor anyone, but rather "ut other than me, who had not known alas inspire my listeners volunteer editors, nor do for them the

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work they persisted in not doing while saying they p. 343 would put it quickly. Then turned in recent days that he is found, though, that enthusiasm woke up ten years later, to publish (without referring to the seminar) it pleased him to take it, thus creating a good reference for its own account, at a time when other "volunteers" were still not yet decided if to fire.

What becomes me increasingly clear since yesterday is that these are not just two "villains", but **each of my students "cohomologistes"** directly involved in the retraction that occurred in this seminar. Unless I am mistaken, all of them attended the seminar - namely (in chronological order appearance of my students "cohomologistes"): Verdier, Berthelot Illusie Deligne Jouanolou. (I account not Jean Giraud, who worked on quite different registers of those this was mainly in SGA 5 or its predecessor SGA 4.)

The seminar, which I did **for the benefit of my students** in the first place, and even though sometimes they asked, thanks - **I consider that it was not shit**. Each of them during that year, learned a bunch of his trade "user mathematician cohomology"! Things I their did, by taking part and spreads much more detailed ideas that I had first developed within the coherent framework - these things, they could not find anywhere else in this single seminar is for their benefit, as no one before me had ever bothered them do - and nobody but me not even feel what there was to do, and why. (Except always Deligne who has learned over the months in the same seminar, with the quicker thinking-as the others.) It is have followed the seminar (and the previous) and have worked with them somehow, and nothing else, that fact that they were now "in the loop" for the duality formalism and they were **the only ones** to be. This **privilege**, it seems, was creating for them an **obligation** and that is to ensure that this privilege does not rest in their own hands, and what they had learned from my mouth, and that was an indispensable baggage in any subsequent work to date, is made available to all, and this in time reasonable and customary - of about at most a year or two in a pinch.

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We say, not without reason, that it was to me before any other to ensure that. But if I accepted p. 344 good faith when students and other listeners offered their assistance in writing (writing that, for those who would put it in a serious way, could do them the most good) - it is not for the benefit of power twiddling my thumbs while they would do a job that was my responsibility. I have for my combinatorial description of the Teichmüller tower is indeed proved. This is the first time since 1978 one of my friends old clinging to my ideas "anabéliennes" whose exceptional range (comparable to yoga reasons) is obvious to me from the beginning. . .

(28 March 1985) Since these lines were written, I also received a very warm letter of IM Gelfand (dated of 3 Sept. 1984), in response to the sketch.

82 (**) See footnote ° 82.

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continued with the help of Dieudonné and others (including also with Berthelot and Illusie in 1966/67) to develop **@xts** foundations that also seemed to me urgent, and that no one else would have done for me or without my help 83 (*). These texts themselves become indispensable references, even for my "cohomologistes students" who are happy as anyone to find any ready when they need it.

With control of cohomological ideas and techniques they have acquired through their work at my touch and my seminars they have taken or which they participated, the writing of this seminar by their joint efforts represented a paltry dimensions of task, when compared to the service that was rendered the famous "mathematical community," or perhaps later a duty of loyalty they could feel vis-a-vis me. I have already said that to me (who have a hand), it must be a job the order of a few months to write the entire seminar. By sharing the work with five the writing experience they have each acquired in those years, and having my manuscripts Notes detailed investment to make for each was about a month or two to break everything. They were much better position to do that other editors, as Bucur, who would not have asked better than to entrust a task which clearly exceeded the, at the hands younger and more directly motivated. As long as I was in the area (so in the three years that followed yet), I understand a reflex to stand by me could play - it was I who was supposed to coordinate everything and get by with "volunteers". It is likely that if I had asked everyone to do two or three presentations

in a short time, a burden to me to do the same, to finish last, they would not have objected. It is from

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when I retired from the mathematical world that the situation has changed dramatically. They

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found themselves so **unique custodians of a legacy**, both implicit (will negligence) and very concrete. It is true that practical point of view, my departure amounted to a **loss** - I was actually although "late" in the sense that there was nobody outside of them to have knowledge of the inheritance, able to use and to be concerned (for better or for worse...) to his fate.

If during the seven years since I left this legacy remained secret (besides "good reference"

in 1976!) is that **my students have not taken it to become public during that time**. All

Relatively speaking, the situation does not seem very different from the "yoga of reasons" which yoga was known fully only by the Deligne (besides me), and the latter saw fit to keep in his possession for its sole benefit. If there is difference at first glance, is that in this case there is only one "beneficiary" instead of five, and there is no comparison between the depth of what was concealed by one, and which was concealed jointly by five.

I certainly know the underlying motivations of each one - even if Deligne I have an apprehension which remains unclear and probably will remain so. But in "practice", the game Deligne (with SGA operation 4 "s" - and everything else) is clear and what is also clear is that these operations could not be done.

without the solidarity of all. I think Jouanolou yet not too in the game - it seems

do not figure of "luminary" I feel that he has long since left sloughs cohomological

(85 1). But I can not imagine that Illusie and Berthelot did not have both hands SGA 4 1

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that the

good reference, "and they can read like me and are no more stupid than me.

If Illusie has suddenly busy publishing SGA 5, just when Verdier has used where

Deligne has used and where Deligne needs a logistics base for its famous SGA 4 1

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(In débinant there

as befitted the two seminars which this text and all his work come from), so that was Illusie

83 (*) Between the years 1960 and 1970, I had to run at an average of a thousand pages per year of texts (EGA, SGA, articles), which almost everyone would become current references (something that was very clear to me by writing, or encouraging such employee to do with my assistance).

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had ten years to do it, it is surely no coincidence. If the presentation of closing on open problems and conjecture that I has

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will made in 1966 "has unfortunately not been written, any more than [sic] that" p. 346

his beautiful introduction, which reviewed the formulas Euler-Poincaré and Lefschetz in various contexts (topological, analytic complex algebraic) "is surely not a coincidence - but

This is a funeral where I do not know what is. And it is no coincidence either that he also seemed natural to Illusie to Deligne (and barely worthy of note passing among the "detail changes") to amputate the seminar presentations of its key, which happens in SGA4 1

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without further ado 84 (*).

I do not know what were the intentions (conscious and unconscious) of Luc Illusie, I have affection as Pierre Deligne, who (like him) has always shown me great kindness 85 (**). But

I see he has done alongside Deligne co-actor in a **shameless hoax**: the one that makes pass the parent seminar SGA 5 1965/66 (the same one where Deligne has heard for the first time patterns, étale, duality and other "digressions") as a kind of appendix informs, vaguely ridiculous, a collection of texts on behalf trompe l'œil SGA4 1

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written eight years later, that pretends to

present as anterior (both the number listed in the title, by the issue number in

reading notes, and finally by the unusual comment from the author "His existence (SGA 4 1

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) will allow

soon publish SGA 5 **as is** - that is my emphasis) - which affects more to deal with a undisguised disdain the work which this meager collection is coming around.

Without those jobs processed with this beautiful casually, **no** major work of Deligne, who base

its well-deserved prestige, would be written at this time, or whether it is in a hundred years (and without such doubt Illusie cohomologistes and my other students). There are in

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took this "SGA operation a 4 V p. 347

impudence, which is Illusie (without even realizing it probably) deposit, which could spread well with the tacit approval of a **consensus**. The first involved in this consensus, outside Deligne itself, are the very people who were my students and the main beneficiaries of a legacy, delivered their eyes to the hazards of the rat race and disdain.

And these tunes peremptory sufficiency, these fatherly and protective air that I enjoyed in my former student nor the day before yesterday in our phone conversation ⁸⁶ (*), and also those most discreet tunes condescension that I enjoyed in my friend Peter from the aftermath of the brilliant double operation

"SGA4 1

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- SGA 5 "(which I was away and then for another seven years to have the slightest suspicion) - these tunes then are **not** the products of loneliness, but signs still a consensus **that has never seen questioned**. These tunes are telling me something not only Verdier and Deligne, but also on all those who were my students, and before all others, on those (of their working themes and the tools they handle each day) the first concerned.

The term "hoax" that came without seeking it, opportunely reminds me that other mystical fication, which is the same cynicism spreads - that of the symposium said "Pervert". The two appear to me now **intimately, inextricably linked - it@the same spirit that made possible the both**. With the exception tion Jouanolou perhaps that is not so much involved in "big world", I consider these former students ⁸⁴ (*) (May 16) In fact, as I finally find out the next day (see Note ^o 87), there was a real "massacre" of Seminar-mother (or father) SGA 5, in the hands of Verdier, Deligne and Illusie.

⁸⁵ (**) Even after I left in 1970, Illusie was to me the delicate attentions - and for a long time it sent me a very beautiful greeting on the occasion of the holiday season. I@ afraid I did not have to answer very often to thank him and show signs of life - these signs of a true friendship were like messengers of a past which seemed infinitely remote, and with whom I had lost contact.

(May 16) By cons, there was no hint at Illusie to continue or resume contact at mathematical level, and again last year (when I contacted him to mathematical questions) I felt his reluctance. I received in these fourteen years since I left, a single print of him, dated 1979.

⁸⁶ (*) See footnote to this conversation "The joke - or" complex weight "" (n ^o 83).

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cohomologistes co-responsibility and solidarity in this disgrace there. To Berthelot and Illusie nothing to me per-
perts prejudice a malice or bad faith (which can not be in doubt
Verdier@case as in that of Deligne). But I see at least a blindly blocking
in the use of healthy faculties, including the underlying reason of course escapes me. If there were in them about a
deliberate indifference and disdain, surely Zoghman Mebkhout, as the only person in the years
70 that claims openly to my work, and on matters affecting them closely both (without
they deign to notice) would have had the benefit of "bias" minimum so that they take
at least as knowledge

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little bit of what he does, and therefore are aware of the interest of management

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in which he undertook in 1974, interest was **obvious** ! Neither one nor the other deigned to notice
nothing, coming from an unknown wave that is still mine out of Grothendieck. They received
thesis unknown wave by him, I do not know if they have open, or if they have traveled the shorter texts
and more digestible that explain what it is about - the fact remains that they have not deigned only
acknowledge receipt (no more than Deligne, who obviously sets the tone).

It certainly has not prevented with the other participants of the memorable Symposium ⁸⁷ (*), they took connais-
sance with interest the remarkable "Riemann-Hilbert correspondence," without thinking of asking any
questions about the origin or paternity or less (solid mathematicians) on where is shown is
(85). But then I trust that Deligne was happy to explain this elegantly demon-
stration, surely all that is obvious for people like them - the kind of demonstration precisely
singularities in resolution shots at Hironaka, they learned long ago and by none other than
Me (85 2). Riemann-Hilbert, Hironaka abracadabra - that was it!

Obviously, as Verdier and Deligne as they have completely forgotten what it is that **creation
Mathematics** : a vision that gradually settles over months and years, updating the thing
"Obvious" that no one had been able to see taking shape in a "clear" statement that no one had
thought (whereas in this case it was a Deligne tried for a whole year ...) - and

the first comer can then show in five minutes, using all techniques he had cooked the advantage of learning seated on the benches of a distant seminar which he refuses (or is kept) is memory. . .

If I spoke bluntly Berthelot and Illusie, it is not that I want to especially load opprobrium (after a first settling of accounts with their two friends). I know they are not "worse" or more stupid than most of their colleagues or me, and that lack of flair and sound judgment that I see in them in this case (and sometimes, that of the necessary respect for others...) is not inveterate, but the effect of a **choice**. No doubt this choice he offered them

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Returns that their accepted him - and perhaps
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be that other "back" that comes with my thinking there will be unwelcome to one or the other. If it were thus, it would be simply reproduced it again the same choice, which is that also run on a fraction of its driving, even take bladders for lanterns and vice versa, and confuse no empty hope nuts (the boyfriend) and full nuts (a foreign wave). Each of knowing what wants ! (⇒ 86, 87)

Score 85 1

Jouanolou is the only one of my students, with Verdier, who has not been keen to publish his thesis. This strikes me as a sign of disaffection with the work of foundations he had developed, namely that of χ cohomology - adic perspective derived categories. As his work on this theme is placed largely **after** my departure, so at a time when my students Deligne and Verdier 87 (*) (12 June) I learned meanwhile that one nor the other participated in the Symposium (Luminy, June 1981). However, see note "Spoofing" n ° 85.
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head, had given the signal for a general disaffection of the ideas I had introduced homological algebra, including that of derivative category, the context does not encourage Jouanolou to identify to work and to do him the honor (well deserved) to publish. As these Deligne and Verdier in the wake of the work of Zoghman Mebkhout (aka Student Unknown (Verdier) alias posthumous student (of Grothendieck)), eventually discovered (with big fuss and mutual advertising) the importance of categories derivatives (see notes n ° s 75,77,81), the despised thesis Jouanolou resumed since Pervert Symposium, any timeliness; a news that she never ceased to be, if the development of the theory cohomologic diagrams had continued normally after my departure in 1970. Retail striking that illustrates certain "turn" draconian in Deligne options after I left: it is Deligne himself (who had well understood the importance was to develop the formalism of χ -adic cohomology in framework of triangulated categories) which provided Jouanolou a key technical idea for a definition shaped triangulated categories χ -adic it was studying idea that is developed in the thesis. (See this my "Report" of 1969 on the work of Deligne para.8.)

(May 30) See also, about the work of Jouanolou, note the "heirs...", N ° 91.

Score 85 2

"Coincidence" significant, it is precisely in the same seminar SGA 5 that all world learned this principle demonstration, used both to demonstrate bidualité theorem in cohomology spreads (where it has the resolution of singularities), the theorems

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finitude for p. 350

$R_i f^*$ without clean hypothesis on f , and even for Rohm, Lf_1 . (These finiteness theorems have also retracted from the published version of SGA 5, to be joined SGA 4 1

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Without that Illusie J.

only useful to point out in his introduction - I realize that just by writing this)! Zoghman, who has not had the advantage him to attend the seminar (he was entitled to "good reference" instead) learned the process at another location where I had used (for the De Rham theorem for schemes smooth on C).

He could also learn in the as "the good reference," where my demonstrations are copied in the analytical framework, to establish what my students and listeners of SGA 5 delight since then call the "Verdier duality" (which was known to me before he even had the pleasure to meet him). Decidedly everything fits! **The same demonstration** (copied to me along with the statement) is used to Verdier such as paternity for a duality he has learned anywhere else in the seminar SGA 5, dislocated and delivered contempt - and is used **against** Mebkhout becoming (by its "evidence" itself) excuse (tacit) and means to deprive the credit without shame a significant discovery. (30 May) I think the first time I used the resolution of singularities to Hironaka, and

I realized the extraordinary power of resolution as a demonstration tool, was for a demonstration "in three shots ladle" of Grauert-Remmert theorem describing a structure analytical complex on certain finished coatings of a complex analytic space, and the analogous statement in the case of type schemes finished C. (It is not impossible that the principle has been blown me in this same time, by Serre.) This result is the main ingredient of the proof of Theorem comparing the cohomology spreads and ordinary cohomology (the rest was reduced to the unscrewing through formalism $Rf_!$, Even a little resolution to spend $Rf_!$ the $R^* \dots$)

15.3.3. spoofing

Score ! 85

(3 June) Actually, I learned that they did not have to ask the question that paternity seen Berthelot as Illusie learned the God of the theorem by the mouth of Mebkhout the first
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in February 1982, the second in 1979 (year of thesis defense Mebkhout). While they have not attended the one nor the other in the Symposium in question, however, they are fixed to the mystification that had place at this Symposium, as it is

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not that they have not been aware of the retraction is done is to

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paternity Mebkhout on the theorem of God in particular. I can imagine that with elsewhere all participants in the symposium, they were eager to be duped every first mystification collective organized by the care of their friends and Verdier Deligne (mystification including four from my five cohomologistes students appear solidarity). Regarding Illusie at least, I was struck at a telephone conversation with him after passing Mebkhout home last summer, the few cases it obviously made him - he was quite surprised (almost pained by his old master, from whom he would have expected better judgment surely. . .) To see me give a leading role in Mebkhout restarting the cohomology theory of algebraic varieties. Consensus of considerable force decided to put Mebkhout among the unknown waves, and my friend lives happily with this Illusie triple contradiction, without asking any questions: the role of the theorem of God and philosophy that goes with it; retraction around the authorship of these things (which itself retraction even participates in numerous company); and the low esteem he has for the size and role of Mebkhout (Which he knows he is the author never named these things, who renewed a field where mathematics itself Illusie out as an eminence).

I find here the complete blockage of common sense and sound judgment, even in a seemingly thing as impersonal as the judgment on scientific matters, blocking which I had occasion to referring more than once already, and each time again baffles me. And this contradiction that I see here the relationship of Illusie (and surely many others) to Mebkhout my "posthumous pupil" is not something surely one of the many effects of a crucial contradiction, which is in his relationship with me. It is this contradiction in him especially and my other students also, that appears more clearly in the reflection continued in the notes of this procession to Burial, formed by my former students. . .

15.3.4. The deceased

Note 86 (May 11) As often happens, it is with some reluctance that I made this New thinking on the theme "SGA 5 - SGA 4 1

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- Perversity, "which might seem to have been considered and reviewed ad nauseam: "It will make a deplorable impression on a drive that must have its slap from he hears; It©not elegant at all yet go into details, SGA SGA Ci 5 4 1

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that is

past all that and does not deserve to still other sandwiches. . . "

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Fortunately I am not intimidated by this kind of familiar refrain myself, who would

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prevent me from going to the bottom of something (at least as far as I am able to go on time) on the grounds that decidedly "it is not worth the trouble," he has only let it run ... If I happened to find out things that I consider useful and important, it is always in moments I knew not to listen to what is as the voice of "reason" or the "decency", and follow this indecent desire in me to see even what is supposed to be "irrelevant" or of poor appearance or same crappy or indecent. I do not remember a single time in my life where I had to regret looking for something a little closer against inveterate reflexes that would prevent me. These

inhibitory reflexes were even stronger in Crops and Seeds on other occasions, because this reflection is to be made public, which immediately imposes certain constraints discretion (When I involve third parties), and brevity (in deference to the reader). I do not feel yet
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finally, that these constraints prevented me have any time or to address something that I wanted address or to deepen as far as I felt the desire. In cases that could appear at a time borderline cases, I started forward with this insurance in case of need, I still had this resource does not include in Crops and Seeds which would "come out" of my indiscreet reflection. These "Borderline cases" presented themselves only when I hesitated to involve others, and never when he acted to involve my own person. But even in the first case it is (and the thing came to me as a surprise) that I never had to make use of this "resource": the text Crops and Seeds represents the full version of my thinking - at least the portion of this reflection that has found the way writing to express.

I feel that with the short reflection of the previous note 88 (*), the situation has clarified. I mean that a critical aspect of a situation that had been confused with pleasure, and I just to evoke the triple name of a "theme" (SGA 5 - SGA 4 1

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- Perversity), appeared to me in full light:

that of a "solidarity", a "collusion" that was still perceived as a confused before. it does not mean that I guess have searched me and understood all the springs, ins and outs of complex situation, involving directly and particularly evident at least seven people: Zoghman Mebkhout (acting in a sense as

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a "revealing" of a certain situation), my five former students p. 353
cohomologistes and myself. I do not even flatter myself to have collected all the springs and motives played in my own person, in relation to the situation "SGA 5 etc ...", for nearly twenty years that "Unhappy seminar" was held! But I feel much better condition-that only yesterday (or only this morning), to understand and locate echoes, I hope, will succeed me about this by either at least of key stakeholders.

The main question to me (I think she already has another stage reflection, and now reappears with a new force) is (I think) this: what Burial passed this by my students (more or less) in full force, is it something quite **atypical**, related to certain peculiarities of my person and my singular destiny (as I left the scene mathematical ago nearly fifteen years, the circumstances that surrounded him, etc. . .)? Or is it rather a thing "all natural", due to a simple combination of circumstances - following the principle that "the opportunity is the thief? "I hesitate to believe, without discern right now, or glimpse, what aspect especially in my person has had the virtue of creating an **agreement** as perfect and as unanimous among my former students, and to bury the "master", and those who claim him or whose work clearly bears brand (without being "their"). Is this kind of "aura" of Father surrounding my person, which I have had occasion to speak? Or is it the implication that constituted for each of them the mere my departure ? Right now, I would not be able to say, lack of eyes that know see. . . Perhaps the me coming months they will learn something about it 89 (*).

More than once during the past three weeks, I thought of that other "coincidence" strange: it is the discovery of Burial "at its best" (with the four-time LN 900 - SGA 4 1

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SGA 5 - Symposium Pervert, then back on SGA and SGA 5 4 1

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) - that this discovery was made at the time between all that I had to complete a thorough reflection on my past and my mathematician relationship with my students. This was the moment where I came so to me "clear with myself" about what happened to the best of my abilities and to the extent where allowed me the facts that were me then known, as they were returned

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by memories often foggy. Or to put it another way: it was the p. 354

88 (*) This is the note "Solidarity" n ° 85, the same day.

89 (*) (May 30) To reflect in this sense, see note "The Gravedigger - or the whole Congregation", n ° 97.

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time exactly where I was **ready** at last to learn things, and for profit.

The "chance" so well done things, there is not even got to break in meditation. The reflection that began with this short retrospective on the fate of the most important concepts (according to my feeling) I had introduced 90 (*) (thinking that was left in a blur, where a certain tone based only emerged emphatically. . .) - this reflection has continued quite naturally Thursday 19th April. That was true even under the influence of emotion aroused by the impression of "impudence" (To use the term now, which although described as something that I felt then), reading the "Memorable volume" LN 900.

In this new beginning "same" reflection, the main driver was the "boss" - I was hit in my pride, my sense of decency, and writing my emotion I am in a liberais to some extent. That@the "me", "boss" who apparently led the dance in ten days follow - days marked by the absence of smile as laughter, for a serious flawless. It took no doubt that I pass by, by this detour ten days before the reflection back to the center she had left - to my own person. I still remember the relief it has been back - as if out of a tunnel when the day appears again! Then I found laughing and smiling, as if we had never left. It was on 29 April. The next 30, the last day of the month, I was happy to end point final in this final stage of reflection.

It was time, too, surely, I was ready to receive the next "package" sent this time under the care of my friend Zoghman - Package "Conference" received two days later. Today is the tenth day I work to assimilate the substance of this package there. But at this stage, as I have eaten my Brake yet to finish with this twist that does not end re-bounce, smile not me not parted company one day. And today I really believe (for the umpteenth time, it@true!), Is the last day of the period.

There are already five days I had that same feeling to have arrived at the end, he remained only work Stewardship: add some footer notes here and there, retype the net too overloaded pages

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tures (sign every time a thought that had remained so slightly confused, and asked to get in p. 355

up by this work in mechanical appearance, but the text still comes out with a new face. . .). . .

That was when the had just written what is now the note "Friends" (n ° 79), which went to linking all spontaneously @nal agreements. " Yet I ended up separating these agreements the beginning of the note. Indeed, it turned out that this famous work stewardship erupted: the "footer notes", typed without spacing, became real notes (**no** footnotes) nice size, it took retyping with spaced, and then try somehow to squeeze here and there. It took days before I even make me Obviously another procession, after the one named "The Symposium" was being formed to join the procession - and the last processions would not (as I had decided in my head) said Conference but would be led by **the student** . And just today, while the first procession, reduced to a single note, had just enrich a second ("A sense of injustice and impotence"), I knew as that would take him: it is " **The student posthumous** ". Thus the procession opened by a student (and posthumous with tiny, as befits its humble state) and closed by a host still (not humble this time), finally seems in full force!

It is time also to me it seems, after a first "false arrival" to return to the agreements of Final Profundis better coming today they were not there the five days. Here they are, as I have noted then, and also express my feelings in the present moment.

90 (*) See notes "My orphans" and "Denial of inheritance - or the price of a contradiction" March 31 (n ° s 46.47).
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(May 31) Finally, it was another "false arrival" - "final arrangements" were premature this time again ! Twenty days have passed, during which the ongoing "housekeeping work" erupted in a resumption of reflection on such aspects as others who had been neglected. Six other notes have joined the procession "The Student", which was supposed to close the show. The Van Funeral has emerged in the wake of the student, carrying four coffins accompanied the Gravedigger. Definitely missing to give body and meaning in a funeral procession that seemed to convey person.

Become wise by experience, I expect coming events and would not venture yet to predict whether the procession finally at full strength, or if a procession forgotten yet it will come sneaking the

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last minute, do not miss the ultimate Ceremony 91 (*).

15.3.5. The slaughter

Note 87 (May 12) ⁹² (**) For the edification of the reader so slightly cohomologiste, and especially mine, I would like to review the details of the looting in good standing of a splendid seminar, the hands of two of cohomologistes my former students and under the watchful eye of the other ⁹³ (***) - the same seminar where they learned, twelve years before anyone else and the hand of the worker himself the basics and tricks of the trade that made their reputation.

Two of my oral statements were never made available to the public in any form is. One is the presentation of closing on open problems and conjectures that "unfortunately did not was written "in the limited - and the author of the introduction to the edition-killing found it unnecessary indeed men-dinner only **what** open problems and conjectures it was. And why would he take this barely, when they were only problems (that everyone is free to land at will!) and conjectures (not even proven!) (87 ¹). The other is the presentation that opened the seminar, and placed immediately into a broader context (topological, complex analytical, algebraic) and reviewed the types of formulas Euler-Poincaré, Lefschetz, Nielsen-Wecken, some of which constituted one of the main applications seminar. The "... Any more than that..." With which the author of the introduction goes on to report, at turn of a phrase, the disappearance of this presentation speaks volumes about the provisions of **casualness** that this time obviously taken for granted, while the author of the seminar had disappeared from circulation since September years.

There are a series of presentations that I made on the formalism of homology classes and cohomology associated with a cycle (ambient regular pattern in the cohomology case) ⁹⁴ (****). They have been equitable sharing: for Deligne cohomology, homology to Verdier - overflowing anyway a little on the cohomology, even back to the small

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reverence Deligne with the famous "complex ^{p. 357}

weight " ⁹⁵ (*). (Not to mention that he has won the finiteness theorem for Rohm and bidualité theorem, copied text message on the seminar - in any case, the lion@share will be for Deligne, which was normal ...) The author of the introduction not only sees fit to mention the presentations on homology. There was not no reason in fact, since the year before his friend Verdier was responsible for providing the "right benchmark" that missing (without referring to a seminar or me).

⁹¹ (*) (12 June) Caution was good to put, since a new procession "My students" was separated from that first called "The Student" become "The host - aka the Boss".

⁹² (**) This note goes on with the thinking of the day "Solidarity" (n ° 85).

⁹³ (***) The following reflection is also revealed that one of these "other" has lent a hand effectively for this operation for the account of others.

⁹⁴ (****) See for details footnote ° 82 "Good references."

⁹⁵ (*) See Note (83) "The joke - or complex-weight".

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There were oral statements on the theorems of finiteness for operations Rif^* (f unclear), and as a corollary, for Rohm operations $*$; and $Lf^!$. The Key Theorem was proved by technical resolution of singularities to Hironaka (therefore valid only in cases where it has the resolution).

These arguments I had used have become widely used since the seminar (see note (85 ²)). Line got to prove these theorems of finiteness, and that of bidualité under other assumptions more helpful, checked now in most applications. One would expect that he would ask

include these improvements in the seminary where he had the privilege of learning the étale, and the ideas and techniques in the basis of all his subsequent work. But that fact has served as "Reason" to amputate the seminar that part. As for bidualité theorem, so he becomes under the pen of Illusie (and within diagrams) "bidualité theorem of Deligne" (introduction to the presentation I). It was only fair, since in the Verdier analytical cases was already awarded paternity in the year Previous (without having even had to put in charge to find another demonstration).

There is the statement developing a "generic Künneth formula", which was written by Illusie. No one before had ever thought to release this kind of statements, inspired by the intuition that "generically" ie the neighborhood of the generic point of the base, an outline acts as a "locally trivial fiber"

in the topological context. On a nearby elegant demonstration of his demonstration indicated above, Deligne manages to eliminate the resolution of singularities assumption I made. It is awarded - exposed deleted and "replaced" by a reference to a presentation of the same in the seminar Illusie said "previous"

APG 4 ¹

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There is a series of presentations on the formalism of non-commutative footsteps, developed as a means to
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explain local terms of the Lefschetz-Verdier formula in cases that had never been processed.

These presentations have come to be written, it seems, by Bucur, whose manuscript "got lost in a moving house
ment "providential - it turns vaudeville! 96 (*) In the introduction to SGA 5, written by Illusie these presentations
indeed become "the Grothendieck theory traces **commutative** , generalizing [brightly] that
Stallings "(which they were **not** commutative!). The slip 97 (**) can only be due to a bad secretary
(Or too much...) Inspired, she was having links with movers My friend Ionel Bucur. (Word
"Brilliantly" is an interpolation of my pen, to better render the thought inevitably suggested by
this slip, also angel).

I did not complain because Illusie has typed the job of redoing the work (and, he says, a
Version "more sophisticated", as it is made sheaf sauce - there seem to remember yet
Illusie, you made innovations more "sophisticated" than this in my time. . .). He had to spend a
Proud same time, if I remember that I had spent weeks to put the machine to the point; if it is
find my manuscript was also lost in the same providential move, and God knows if one of
dear listeners, overwhelmed by my oral fluency, knew at least understandable taking notes. . .

Remarkably, that I had not noticed before, it does not fit this presentation instead of the presentation where XI
it was expected (which is probably the place as he had in the oral seminar), preferring to leave
a gaping hole there and make its exposed a spurious exposed, called "local terms Calculations".

The title seems to correspond yet that I seem to remember having done in the oral seminar -

96 (*) It is this circumstance that probably had to inspire Deligne, the improvised, the brilliant criticism of SGA 5 that the terms
Local formula Lefschetz Verdier (which "remained conjectural" remind him!!) there were not even calculated! (See
Note "clean slate", n ° 67, about saugrenuité of this criticism, which to a neighbor informed reader to that of the famous
"complex weight" Verdier last year (see Note ° 83). So it is Verdier who made school!)

97 (**) This is the slip assigning me authorship theory traces "commutative" (for which we had not expected me)
instead of "non-commutative". It is preserved even in the published edition is even more remarkable is qu@llusie
was one of my students may be the one who was most meticulous in work, to the last detail.

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strange. But from line 1 of the introduction to this paper, the author hastens to us

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disabuse "This p 359.

presentation, written in January 1977 **yielded no oral presentation of the seminar** . "And with chaining
formulas Lefschetz-Verdier (though that name sounds familiar, and I had grown well and develop well
far and wide theory traces noncommutative specifically, to calculate in some cases
"local terms". . .), Then a formula of Langlands and demonstration Artin-Verdier 1967

(Yet it was one year after the final agreements oral seminar, which has not been without influence
these authors, including at least one if not both of the following). Towards the end of the last page, we learn
in passing, contrary to what had been announced earlier, there is also a "second part

This presentation of more technical nature "(I@ already read this language somewhere...) which is (admire
hue) " **inspired by the method used by Grothendieck** to establish the Lefschetz formula
some cohomological correspondence on curves ", with reference to the statement XII to the
seminar and especially the indispensable SGA 4 1

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; Obviously, there was no reason for so little, to include

this presentation instead of gaping hole - the "more sophisticated version" of sometimes have done things. It was
even nice to Illusie and Deligne cite me as a source of "inspiration", while Example
their friend Verdier previous year had shown yet that it was absolutely worth the trouble
to have such scruples.

I return to the introduction to the volume Illusie posing as the SGA 5. We learn to
Again, as already announced Deligne in his introduction to SGA 4 1

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That it is indeed **through**

his friend that the seminar is finally released:

"Thank P. Deligne for convincing me to write in a new version of the presentation III, a
demonstration of the formula Lefschetz-Verdier, **thus removing one of the obstacles to the publication of this
Seminar** ".

Again we are in farce - taken as such by the docile Illusie in the introduction to

APG 4 1

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! If the seminar was not published for more than ten years is (the whole was thinking about it) because

that person (Deligne before rescuing the situation in 1977) had not yet thought it might be a good idea to write a demonstration of the said formula (rightly) "Lefschetz-Verdier", which no other

However, that

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his inseparable friend and former student Verdier himself proudly fatherhood **for at** p. 360

least 1964 (87 2), ie for at least two years previously when my seminar ended, and only waiting more than good will to be available to all!

Finally, as a further and final (?) Mutilation of the seminar, there is the disappearance of the beautiful presentation that Serre had the "module (Serre) Swan" - presentation entitled "Introduction to the theory of Brauer." He is happy Serre that, seeing the turn of events, has had the good sense to include his statement in his book "Linear representations of finite groups" (Hermann, 1971), and put to the public

Math. (87 3)

This time I think I^e been around this table. The picture of the fate of a seminar where I had put the best myself (88) ⁹⁸ (*), and I found twenty years after unrecognizable massacred by the very people who had been the exclusive beneficiaries - or at least three of them, and with the consent of all other participants.

I do not regret taking the time, again, to go through what had progressively

tively imposed to my attention. This "turn of events" ⁹⁹ (***) I noted that, after a long retrospec-

⁹⁸ (*) For the meaning of the phrase "the best of myself", see the following notes "The remains ...", "... and the body"

n ° 88, 89. The first of these is the seminar SGA 5 with SGA 4 which is inseparable from, as the centerpiece of the Part of my work "has fully completed term."

⁹⁹ (***) See the note of the name (n ° 73) of 30 April.

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spective on my relationship with one of my former students, of foreseeing even then that it was not the only to "bury me with enthusiasm" - I have now only to be aware of his breath, his

"odor" (to use an expression that then appeared in a dream of mine) - the breath of **violence** .

This breath is hidden and revealed by both the speech ¹⁰⁰ (***) (seemingly detached and emotionless) with a highly technical material. What is meant by this violence, through a "corpse" delivered to thank you, is the same person of the one who was the "master", the "Father" - at a time yet where "students" from long ago took his coveted place without any resistance; and

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long as they

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elected from among them the new "Father", to replace the old and to rule over them.

I feel that breath, yet it remains for me something foreign, misunderstood. To "understand"

it would probably blow it then live in me, or has lived in me. But four years ago, I have to the first time felt and measured the scope of a thing in my life that I had never thought that

always seemed to me self-evident: that my identification with my father in my childhood, has **not** been marked by conflict - that at no time of my childhood, **I have neither feared nor envied my father** while he vowing unconditional love. That relationship, deeper perhaps that has marked my life (without

as I knew it before this meditation of it four years ago), which in my childhood was like

relationship to another myself both strong and caring - this relationship has not been marked by the seal of the division and conflict. If, through my whole life often torn, knowledge of the force based

in me remained alive; and if in my life not free from fear, I have not known fear nor a

person or an event - it is this humble circumstance I owe, still unknown to beyond

my fifty years. This circumstance was a priceless privilege, because it is the intimate knowledge of the creative force in his own person, which **is** also the force, allowing it to speak freely according to his

Nature through the creation - by a creative life.

And this privilege, which exempted me from a trademark among the deepest of the conflict, is currently

also as an obstacle, as a " **void** " in my life experience. A hard vacuum to be filled, where

many others have a rich web of emotions, images, associations, offering them the way (for some they are curious to take) a deep understanding of others along with themselves,

in situations that I can (by dint of repetition and overlap) to understand somehow,

but before which I remain yet as a stranger - with the desire for knowledge in me which remains hungry.

Score 87 1

(87 1) (May 31) The presentation of closing, surely one of the most interesting and most substantial with the opening statement, has clearly not been lost for everyone, as I see taking

read the article MacPherson "Chern classes for singular algebraic varieties" (Chern classes

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for

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singular algebraic varieties, Annals of Math. (2) 100, 1974, p. 423-432) (received in April 1973) - I found, under the name of "conjecture of Deligne-Grothendieck", one of the main conjectures I had introduced in this schematic presentation in the frame. It is taken by MacPherson in the framework of transcendent algebraic varieties over the field of complex numbers, the Chow ring being replaced by the homology group. Deligne had learned this conjecture 101 (*) in my presentation in 1966, the same year so that he had made his appearance in the seminary where he began to learn the language patterns and techniques cohomological (see note "Being apart" n ° 67 ©- It's still nice to have done me the honor to include me 100 (***) This is especially the speech in the nature of introductory texts accompanying SGA 5 (written by Illusie) and SGA 4 1 2

(Written by Deligne).

101 (*) (June 6) Under a slightly different form it is true, to see beyond following note dated today.

(March 1985) For details, given by Deligne itself, see note "The dot the i" n ° 164 (1 II).

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in the name of conjecture - some years later it would have been more appropriate. . .

(June 6) I take this opportunity to explain here what had been conjecture that I had stated in the seminar in the schematic part, surely there pointing the obvious variation in the analytical framework complex (or even rigid-analysis). I conceived as a theorem of type "Riemann-Roch", but discrete coefficients instead whether consistent coefficients. (Zoghman Mebkhout said also that his view of the 3-modules should allow to consider both Riemann-Roch theorem as contained in the same theorem of Riemann-Roch lens, which therefore represent in characteristic zero the natural synthesis of the two theorems of Riemann-Roch that I introduced in mathematics, one in 1957, the other in 1966.) is fixed a ring of coefficients Λ (not necessarily commutative, but for Noetherian simplified and more twisting first the characteristics of the proposed schemes for the purposes of étale ...). For a scheme X designates

$K(X, \Lambda)$

the Grothendieck group formed with Building beams stalls of Λ -modules. Using the functors $Rf_!$ This group depends functorially X, X noetherian schemes and morphisms which are separate and finite type. For regular X , I applied the existence of a group homomorphism Canonical, playing the role of "Chern character"

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in the coherent RR theorem,

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$$ch_x : K(X, \Lambda) \rightarrow A(X) \otimes_{\mathbb{Z}} K(\Lambda)$$

(15.1)

wherein $A(X)$ is the ring of X and $K(\Lambda)$ the Grothendieck group formed with the Λ -modules finitely. This homomorphism was to be solely determined by the validity of the "Riemann formula Roch discreet" to a morphism **own** $f: X \rightarrow Y$ of regular patterns, which formula is written as Formula Riemann-Roch consistent with the "multiplier" Todd replaced by the Chern class total relative:

$$ch_Y(f_!(X)) = f_*(Chapter_x(X) \vee (f))$$

(15.2)

where $c(f) \in A(X)$ is the total Chern class f . It is not difficult to see that in a context where has resolution of singularities in the form of strong Hironaka, the formula RR well determines the ch_x uniquely.

Of course, we assume that we are in a context where the Chow ring is set. (I did not have knowledge that someone just tried to write a theory of Chow rings for or circuit diagrams Regular farmhouse that would finitely on a body.) Otherwise, it can also work in the scale ring associated with the ring "Grothendieck" $K \circ (X)$ in the usual consistent context, filtered in the usual manner (See SGA 6). You can also replace $A(X)$ by the ring of l -adic cohomology peer, direct sum of $H_{2i}(X, \mathbb{Z}_s(i))$. This has the disadvantage of introducing an artificial parameter l , and give formulas less fine "digital purely", while the ring Chow charm to have a continuous structure, destroyed passing cohomology.

Already in the case where X is a smooth algebraic curve over an algebraically closed body, the calculation of c_x involves delicate local invariants type Artin-Serre-Swan. This means that the general conjecture is a deep conjecture, whose prosecution is linked to understanding similar in size top of these invariants.

Note. Pointing to the same $K(X, \Lambda)$ "the Grothendieck ring" formed with complex constructive

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patible of Λ -beams stalls finite tor-dimension (which ring acts on $K(X, \Lambda)$ when A is commutative
 tif. . .), We must still have a homomorphism

$$\text{ch}_x K(X, \Lambda) \rightarrow A(X) \otimes_z K(\Lambda)$$

giving rise again (mutatis mutandis) to the same Riemann-Roch formula (RR).
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Be now cons (X) the ring of entire functions Building X . way is defined more or
 p. 364

less tautological canonical homomorphisms

$$K(X, \Lambda) \rightarrow \text{Cons}(X) \otimes_z K(\Lambda),$$

$$K(X, \Lambda) \rightarrow \text{Cons}(X) \otimes_z K(\Lambda)$$

If we now merely patterns **characteristic zero**, then (using features

Euler-Poincare to clean surfaces) it is seen that the Exec group (X) is a covariant functor compared to
 finite type morphisms noetherian schemes (in addition to being as contravariant functor-ring,
 which is independent of characteristics), and previous tautological morphisms are functorial. (This
 corresponds to the fact "well known", but has not been proven I believe in oral seminar SGA 5, that
characteristic zero for a locally constant beam Λ -modules F on an algebraic scheme X ,

his image

$$f: K(X, \Lambda) \rightarrow K(e, \Lambda) \simeq K(\Lambda)$$

equals $d\chi(X)$, where d is the rank of F , $e = \text{Spec}(k)$, k base body assumed algebraically closed. . .).

This suggests that once the homomorphisms Chern (1. .) And (1. .) Must be able to deduct homomorphism
 phismes tautological (2. .) (2. .) coping with a homomorphism Chern "universal" (independent of
 any ring of coefficients Λ)

$$\text{ch}_x : \text{Cons}(X) \rightarrow A(X)$$

so that both versions "to Λ coefficients" of the formula RR appear as contained formally

LEMENT in a formula RR-level constructible functions, which is always written in the same
 form.

When working with drawings on a basic body set (typically one again)

or more generally on a basic diagram **regular** set S (e.g. $S = \text{Spec}(Z)$), the shape of the
 Riemann-Roch formula most consistent with the usual writing (in the familiar coherent framework from
 1957) is obtained by introducing products

$$c_x(x) c(X/S) = c_{x/S}(x)$$

(where X is a $K(X, \Lambda)$ or $K(X, \Lambda)$ interchangeably), could be called

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Chern class of x

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relative to the base S . When x is the K unit element (X, Λ) ie the class of constant beam

value Λ , the image is found from the total Chern class relative X with respect to S by 1 "homomorphism
 A canonical $(X) A(X) \otimes K(\Lambda)$. Given this, the formula of RR equivalent to the fact that the formation of
 these Chern classes on

$$c_{x/S} : K(X, \Lambda) \rightarrow A(X) \otimes K(\Lambda),$$

for a regular scheme X variable over S (finish on Type S), with S fixed is by functorial

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compared to specific morphisms, and similarly for the variant (5. .). In characteristic zero, this reduces to
 functoriality (for proper morphisms) of the corresponding application

$$c_{x/S} : \text{Cons}(X) \rightarrow A(X).$$

Under this form of existence and uniqueness of an application "Chern class" absolute (6), in the case

where $S = \text{Spec}(C)$, that this conjecture in the work MacPherson, the relevant conditions (here

as in the general case of characteristic zero) being a) functoriality (6) for proper morphisms

and b) $ac_{x/S}(1) = c(X/S)$ (in this case, the total Chern class "absolute"). Compared to my guess

Initial, the presented form and proven by MacPherson is distinguished in two ways. One is a

"Less", since it is located, not in the Chow ring, but in the whole cohomology ring, or

more exactly the entire homology group defined by transcendental path. The other is a "more" - and that©

here maybe Deligne contributed to my initial guess (unless this contribution

is due to MacPherson himself 102 (*)). Is that for the existence and uniqueness of an application (6),

need not be restricted to regular X patterns, if we replace $A(X)$ by the group

of complete homology. It is likely the coup that the same is true in the general case, denoting by $A(X)$ (or better in $A(X)$) the **Chow group** (which is no longer a ring in general) of noetherian scheme X . Or to put it another way: while the heuristic definition of invariants $h_p(X, \mathcal{L})$ (for X in $K(X, \mathcal{L})$ or $K(X, \mathcal{L})$) used in an essential way the hypothesis that ambient pattern is regular, once you multiply the by the "multiplier" $c(X/S)$ (when the scheme X is finitely generated on a fixed regular pattern S), the product obtained (4) seems to keep a sense without regularity assumption on

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 X , as a component of a tensor product p. 366

$A(X) \otimes K(\Lambda)$ or $A(X) \otimes K(\Lambda)$, where $A(X)$ denotes the Chow group of X . The spirit of the demonstration MacPherson (that does not use resolution of singularities) suggests the possibility of building a "computational" explicit homomorphism (5) "doing with" the singularities of X as they are, and with singularities beam coefficient F (whose class is x) for "collecting" a cycle X with coefficients in $K(\Lambda)$. This would also be in the spirit of the ideas I had introduced in 1957 with the Riemann-Roch theorem consistent, where I made self-intersection calculations including, keeping me well to "move" the considered cycle. A first obvious reduction (X obtained by dipping in a S pattern) would be the case where X is a closed subscheme of the regular pattern S ...

The idea that it should be possible to develop a Riemann-Roch theorem (coherent) odd to me was also familiar, I do not know since when, but I never tried to seriously test. It is just this idea (except the analogy with the formalism "cohomology, homology, cap-product") that had me conduit in SGA 6 (1966/67) systematically introducing the $K(X)$ and $K(X)$ and $A(X)$, $A(X)$, the Instead of just going to work with $K(X)$. I do not remember if I also thought something kind in the seminar SGA 5 in 1966, and if I have suggested in the oral presentation. As my notes handwritten disappeared (in a move perhaps?) I know it probably never. . .

(June 7) In Article browsing MacPherson, I was struck by the fact that the word "Riemann-Roch" there no position - this is the reason also why I did not immediately recognize the guesswork I had made in the seminar SGA 5 in 1966, which for me was (and still is) a theorem type "Riemann-Roch." It seems that at the time of writing his article, MacPherson does not even be made 102 (*) (March 1985) It is indeed the case, cf. footnote ° 164 cited in the previous footnote page. 379

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account this obvious relationship. I suspect the reason is that Deligne, that after my departure has this conjecture outstanding form that pleased him, took care whenever possible to "erase" the obvious kinship with the theorem of Riemann-Roch-Grothendieck. I think I feel the motivation to act so. First, it weakens the link between this conjecture and my person, and makes plau

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 sible the call-
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lation of "conjecture Deligne-Grothendieck" under which it is currently circulating. (NB I do not know if it is circulating in the schematic case, and if so, would be very interested to know under what name.) But the deeper reason seems in the obsessive idea home to deny and destroy, in whole Wherever possible, the fundamental unity of my work and my mathematical vision 103 (*). This is an example striking how, in a mathematician with exceptional means, however, an idea completely fixed foreign to all mathematical motivation can obscure (or even close off completely) what I called the "Healthy instinct" mathematical. This instinct can not fail to perceive the analogy between the two statements "Continuous" and "discrete" a "same" Riemann-Roch theorem, I had also obviously highlights in the oral presentation. As I said yesterday, this relationship will probably be confirmed shortly by a shaped statement (conjectured by Zoghman Mebkhout), at least in the complex analytic case, permet- As to deduct either a common statement. It is clear that in the "fossoyantes" provisions in which was found Deligne vis-à-vis the Riemann-Roch theorem 104 (**), it was not likely to find the only statement that links the analytical framework, let alone the question of a statement similar in the general schematic framework. Nor has it succeeded in such provisions clear point fruitful for the 3-ons in the cohomology theory of algebraic varieties under way too natural ideas that it was buried - or even acknowledge, for years, the fruitful work of Mebkhout succeeding where he himself had failed.

Score 87 2

(May 31) This is the year of my presentation Bourbaki on the rationality of L-functions, where I UTI heuristically read the result (???) Verdier (and especially the form provided local terms in the case species), without waiting that wants Illusie well demonstrate thirteen years later, at the invitation of Deligne. he I thought also when Verdier showed me his formula ultra-

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General who came as a surprise,
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he demonstrated to the formalism calls "six operations" in a nutshell - it's the kind of formulas where (almost) the write is the show! If "hard" there was, it could only be at most only level verification of one or two compatibilities ¹⁰⁵ (*). In addition, both Illusie know that Deligne perfectly as the demonstrations that I had given in the seminar various formulas traces Explicit **were complete**, they were dependent in any way the general formula Verdier, who had simply acted as a "trigger" to incite explain and prove traces of formulas in cases as general as possible. The bad faith of one or the other here is obvious. For Deligne it was already clear to me when writing the note "The clean slate" (n ° 67) - but it probably was not a uninformed reader, nor of course to a knowledgeable reader who renounces the use of his faculties healthy. ¹⁰³ (*) compare with the comment in the note "The body" (n ° 88) deep sense of SGA4 operation 1

2, for the same

to burst into an amorphous set of "technical digressions" the profound unity of my work around the cohomology spread by "violent integration" of USG foreign text 4 ¹

2 between the two parts 4 and indissoluble APG APG 5 which develop this work.

¹⁰⁴ (**) These provisions vis-à-vis precisely the theorem of Riemann-Roch-Grothendieck, manifested in a particularly clear in "In Praise of Death"; see note "In Praise of Death (1) - or compliments," n ° 104.

¹⁰⁵ (*) (June 6) It seems more than via the bidualité theorem (promoted meantime "Deligne theorem"), demonstration the initial Lefschetz-Verdier formula dependent on a resolution of singularities hypothesis, which reaches Deligne happen in the case of type schemes ended up on a body. This is a good opportunity to fish in troubled waters and give SGA 5 feel that would be subject to "seminar-sic" SGA 4 ¹

2 that the "above" (which was indeed published before him !).

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(June 6) As for Illusie, it is entirely within the game of his friend, trying to muddy the waters for give the appearance of a ultratechnique oral seminar did not give even complete demonstrations All results, including traces of formulas. These however were indeed demonstrated there (And for the first time) in 65/66, and this is where both he and Deligne have been privileged to learn, and a delicate technique that goes with ¹⁰⁶ (**).

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This reminds me that of course, I had taken the trouble to demonstrate the formula Lefschetz- p. 369 Verdier in the seminar - it was the least, and a particularly striking implementation of formalism of local and global duality that I proposed to develop. The question came to me these days why on earth it, while there were good ten presentations including writing remained distressed by care of my dear students, so Deligne and Illusie were really spoiled for choice to name their "obstacle" technical -SiC publication SGA 5, they chose between all the theorem of their good boyfriend Verdier, who at the time was in fatherhood as his due, like that of categories Derived and triangulated he had never bothered either write (or, at least, to the available to the public). There is a sort of **challenge** in absurdity (or in a kind of collective cynicism Group cohomologistes my former students, I consider all united in this operation-killing) which reminds me of "complex-weight" Verdier brilliantly invented by the previous year (see Note that name, n ° 83), or (in the iniquitous register) with the name "perverse" given by Deligne to the beams which should be called "bundles Mebkhout" (see note "The Perversity" n ° 76). I feel in such inventions so many acts of domination and vis-à-vis contempt of the mathematical community as a whole - and also a **bet** that clearly was won until the unexpected appearance of the deceased, which almost seems like the only awake before a sleepy community ...

Note 87 ³

(June 5) After the balance sheet of a massacre, we appreciate its value this declaration of the Illusie Line 2 of his introduction to the volume named SGA 5:

"Compared to the original version, the only significant changes concern the presentation II [formules generic Künneth] which is not reproduced, and the presentation III [Lefschetz- of formula Verdier], which has been completely rewritten and expanded a numbered Appendix III B ¹⁰⁷ (*). Apart few changes

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details and additions footer notes, other presentations were

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left **as is** "(my emphasis).

Again, Illusie is complaisant echo of another good joke sent his friend hilarious,

that the existence of SGA 4 1

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"soon will publish SGA 5 **unchanged**" (see note "Table

tabula "n ° 67) - Illusie and did everything possible during his presentations and introductions to accredit this

106 (**) In the second paragraph of the Introduction to the book published under the name of SGA 5 Illusie this as "the heart of

seminar "the three presentations III, IIIB, XII around the Lefschetz formula étale, then we saw that in

the introduction to the presentation III B, he takes care to specify (contrary to reality) that "this statement does not match any oral presentation of the seminar "and in the introductions to the presentations III and III B, it is possible to give the impression that they are subject to SGA 4 1

2, and that the presentation III is introduced as "speculative"! In fact, the entire seminar

SGA 5 was technically independent of the presentation III (Lefschetz-Verdier formula), which acted as a motivation

heuristic, and exposed IIIB is none other than the "hole" (exposed XI) created by the removal of Bucur, which was the pretext welcome to this additional stripping.

To accredit the version of a seminar "technical digressions" (his friend blown Deligne), has taken Illusie

care to blow the introductory, where I gave a preliminary summary of the major key themes were

be developed in this seminar table where the formulas traces form only a small part (taking an important

particularly because of their implications arithmetic in the direction of the Weil conjectures). For an overview of these "great Themes", see sub-grade n ° 87 5 further.

107 (*) Which is presented as part of the "heart of the seminar!" (See note b. Previous p..)

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fraud (that SGA 5, where he and his friend learned their trade, depend on the volume-pirate SGA4 1

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, made of

Bries and gleaned brac or looted during the twelve years that followed) by a luxury references to SGA 4 1

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each page visit. . .

The final word comes (as it should) to Deligne, he wrote me a month ago (May 3), in response to a

terse request for information (see about the beginning of the note "The Funeral", n ° 70):

"In summary, if there was seven years than you did more math [?] When the text SGA 4 1

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appeared, this is simply [?] long time for editing SGA 5, **which was too**

incomplete to be useful is issued.

I hope these explanations are acceptable to you. "

If they have me "approved" at least they will have edified me. . .

Score 87 4

(June 6) It might be time to indicate what the main themes that were devel-

oped in the oral seminar, and the published text which makes it possible to get an idea as by subtraction.

I) local aspects of duality theory, whose main ingredient is technical (as in the case

coherent) the bidualité theorem (supplemented by a theorem "cohomological purity"). I have the impression

sion that the geometric sense of this last theorem as a theorem of duality of local Poincare that

though I had clearly explained in the oral seminar was completely forgotten for by those who were my

students 108 (*).

II) traces formulas, including traces of formulas "noncommutative" more subtle than the formula

usual traces (where the two members are integers, or more generally ring elements

coefficients as Z/nZ or ring l -adic Z_l or Q_l) which fits into an algebra

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finite group operating

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on the intended pattern, with coefficients in a suitable ring (such as those contemplated in the parenthesis former). This generalization came very naturally, that even in the case of formulas

Lefschetz the usual type, but for beams of "twisted" coefficients, one was brought to replace

initial pattern by a Galois cover (usually branched) for "untwist" the coefficients, with

the Galois group operating above. Thus formulas like "Nielsen-Wecken" creep

naturally in the schematic context.

III) Formula Euler-Poincare. There was a detailed one hand an "absolute" formula for study

of algebraic curves, with blows of Serre-Swan modules (generalizing the case of moderately coefficients

branched, giving rise to the formula of Ogg-Shafarevich-Grothendieck more naive). On the other hand there were

new and profound conjectures of the Riemann-Roch type of "discrete", one reappeared seven years later,

in a hybrid version, under the name of "conjecture of Deligne-Grothendieck," proven by MacPherson

by transcendent way (see Note ° 87 1).

The comments that I could not fail to make the deep relations between the two themes (formulas Lefschetz, formulas Euler-Poincaré) also lost without trace. (As it was my habit, I left all my handwritten notes to volunteers editors-sic, and I am left more no written record of the oral seminar, which I of course a set of handwritten notes complete, although some were succinct.)

IV) formalism detailed homology classes and cohomology associated with a cycle arising naturally general formalism of duality and the key idea, of working with the cohomology "to Media "in the proposed cycle, using the theorems of cohomological purity.

108 (*) After verification, this geometric interpretation has at least been preserved in writing Illusie.

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V) finiteness theorems (including generic finiteness theorems) and theorems of generalized Künneth RIQUES for cohomology to any support.

The seminar also developed a technique for passage of twist coefficients to the coefficients l -adic (Exposed V and VI). This was the most technical part of the seminar, which generally worked with torsion coefficients, then left to "go the limit" to derive the results corresponding l -adic dent. This view was a stopgap pro

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visional, pending thesis Jouanolou (still not published at p. 372

present) giving the formalism that was directly under the l -adic.

I do not count the number of "themes" key, the calculations of some classic patterns and cohomological theory of Chern classes, that Illusie rises hairpin in his introduction as "One of the most interesting" of the seminar. Since the program was loaded, I had not grown needed in oral seminar to dwell on these calculations and this building, as it was enough to resume almost verbatim, the arguments I had given ten years before in the context of the Rings Chow, at the Riemann-Roch theorem. It was obvious the other hand that it should be included in the seminar written to provide a helpful reference to the user of the étale. Jouanolou had responsible for this work (statement VIII), he had to look not like a service he rendered to the community while learning mathematics are critical core technology for its own use, but as a chore, since its drafting has dragged on for years 109 (*). It has not been otherwise, he must believe, for his thesis, which remains a ghost reference like that of Verdier. . . The "passage to the limit" should not be counted as either one of the "major themes" of the seminar, in that it does not associated with a particular geometrical idea. Rather, it reflects a particular technical complications the context of the cohomology spreads (distinguishing the transcendental contexts) that theorems key on étale primarily concern the coefficients **torsion** (the first waste characteristics), and that to have a theory that fits the rings coefficients characteristic zero (as it should for the Weil conjectures) must pass to the limit on rings coefficients $Z / l_n Z$ for results " l -adic".

All this said, the only one of the five main themes of the seminar oral form seems to appear full in the published text, is the theme I. Themes IV and V have disappeared altogether, absorbed

SGA 4 1

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With the benefit can refer to them thoroughly and give the impression that SGA 5 depends Deligne a text presenting as anterior. Themes II and III appear in the published volume in mutilated form, and always maintaining the same sham of a dependence on text

APG 4 1

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(Which is in reality out of the entire mother-seminar SGA 4, SGA 5).

15.3.6. The remains

Note 88

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(May 16) The set of two consecutive seminars SGA SGA 4 and 5 (which for me are like p. 373 a single "Seminar") develops from nothing, both the powerful instrument of synthesis and discovery that is the **language** of the topos, and **the tool** fully developed, perfect efficiency, which is the cohomology spread - better understood in its essential formal properties, from that moment that it was even cohomological theory of ordinary spaces 110 (*). This set represents the contribution deepest and most innovative I have made in mathematics, at a fully completed work futures. At the same time, and without wanting to be, so that at every moment everything is going the natural of 109 (*) (12 June) Looking through the statement in question, I could convince myself also perfect collusion with Jouanolou cohomologistes my other students.

110 (*) Even by restricting the most neighboring areas of "varieties" such as triangulables spaces.

15. C) THE BEAUTIFUL WORLD

obvious things, this work represents the "tour de force" the largest technical I completed my Artwork mathematician 111 (**). Both seminars are for me inextricably linked. They represent, in their unity, both the **vision** and **the tool** - the topos, and a complete formalism of étale. While the vision remains challenged today, the tool for nearly twenty years deeply re-Nouvele algebraic geometry in its aspect for me the most fascinating of all - the "arithmetic" aspect, apprehended by intuition and by a conceptual and technical background, nature "geometric". This is surely not only intend to suggest a **grandfathering** his "digest" cohomological on the part SGA 5 Deligne motivated to dress up the name sham SGA 4 1

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- nothing prevented

after all, for that matter, to call SGA 3 1

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! In the "SGA 4 operation 1

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"I feel intends to present

the work which all hers comes from (this work which he happens to come off!) - a unit of work obvious and apparent deep well across two seminars 4 and USG (the real) SGA 5 as thing **divided** (as itself is divided...), **cut in two** by the violent insertion of a foreign text and contemptuous; a text that would stand as the living heart, quin

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tessence a thought, a

p. 374

vision which he had no hand 112 (*), and the two "neighborhoods" surrounding it as a kind of appendages vaguely grotesque, like a bunch of "digressions" and "Technical supplements" at work is giving as a central and essential, from the pen of Deligne and where my humble person is graciously allowed (before burial total) to the number of "collaborators" 113 (**).

The "chance" had done things. This "remains delivered to thank you" - this "unfortunate seminar" always left behind by the "editors" and stayed when I left in the hands and at the discretion of my cohomologistes students - it was not there **any** part of the master©work! It was not SGA 1 and 2 SGA (which I developed in my corner without even suspecting me the tools that would be both technical aids needed for the "off" the main work to come) or SGA 3 (where my contribution consisted mainly of endless scales and arpeggios - sometimes difficult - for honing the technique "all azimuths "diagrams) or SGA 6 (systematically developing my old ideas around ten years Riemann-Roch theorem and formalism intersections) or SGA 7 (which, by the internal logic a reflection derives from the possession of the central tool, controlling the cohomology). It is indeed the **mistress part** of my work, the drafting was unfinished (and by them ...), I left, at least in part, in the hands of my cohomologistes students. It is this part of a master work they chose to slaughter and in which they are suitable pieces, forgetting the unit which is the meaning and beauty and creative power (90).

And it is not by chance that, armed with assorted tools and denying the spirit and vision that the had created from nothing, none has been able to discern the innovative work where it was reborn, 1 "against their indifference and their disdain. Neither that after six years, when at the end of the fine new tool was finally apprehended by Deligne, they have unanimously agreed buried man who had created in solitude - Zoghman mebkhou

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the posthumous pupil of the master denied! And it is not by chance that after the spin momentum

p. 375

Initial Deligne (which in recent years had led to the strong start of a new theory

111 (**)) Some difficult or unexpected results were obtained by others (Artin, Verdier, Giraud, Deligne), and parts of work was done in collaboration with others. This takes nothing (in my mind at least) the strength of my appreciation on the place of this work throughout my work. I also think back on that more detailed manner, in an appendix to the Sketch Theme, and to dot the i where obviously it became necessary.

112 (*) The thought had reached full maturity, both the main ideas as the essential results, even before the Deligne young man appears on the scene, to learn algebraic geometry and cohomological techniques my contact, between 1965 and 1969.

(30 May) On this subject the note "Being apart", n ° 67.

113 (**)) See notes "Green light," "Reversal", n ° s 68, 68 ©

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15.3. IX My students

Hodge, and to demonstrate the Weil conjectures), and despite his prodigious ways and means cohomologists my brightest students I note today that "gloomy stagnation" in a field of prodigious wealth where everything still seems to do. There is not surprising, since as soon fifteen years the main source of inspiration and some of the "big issues" ¹¹⁴ (*), even though they are present and we are faced with every step carefully bypassed and remain retracted, like Messengers from the one for fifteen years he acted constantly burying.

15.3.7. And body ...

Note 89 (May 17) The thought, the vision that lived in me and that I had grown communicate, I see it as a living body, healthy and harmonious, lively renewing power of living things, the power to design and create. And this living body become **remains** shared between them others - such member or duly stuffed district serving trophy in one, another, dismembered, as puzzle or like boomerang in the other, and another still, who knows, as is for home cooking (We@ not close to it!) - and everything else is good to rot in landfills. . .

This, in graphic terms but one that many seem to express a certain reality of things, the table which eventually reveal itself to me. The puzzle in a pinch, it well fracture a skull here and there ¹¹⁵ (**)
- but never those scattered pieces, trophy or puzzle or family soup, will not have the power yet so simple and obvious of the living body, that of the loving embrace that creates a new being. . .

(May 18) This image of the living body, and the "body" to pieces scattered to the four winds, had to form in me throughout the past week.

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The comical form in which it is presented under my plume- p. 376

typewriter does not mean that this is the least an **invention** , a tad

macabre, a burlesque improvisation on the momentum of a speech. The image expresses a **reality** , perceived pro-deeply when she took material form in a written formulation. This reality, I had already take note snatches here and there throughout the fourteen years since my "start", and perhaps even from before. Bits of information recorded first on a superficial level by distracted attention absorbed elsewhere - but all went in the same direction, and that had to be assembled, at a deeper level, a certain image - unformulated picture I did not care to take knowledge, while I had other fish to fry. This image has grown considerably and specified in the reflection that has continued since the end of March, for six or seven weeks hence.

Rather, scattered pieces of information, then reviewed by the care of conscious attention

fully present, came together gradually into **another** picture, the most superficial level of thought which examines and probe, for a job that may seem independent of the presence, in more layers deep, from the first. This work culminated aware there are six days in the sudden vision of the "massacre" held - when I felt the "breath", "smell" of **violence** , for the first time I think in all

reflection ¹¹⁶ (*). This is the time where also had to appear in layers close already to the surface,

¹¹⁴ (*) The "main source of inspiration" is of course the "yoga of reasons". She was active in the only Deligne, who kept it written before itself for its only "benefit", and in a narrow form deprived of much of its strength, rejecting some key aspects of this yoga. Among the "big issues" inspired by it, which were ignored or quietly discredited, I see now (any outsider that I am) standard conjectures, and development of the formalism of "six operations" for all the usual types of coefficients, more or less close to the "reasons" themselves (which play their respect the role of "universal" factors - those that give rise to all the others). Compare with comments to topic in the note "My orphans", n ° 46.

¹¹⁵ (**) (May 31) And even it will serve well to prove such a theorem "of proverbial difficulty!"

¹¹⁶ (*) (June 12) It happened to me in recent years to feel at such a violent intent of my former students vis-à-vis such my "co-buried" but never a violence that is felt as coming from a collective desire (grouping five

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feeling of a living body, harmonious, which is indeed "massacred" - and that too when the diffuse image deeper had to start to surface, perhaps to bring in image formation dimension carnal, a "smell" that the thought is powerless to give.

This aspect of "carnal" proved again in a dream that night - it@under the leadership of the dream

I return now to the lines written yesterday. In this dream, I was notched deep enough in several parts of my body. At first they were cuts to the lips and in the mouth,

bleeding profusely, while I was rinsing the mouth with water (strongly reddened by the blood) before an ice cream. Then injuries stomach bleeding profusely too, especially one of them whose blood out

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jerkily, as if it was an artery (the dreamer does not care anatomical realism). Thought

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I even came that I might be left behind if it continued to bleed like that, I pressed the hand over the injury and I curled up to stop the blood - this is indeed stopped flowing waves, and eventually form a clot and a very big crust. Later, I raised this carefully crust, delicate healing had already begun to do. I was also nicked a finger, and was surrounded by an impressive doll-dressing. . .

I do not intend to get into a more delicate and detailed description of this dream, or the probe thoroughly here (or elsewhere). What the dream "as is" already reveals to me with startling strength is that the "body" of which I spoke yesterday, and that in writing as I could away from me, as a child might I have designed and procreated and that would have left in the world to go his own way - this body remains still an intimate part of myself: this is **my** body, made of flesh and blood and a life force that allows him to survive deep wounds and regenerate. And my body is the thing The world also, probably, to which I am most deeply, more indissolubly linked. . . Dreamer does not follow me into the image of the "massacre" and sharing the spoils. This image was restore a reality intentions, provisions in **others** that I strongly perceived, not how myself lived this aggression, this mutilation which I had been through something that I remain bound from close. How well I stay bound, the dreamer just let me glimpse. This ties what I perceived (certainly with less force) in the reflection of the note "Return of things - or foot in the dish" (n ° 73) I tried to identify myself so little sense of this "deep connection between one who designed one thing, and this thing, "appeared during the discussion that day. Before this reflection from April 30 (there are only three weeks) and during my whole life, I pretended to ignore this link there, or at least minimize, thus following the slope mapped out clichés in force. Worrying about the fate of such a work that left our hands, and especially of course be concerned if our name is attached to it so little, is felt as a smallness, pettiness one - so it seems natural to all that is yet deeply touched when a child of flesh that has raised (and is believed to have loved) chooses to repudiate the name he received at birth.

15.3.8. The heir

Note 90

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(May 18) I do not know if in the sixties, no student (except Deligne) was able to feel this p. 378

essential unity, beyond the limited work he pursued me. Perhaps some did they felt confusion, and that this perception was lost without return soon after the years since I left. Which is safe by cons is that from our first contact in 1965, Deligne had foreseen this living unit. It is this fine perception of a unit about a vast plan which was probably the main stimulus for the intense interest in him vis-à-vis all I had to communicate and pass. This interest (people) and directed against my person, through my work.

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expressed, never falter throughout the four years of constant mathematical contact, between 1965 and 1969 ¹¹⁷ (*). He gave mathematical communication between us this exceptional quality that I spoken, and I have known with other mathematicians friends in rare moments. It is this perception the essential, and this passionate interest it stimulated in him, which allowed him to learn like playing all I could teach him both the technical means (technical zinc strand patterns, Yoga Riemann-Roch and intersections cohomological formalism étale, language topos) that the **vision** of all that unites us, and finally the **yoga patterns** which was then the main fruit of this vision, and most powerful source of inspiration that have ever previously discovered. What is clear is that Deligne was the only one of my students until today, which in some time (from the year 1968 it seems) had fully assimilated and endorses all of what I had to transmit, in its essential unit as in the diversity of its means ¹¹⁸ (**). It was this circumstance of course, I believe felt by all, which made it appear as the "legitimate heir" designated all of my artwork. Obviously this legacy not encumbered or restricted the - it was not a burden, but gave him wings ; I hear he fed his force these "wings"

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he was born, like other visions and p. 379

other legacies still (less certainly.. personal.) would feed her. . .

This legacy which he has nurtured in the crucial years of growth and development, and the unit that makes the beauty and creative power and that he knew so well felt, which had become like a part of himself - My friend has the later ¹¹⁹ (*) disowned, trying tirelessly to hide inheritance, and deny and destroy creative unit that was the soul. He was the first to set an example among my students to appropriate tools, "pieces" while persisting in breaking up the unit, the living body from which they come. His own creative impulse has found braked, absorbed and ultimately dislocated by this deep division in him, the pushing to deny and destroy it himself that was his strength that nourished his momentum.

I see this division by three express solidarity effects inextricably linked. One is the effect of dispersion of energy, scattering in the effort to deny, disrupt, displace, to hide. The other is in the refusal of some ideas and some resources, which are essential for the "natural" development of the subject he has chosen as its central theme ¹²⁰ (**). The third is attachment to this theme between all when it comes supplant, evicting a master present cha

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not that clear and must always - precisely the theme p. 380

which is invested more intensely the fundamental contradiction that has dominated his life mathematician.

What I know first-hand, and an instinct or elementary flair that never deceived me make

¹¹⁷ (*) This period includes five years spent with my friend has one (1966) in Belgium to do his military service.

¹¹⁸ (**) When I say "all" means: for all that was essential in the vision as in the means. it

does not mean, of course, there were ideas and unpublished results of which I have never thought of talking to him. For cons, I do

not think there is no mathematical thinking from 1965 to 1969 years of which I have spoken "hot" to my friend, always with fun and profit.

¹¹⁹ (*) Strangely, this division has been present from the first year of our meeting (already speaking with an attitude ambiguous vis-à-vis the seminar SGA 5, which was his first contact with diagrams, technical style cohomological Grothendieck and étale) and later and in a form unequivocal in 1968 (see note "The eviction", n ° 63)

- at a time so that mathematical communication was perfect, and where the development of his mathematical thought seems yet have been marked by conflict. He brought so ("passing") many interesting contributions (I make me great pleasure to ride hairpin in the Introduction to SGA 4) on topics he did his best, from my Initially bury.

¹²⁰ (**) This refusal was manifested in particular by the funeral derived and triangulated categories (until 1981), formalism six variances (until today), language topos (ditto), and by a sort of "blocking disdain" the vast Program foundations of homological algebra and hoinotopique, I try now (twenty years later) to give sketch with Continued Fields, and he had certainly not failed to also feel the need. Finally, even it was based yoga designs (buried until 1982), it remained yoga mutilated part of its strength, being detached from the formalism of the six variances, which is an essential formal aspect. This has been strictly banned, too, he told me appeared, the Hodge-Deligne theory.

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clear to me that if Deligne had been torn apart by this profound contradiction in the same job,

mathematical today do not look like what it is ¹²¹ (*) - it would have been in several

its essential parts, loose renewals like the one I had myself been the main

instrument - the very one that the same Deligne was hard to counter and deflect! ¹²² (**)

No doubt he also was the obvious choice to be the soul of a powerful geometry school, continuation

the one that had formed around me - a school nourished the force of that which it originated, and

the creative power of the one who took my notes. But this school that had formed around me, this

feeder matrix that surrounded intense years of training - she broke up after

of my departure. If that was so, it is precisely to find fault in one who obviously took my

succession ¹²³ (***), it also would be the core of a group

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united by a common adventure, for a task

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whose dimensions exceed the resources of each.

I feel that after my departure, each of my students ended up in his corner, with work

in shambles certainly there is no shortage anywhere in math, but this "corner" is part of a whole and without

this "work" is carried by a current, @with a broader purpose. Surely, since my departure, if not

even before the eyes of most of my students or former students are brought to the "successor" any designated

the most brilliant of them and also the closest to me. In this sensitive moment, my friend had to feel for the

first time perhaps in his life, the power over others that suddenly was in his hands, for this power

of life and death that was on the fate of a certain school, he came from, and whose friends he had there

rubbed shoulders for four years waiting probably assure her that continuity. The situation was all

whole in his hands, it was he who set the tone. . . He gave it in effect, destroying the heritage and all

First this trust and expectation ¹²⁴ (*) that could not fail to bring him those who, with him,

were pupils of the same master. . .

Many are surely those who are impressed by the work of Deligne, and not without reason. But I

know also that this work, beyond the impressive initial impulse (ending with the demonstration

Weil conjecture) is giving away "his measure." It certainly demonstrates a technical mastery

and uncommon ease, placing it among the "best". But she did not humble virtue

¹²¹ (*) In writing these lines about "mathematical today," I am not only thinking of the more knowledge or

shallower than we have mathematical things today. There was also behind the fund, the thought of a certain **spirit** in the world of mathematicians, especially in what might be called (without sarcastic tone or mocking) "the great world" math: one that "sets the tone" to decide what is "important" or "lawful" and what is not, and the one who also control the media and, to a large extent careers. Maybe I exaggerate the importance that can have only one person in figurehead position on "the spirit of the times" in an environment given at a given time. This Deligne seems comparable (for better and for worse) than that to me Weil seemed to have in the middle that had welcomed me twenty years ago, and which I had identified myself for twenty years. (May 31) Compare with reflections (complementary) of the note "The Gravedigger - or the whole Congregation", n ° 97. 122 (**) (June 16) I am convinced that the mere fact that already the main ideas that I introduced in mathematics develop Normally, the momentum gained in the sixties (cut short by "chainsaw effect" which it will be discussed in the following two notes. . .), Mathematical today, fifteen years after my departure would have been different from what it is, in some of its essential parts. . .

123 (***) This **series of fact** was expressed by concrete signs unmistakable: he took my estate to IHES (I went the year after its entry - see note "The eviction", n ° 63), and he took over, with the means I had developed this end for fifteen years (1955-1970), the central theme of the cohomology of algebraic varieties.

124 (*) (26 May) In the following reflection, I detected a different "expectation" even vis-a-vis my tacit heir from this time not only my students, but "the whole Congregation" - see about the end of the note "The Gravedigger - or the whole Congregation" (n ° 97). I have little doubt that these expectations in opposite directions, one linked to a time very particular, and the other continuing throughout the fourteen years of burial, are real one and the other. Much more, I would be inclined to think that in more than one of my former students, both expectations had to be present simultaneously: that of finding in the most brilliant of them that also would ensure continuity to a school in a work where they had their place and their hand - and the view cleared (if practicable could) any trace of him whose starting with the sudden interpellait such force, in the quiet channels all plotted. . .

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I perceived in him in his youth - the under renewal. This virtue within him, this freshness and innocence of the child, has long been deeply buried, disowned. I was going to write that by this "virtue" and its little gifts com

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Muns, as also by the exceptional circumstances in which he p. 382 deployment received for his gifts, Deligne was called to "dominate" the mathematics of our time, as Riemann, or Hilbert had "dominated" everyone mathematics of his time. Habits thought inveterate, rooted in everyday language, suggested to me by the image of "domination" which however gives a distorted perception of reality. These great men were probably full "Seized", "assimilated", "made them" known mathematics of their time, which gave them probably also exceptional control of technical means. But if rightly they seem to us "big" is not not by their technical prowess, "snatching" difficult demonstrations to a surly substance. It is by renewal that each brought in several important parts of mathematics, by "Ideas" simple and fruitful, that is to say, for wearing them look simple and essential things, which no one before them had deigned to pay attention. This childlike ability to **see** things simple and essential, however humble they may be, and despised of all - what is **it** that lies the power renewal, creative power in each. This power was at a rare degree in the young man I have known, unknown to all, humble and passionate lover of mathematics. Over the years, this humble "Power" seemed to disappear from the person of mathematician admired and feared, enjoying unfettered its prestige, and power (sometimes discretionary) that gives it on others.

This **choking** in my friend a very delicate and very strong thing, neglected by all and who has power Creator, I felt many times since I left, and increasingly in recent years. But it took discoveries of recent weeks, and thinking that I follow since late March (the momentum of Crops and Seeds), to begin to feel the full extent of the devastating effect this choking in the life of my friend, among many others I have known closely. Not only on some my students "after" (and similar), who were treated to his ill (perhaps unconsciously in some cases), which was exerted against each and weighed heavily on three of them; but also, it seems now the glimpse, among my students "before" by the destruction of **continuity** in the way, and the feeling of a whole, a unity, giving a deeper and broader meaning to their work that

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it p. 383

an accumulation of reprints with their name (91) 125 (*).

More than once during the past seven years, and over again in the past weeks and days, I felt a sadness to what is felt, at some level, as

a huge **mess** - when is squandered or suffocated wantonly what is most precious in itself and

others. Yet, I have finally learned also that such a "mess" is a base note of the condition human, which in one form or another be found everywhere, in the lives of people, of the humblest the most famous, as in the life of peoples and nations. This "mess" itself, which is nothing other than the action conflict, the division in everyone's life, is a substance of a richness, depth I barely begun to probe a food that for me to "eat" and assimilate. By this mess, and other mess as I meet at every step, and everything that happens to me too at the turn of way and that so often is misplaced - this mess and other unwelcome things carry in them a **blessing** . Yes meditation makes sense, if it has renewed strength lies in that it allows me to receive

125 (*) (16 June) The second aspect occurred to me that during the reflection Burial. If I was able to see prestigious mathematician to use the "power to discourage" it is in the same one that appeared to me once as all my designated heir. Writing in "The Power of discouraging," I thought a lot about it (before reflection comes back on me), but are not yet any suspicion (at least not at the conscious level) how that power had found opportunity to practice among the very people for whom he had to figure (as for me once) to model of the perfect mathematician. . .

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the benefit of which (by my inveterate reflexes) is as "evil", it allows me to me **feed** what seems made to destroy.

Feed on his experience, was renewed by him instead of constantly evade it - that's it, take full life. I have in me this power, to free me every moment to use it, or leave it to the discarded. The same is true of my friend Peter, and each of those who were my pupils - like me free to feed the "mess" that I end to tour in these days of long meditation. And he The same as for the reader who reads this, for him.

15.3.9. the heirs

Note 91

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(19 May) echoes that reached me here and there on my former students were more than sparse.
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Almost none have wanted to give me a sign of life after my departure, not least by sending prints hand 126 (*). However, collecting the little that came to me, I can get an idea, it very rough is right. It may specify in the following months, so this thinking leads some of them to manifest.

I have already had occasion to note the profound break in the work of Deligne after I left, then that in some ways it appears, against his will, as a successor, so as enrolling in continuity. And I had the feeling that the break had to pass deep in work all my other students. This is the impression that I would understand a little closer.

Only those students whose work appears enroll obvious (at first glance at least) in the extension of the work he had done with me, seems to be Berthelot 127 (**). He is the one who also during long has sent me numerous reprints - perhaps even all reprints. They are placed all in the difficult subject of the crystalline cohomology, the startup routine is the subject of his thesis. It seems to me that, like my other students "cohomologistes" (commutative), his work is marked by the disaffection of some of the main ideas I had introduced: derived categories (and triangulated categories, generated by Verdier) formalism six operations, guides (91 1). As we say Zoghman Mebkhout himself, his own work, so close by the theme of the Berthelot (91 2), ranks in line with these ideas, together with the ideas of Sato School. If they had been repudiated by my students cohomologistes, Deligne and Verdier in mind, there are chances that from the very beginning of the seventy years, Mebkhout crystal theory (which he began to develop only in 1975 and against disinterest of these same students) would have reached full maturity of a formalism of the six

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operations
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it has still not reached today 128 (*).

I remember also talking to Verdier of the question that intrigued me, the link between coefficients discrete and continuous coefficients, without it look to hang. It had subsequently hang

126 (*) (May 31) See in this regard footnote ^o 84, according to the note "Silence" (n ^o 84)

127 (**) Based on the theme of duality Verdier continued for some years after I left, in the context of spaces Analytical neighbor from where I had developed, there is a sense of continuity as in the case of Berthelot. But he I think it was a bit of a "routine continuity", while that which I seek above all the signs (or lack of signs) is a creative continuity, continuing an initial impetus into the unknown. . .

128 (*) (June 7) I had a reluctance to venture this assessment, which could be interpreted as minimizing the originality of the Mebkhout theory. This in no way consistent with my thoughts, and this especially since I have an excellent opinion

means each of my students cohomologists (when they are not blocked by foreign prejudice to good mathematical sense). My friend Zoghman himself dispelled the qualms I might have had, thinking himself convinced that "normally", were my students should have developed his theory from the very beginning of the 70s some level, they are also convinced every first, surely: it's them or Deligne, which **ought** to be the author - and the general deterioration of morals helping, it does not take longer to behave as if they were (or as if Deligne was) indeed! See the notes about "The Symposium" and "mystification", n ° s 75 and 85

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Deligne since devoted a seminar a year (in 1969) to establish a dictionary, which was not "satisfy him, since he abandoned later in the profits and losses. (See note "The unknown service and Theorem of God ", n ° 48) It is then also so much "blocked "by his burial syndrome he does not perceive until October 1980 the importance of working Mebkhout - and when he ends up in account is in fossoyantes provisions we know (see notes n ° s 75 to 76).

As far as I know, the work of Verdier for his thesis defense was limited mainly to rebuild in the analytical context (which sometimes presents additional technical difficulties) that I had done in the schematic coherent framework, without introducing new idea. It is even quite extraordinary, with the reflexes he had supposedly developed and knowledgeable as he was, he is not himself across the Mebkhout theory in strength to turn his crank - and he did not know at least recognize that his "pupil" was making things interesting my faith, and that had escaped him him (as they had escaped Deligne).

Indeed, while intrigued by the question of relations between discrete coefficients and coefficients Continuing, I had not really had suspicion of crystal theory Mebkhout that would hatch in decade after my departure. By cons, there was a broad topic, from my re

ending cohomology p. 386

As commutative and non-commutative fifties (1955-1960), which was just launched (in context "commutative" ie in terms of additive categories) in the working Verdier, started at the beginning sixties and left behind after his presentation (see Note ° 81). The appearance was not commutative started later in the thesis Giraud, who develops a geometric language, in terms of 1-fields on a topos for noncommutative cohomology in dimension ≤ 2 . From the second half of the sixties, the failure of these two primers was well evident: both the inadequacy of the concept of "category triangulated "(released by Verdier) to account for the structure of wealth associated with a category derivative (concept called to be replaced by the considerably richer notion of **shunting**), by the need to develop a geometric language for a non-commutative cohomology in dimensions one, in terms of n-fields and ∞ - **fields** on a topo. We felt (and I was) the need for synthesis of these two approaches, which would serve as a common conceptual basis for homological algebra and the homotopy algebra. Such work is also placed in direct continuity with the thesis of Illusie, wherein one and the other side are represented.

Via the notion arrester (valid both in a non-commutative commutative framework), work fundamental Bousfield-Kan on Homotopic limits (Lecture Notes n ° 304), published in 1972, was located Also in line with this diffuse program, which since at least 1967 only asked for arms developed. In January last year, without even suspecting that I was going to throw me a month later Continuing in the fields, I submitted to Illusie reflections on "integration" of homotopy types (That is familiar to homotopistes as the "limits (inductive) Homotopic"), at a time when I did not know yet fully the existence of the work Bousfield and Kan, and that this type of operation had been reviewed by other than me. It appeared that Illusie did not know as much as he is nevertheless supposed staying in homologico Homotopic-water the entire time since my "death" in 1970! It is say how he seems to have lost touch with some realities registering naturally in reflection foundations, in line with the one he himself continued in the sixties 129 (*).

He had to do his little hole, which he hardly ever comes out. . .

With disdain that hit the very notion of topos and all the "categorical nonsense", it is not surprising p. 387

129 (*) The concept of "integration" of homotopy types was imposed again to me, in the context of structures unscrewing laminated, I took over in late 1981.

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Giraud has now a total disaffection for what was his first major work theme. he Although Deligne, with the exhumation of the reasons there are two years, pretends to suddenly discover the benefits

the arsenal of non-commutative cohomology, sheaves, links and others, as if he had himself from the introducing at the same time that the patterns and Galois groups motivic ¹³⁰ (*). It is doubtful that this kind Circus will to restart a flame that is itself hard to extinguish. . . I had sent to Giraud in February last year, a copy of the letter of twenty pages, which became Chapter 1 opening Fields pursuit. This is not a technical discussion, during which I managed to "jump feet "above the" purgatory "that had stopped in time Giraud (and many others) to handle the notion of n-category "not strict" (I now call "No-field"), which remained heuristic and yet was obviously fundamental. It was the start of the Fields of Pursuit. When we encountered (in mutual arrangements all he has to be friendly) last December for the thesis defense Contou-Carrère, I learned Giraud that he had not had the curiosity only read this letter! I had the impression he had made a big mark on this stuff. The idea that there could be a rich substance in a direction he had long abandoned, seemed not even touch. I tried, unsuccessfully I fear, to make him see that there is a lucrative job and vast dimensions waiting for nearly twenty years to be made, and which I ended up on my harness old days, to at least give a sketch in broad at the mouth of the things themselves, a rich substance that the "deceased" I still feel strongly, as my students have since long forgotten.

Jouanolou also abandoned a direction of research he had just begun with his thesis. This direction had become object of scorn of a fashion introduced by the very man who had provided a mistress technical idea for the theme he had chosen. With the "rush" on triangulated categories the Symposium Pervert it three years ago, this same Deligne suddenly pretends (no kidding) to discover large foundations working in perspective, whose lack is suddenly feeling from every angle, and that had

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was the first to discourage decade - The need for such work was obvious to me from p. 388

the year 1963 to 1964 with the debut of the étale; Deligne and equally, from the moment it began to hear of l-adic cohomology and triangulated categories, that is to say when he landed at my seminar the following year. It was, beyond building "triangulated categories Plot "on the ring Z_s , (above a basic pattern, say), and the development of formalism the "six operations" in this context (accomplished fact, it seems to me, in the thesis of Jouanolou) to similar work by replacing the base ring Z_1 through Z the algebra noetherian (roughly?) arbitrary, eg Q_s or extension (algebraic?) Q_s . This is part of why things the time is ripe for twenty years, and are still waiting to be done, when it quieted the contempt of wind that blew them. . .

The natural continuation Mrs. Raynaud work (theorems Lefschetz low in étale, in terms of 1-fields) will be placed in the context of strictly taboo ∞ -fields, do not talk! Same for the work of Ms. Sinh, began in 1968 and eventually led only in 1975 - a continuation Natural was the notion of ∞ -enveloping category Picard a category called "monomial", or triangulated variants of such a category ¹³¹ (*) - do not let us think! Another was to translate his work in terms of fields on a topos - the horror! As for Monique Hakim, she had the misfortune of too do his thesis on a subject that, for these days since my untimely departure is a bit ridiculous on ¹³⁰ (*) See "Memory of a Dream -... Or the birth of the reasons," notes n ° 51.

¹³¹ (*) See "Memory of a Dream -... Or the birth of the reasons," notes n ° 51.
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the edges - diagrams on a locally ringed topos, I ask you a little! His little book on topic, published in Grundlehren (Springer) has to sell at the rate of three or four units a year - it is not surprising that I have bad press in this house, and they are no longer hot to accept a text that I could recommend them. For me it was a first step to test a "relativity" of all "absolute" terms "varieties" (algebraic, analytic, etc...) on the "basics" General, including the need is obvious to me (91 3). We say we did very well until today. But it is also true that we are very well to do math for two million years we here. Still Monique Hakim, who had not the same motives for his thesis than I the offer it has certainly been no hint

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keep some contact with a theme which (detached from p. 389 context of a favorable consensus, or an obstinate thought continuing against all odds vision tenacious and safe) can not have it for the least sense.

For Neantro Rivano Saavedra, he seems to have completely disappeared from circulation - I no trace his name even on the global directory (and all that was official) mathematicians. What is certain,

is that his thesis some very catégorisard could hardly have a good reputation among the gentlemen who decide what is serious and what is not. The most natural continuation of this thesis, I think, would have been nothing less than "wide array of reasons", definitely a bit broad to the more modest aims of the student. Yet he ended up with the unexpected honor of his thesis redone ab ovo and in toto by one of these great gentlemen itself, there is only two years. (See the notes about "The Burial - or New Father "and" clean slate ", n ° s 52 and 67.)

The only finally among my twelve students "pre-1970" which is not too clear to me whether or not there was in their work a **break** more or less severe or profound, compared to they had to follow my contact are Michel Demazure and Michel Raynaud (91 4). All that I know, is that they have continued to do math, and they are part (as was to be expected, given their means brilliant) of what I called earlier "the big world" mathematical.

The brief discussion above, sometimes from very thin data, is of course largely hypothetical and very rough. I hope those who are mentioned will forgive me errors of judgment may be rude, I'd be happy to correct if they want me to sign in this direction. Again, I realize that if everyone is surely different from that of all others, and is a much more complex reality that a person as remote than I can reasonably comprehend, let alone express in a few lines. These reserves do, yet I feel that this reflection was not useless, to me at least, to identify so slightly by some hard facts printing still diffuse which was released yesterday (which was probably present at a level for unformulated

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many years): that of a **fracture** which is made p. 390

many of my students in the aftermath of my departure, and that reflects the level of the individual sudden disappearance, overnight, a "school" they have felt part for crucial formative years in their profession mathematician.

Score 91 1

(May 22) I have just read an article-survey of the symposium "p-adic Analysis and applications "CIRM, Luminy (6-10 September 1982), by P. Berthelot, entitled "rigid geometry and cohomology of algebraic varieties since. p "(24 pages), which outlines the key ideas for a synthesis cohomology Dwork-Monsky-Washnitzer and crystalline cohomology. Initial ideas (and even name) of the crystalline cohomology (inspired by that of Monsky-Washnitzer), and the complete these by introducing sites formed of rigid-analytic spaces, ideas I had introduced in 393

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sixties, have become the daily bread for everyone working in the subject, starting with Berthelot, whose thesis was to develop and flesh out some of the initial ideas. This prevents my name is rigorously missing both the text itself, as the bibliography. This is a fourth student undertaker clearly identified. Who's next ?

(June 7) It is remarkable that more than fifteen years after the introduction by me ideas START UP rage of crystalline cohomology, and more than ten years after the thesis Berthelot which established the theory was indeed "good" for clean and smooth patterns, we still do not reach what I call a situation of "control" of the crystalline cohomology, similar to that developed for cohomology spreads in the seminar SGA 4 and 5. "control" (first degree) of a cohomological formalism including dual phenomena, I mean neither more nor less than the full possession of a formalism six operations. While I am not so "in the know" to appreciate the specific difficulties Crystalline context, I would not be surprised that the main reason for this relative stagnation in the disaffection Berthelot and others to the very idea of this formalism, which makes them neglect (as the Deligne did for his Hodge theory, remained in its infancy) the first "tier" essential to achieve to have a fully cohomological formalism "adult". Those are

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the same kind of provisions

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surely that made him ignore also the interest from the standpoint of Mebkhout for his own research. NB When I speak here of "crystalline cohomology" in a context where assumptions is abandoned cleanliness (as it is necessary for a formalism "fully adult"), it is understood that works with a crystalline site whose objects are "thickening" (power divided) that are not purely infinitesimal but are topological algebras (in divided powers) "suitable". The need for Such an extension of the original crystalline site (which for me was a first approximation to the "right" crystalline theory) was clear to me from the start, and Berthelot has learned (with the initial ideas) by none other than me. A written reference to this link is in Sketch Theme, 5th.

Score 91 2

It's a pretty extraordinary thing that nobody except me seems to have noticed that the Mebkhout theory-not-named was another essential component of a crystal theory. I, who have completely "hook" of the cohomology for almost fifteen years, I am yet realized from Mebkhout that last year took the trouble to explain somehow what he had done. Still when I mentioned the thing (for granted) to Illusie, he seemed to see a rapprochement a little "absurd around the edges" of things (3-modules and crystals) that really had nothing to do one with the other. Yet I know first hand that he has a flair mathematician, and my other students (cohomologists in this case, starting with Deligne) too - but I find that in certain situations, he did not use to them. . . The more I think, the more I find it extraordinary that in such an atmosphere, Mebkhout has still managed to work without let defuse its own flair for mathematics total incomprehension of his elders, so over him. . .

Note 91 ³

This is especially since my exposed Cartan seminar on the fundamentals of the theory of es-complex analytic spaces, and the geometric interpretation accurate "modular varieties level" to the Teichmüller, in the late fifties, I understood the importance of a double generalization common notions of "variety" with which we worked so far (algebraic, real analytic or complex differentiable - or

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thereafter, variations in "moderate topology"). One is to élar-

p. 392
gir the definition so as to admit "singularity" arbitrary, and elements in the beam nilpotent structural "scalar functions" - along the lines of my foundation work with the notion of schema.

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15.3. IX My students

Another extension is to a "relativizing" above topo Suitable locally annealed (notions "Absolute" is obtained by taking as a base point topos). This conceptual work, ripe for more twenty-five years and started in the thesis of Monique Hakim, still waiting to be resumed. A case particularly interesting is the notion of a rigid analytic space relative, which allows to consider Common complex analytic spaces and rigid-analytic spaces on local body characteristics residual teristics, such as "fibers" of the same rigid analytic space relative; as the notion of relative diagram (which eventually enter the morals) allows to interconnect varieties algebraic set on bodies of different characteristics.

Score 91 ⁴

While the thesis Demazure, such as Raynaud uses essential way technical consumption patterns they learned to my contact, the essential ideas of their work respectively are not part of the toolbox "grothendieckienne", which distinguishes their work from that of my other students in the first period. It is possible that this circumstance has resulted in a continuity in their work, free of a break with the effect of "burial syndrome master". It does not necessarily mean that this syndrome have hit either a different way. I was struck, there three years of Raynaud's attitude vis-à-vis Contou-Carrère work on local jacobians on. The results announced are deep, challenging, and beautiful, and go far beyond a simple generalization of things "well known". There is an unexpected link with the theory of Cartier typical curves, beautiful explicit formulas - all entirely in Raynaud strings (and mine). The freshness his home had to weigh decisively in the strategic withdrawal Contou-Carrère, abandoning the profits and door a subject in which he had invested unreservedly and that it might seem, would do him Reporter but trouble. . . 132 (*). My letter to him where I am sharing my surprise (pained) about this insensitivity the beauty of these results, remained unanswered.

15.3.10. ... and the chainsaw

Note 92

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When I came to settle in the region, there are almost four years, there was not far from p. 393 me a beautiful cherry orchard. Often when I walked I was going to be a ride. I enjoy seeing the cherry trees thick, in the prime of life, the powerful trunks that seemed always to be one with the piece of land where weeds proliferate freely. They have not been aware of fertilizers or pesticides, and season cherries, it was there that I was going to pick who have taste. There had to have twenty or thirty, trees.

One day when I returned, I saw all the trunks cut at breast height, the sprawled crowns on the floor next to the trunk, stumps in the air - a vision of carnage. With a good chainsaw, it must have been quick, time to break everything. I had never seen anything like this - when you cut a tree, you take usually bother to drop, to cut close to the ground. There are the poor sales of cherries, okay, and this cherry orchard she was not giving tonnes, is understood - but these stumps trunks were saying something else

that poor sales and returns. . .

Yesterday I had that feeling again, a strong trunk with powerful roots and the generous sap the strong and multiple branches extending its tracks - Net sawed, at eye level, like for fun.

It is to have bothered to watch the limbs one by one, and see each truncated, which ended up making me see what happened. What was done to deploy in continuity of momentum,

132 (*) For details, see footnote under ° 95 1 to Note "Coffin 3 - or jacobians too much on" n ° 95.

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15. C) THE BEAUTIFUL WORLD

an inner need to deep roots, was settled net by a cut without burrs, to see refer to everyone as derision.

It reminds me of the "misunderstanding" was talking Zoghman, which took place between my students (except Deligne) and me. What is clear, in fact, is neither Elan vision is to press me to one of my students

(Putting aside Deligne decidedly "apart" indeed!). Everyone has assimilated a technical background, useful (and even essential) for a job well done on the subject he had chosen, and might even serve him

even later. I can not say if there were any other bait thing beyond. If there begins had she had no chance anyway before Chainsaw, which ratiboisé it quickly. . .

I know that if it continues to have people doing math -

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and less than completely abandoning

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the kind of math we have done for over two millennia - they will help one day or the other

revitalize each of these branches I see lying inert. It is certain that already have been taken

to their account by my friend-with-the-chainsaw, and it is quite possible, if God gives him life, he will do the same yet with some other or even with all. Most are not yet at all in his style

him. But perhaps eventually he got tired of replacing constantly someone else, something surely very tiring and not more profitable possible to just be himself (which is not bad).

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16. D) THE BURIED

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16.1. X Van Funeral

16.1.1. Coffin 1 - or 3-Modules grateful

Note 93

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(May 21) It@be two weeks my thinking lingers on my students@good complexion "ones p. 395

"Before". Every day, thinking herself as a "latest addition" for conscience,

a reflection that seemed (almost) finished. More than once, it was a trivial footnote page

embranchée recklessly on the reflection of the day before or the day before, which stretched and stretched

to the dimensions of a "note" autonomous. Each time, it quickly found its name, distinguish

quant of all others, and fitting into his funeral procession, just in the right place, as if it was

always summer ! Every two days, I have been to remake (each time with pleasure) at least the end of the table

materials, which seemed close and suddenly stretched two or three new participants in the

Procession, when it was a whole new procession. . .

The procession ends up taking on worrying dimensions, never one will want to read this! But

and if it grows, it is not, indeed, for the dubious benefit of a hypothetical player, but in any

First for my own benefit - like when I do math. These "last additions"

in which I embark every time as against my will, I have never had any regrets

me be launched. By dint of recent additions, I learned many things that I could have learned otherwise, making the economy a reflection "on parts." And these things are assembled one by one a painting with bright colors, large proportions and multifaceted. Even now, I see it is not entirely completed - there are two places that seem still claim a last brushstroke.

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It seems to me time after my "good complexion students" speak now too, so slightly, the **buried** -to those who "with me entitled to the honors of the funeral by silence and scorn." Not more than me or those who bury cheerfully, these saints are buried and have vocation to martyrdom. There is not one, I think, who has not wanted me

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trouble that I drew him involuntarily (simply because

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he had the imprudence to bet on me, a certain approach to mathematics and some style. . .) - or he has at least tried to stand out from me, once recognized decidedly setting was losing 1 (*). I could also see that this is a waste - once spotted, damn it, and stand is supplying disregard him provide tacit justification, instead of disarming the . More than times and also in many ways, I saw the roles of enterreur and buried mingle and merge 2 (**). This these are undoubtedly aspects that are ambiguous because of a long reluctance in me to talk about the "buried" in a somewhat more detailed than the allusions that I already have done them in passing. It is possible that except perhaps Zoghman, none of the other three that I know I know will make him here "advertising" as if I had not already caught him enough trouble as it is.

Like many times in Crops and Seeds, I also finally going to such reluctance in me. I tell myself that even vis-à-vis those who have had to suffer because of me (by choice they made at a given time and where, for one reason or another, they found out their account, then they do doubted any more than I disadvantages attached to their choice) - even vis-a-vis them my role is not help them avoid a situation all that is real, in which they are involved they want or not, and that surely makes sense even if it has serious drawbacks.

Before branching to the black series of four coffins regretted my co-dead and co-buried, I perhaps should brighten the reader with a less funereal note. First, in my relationships at "Local" of the Institute of Mathematics of my University, I have not experienced that although I could tell a job applicant, or the fact that a candidate is part of my students (from 1970 needless to say), or that his work is influenced by the mine, has necessarily played against him. A Such an attitude of systematic boycott only characterizes the relationship of the "big world" in mathematics my person, and by extension, those who

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appear to be related to me "after 1970". This boycott was

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virtually flawless during the fourteen years since I left, as far as I could find out, to two small exceptions however. One is a student who, after the promising start, was supposed prepared me a status doctoral thesis on a subject more attractive, and whose application for a lecturer post at the USTL had been dismissed by the specialists of my University Commission.

He was "drafted" at the national level, with the help of Demazure to whom I had written about the work of this student 3 (*). Moreover, on two occasions, the newspaper **Topology** accepted articles of students to me: a article "Factorizations Stein and cuts" by Jean Malgoire and Christine Voisin, and a forthcoming article for Yves Ladegaillerie containing the central result of his 1976 thesis (see footnote ° 94).

I have had occasion especially Zoghman Mebkhout already talk about, and I will come back here only "to Me-moire " 4 (**). Mebkhout began to inspire my work from 1974 I believe, and continued to

1 (*) (February 1985) I have learned in all seven or eight (short) publications outside my University, with (from summary form) a labor of me and inspired me since I was in Montpellier. My name is absent from all.

2 (**) (September 2) In different ways from one to the other, each of them at some point eventually internalize and take on his own disdain vis-à-vis employment, to acquiesce to the consensus that retracts this work or class as "without interest".

3 (*) At the "practice" of a promotion or accession to a position and status, the results of my teaching activity since 1970 reduced, all in all, two accessions to a position with status key once lecturer and another time assistant. By a strange irony, both times, this accession has been a sudden and dramatic end to all activity signal Research at the person.

4 (**) Apart from the Introduction (6) (Burial), discussed in the notes to Mebkhout "My orphans," "The unknown service

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16.1. X Van Funeral

be inspired against all odds until today. I have not heard that one of my students "Official" has produced a work of comparable scope - while that Mebkhout yet feels necessarily the conditions of adversity she had to continue. As I said in the Introduction (6) for four years the ideas and results Mebkhout are used by all, while his name remains carefully ment retracted 5 (***) . It@a mystery to me how my friend was able to continue to do math while undergoing disdain and lawlessness as a kind of inescapable fate - a fate-which came to him through people he had (and still has) feel like vertigineu

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ment over him 6 (*), people he p. 398

must have heard for the first time as a kind of "Gods of the stadium" at a time when it was (Like myself once) a modest student emigrated to scarce resources. At the time of his defense in 1979, he had a lectureship in Orleans. He did everything possible to then enter the CNRS, returning borne three times - the third time (in October 1982) was kindly finally give him a job Research Fellow (equivalent to an assistant or lecturer at the University). This gives it, otherwise a statutory guarantee at least some relative safety.

Of the four mathematicians "co-buried" that I know, Mebkhout is the only one who continued to continue to work towards and against all, relying on its mathematical instinct undeterred by prudential considerations and opportunity would have been able to inspire him no thank you fashion. There was in him, that is not combative nature, a **faith** elementary in his own judgment, which is also a **generous** and which (much more than the "average" brain) is the first condition for innovative and profound work. The idea that I can have its work surely remains incomplete. From what I know of the game mistress of his work, it seems to me that with the brilliant ways that are his, placed in an atmosphere warm and active sympathy, he could have done, and lead to greater maturity in three or four years instead of ten, and in joy, not in bitterness. But three years or ten, and "maturity" or not, the remarkable thing is that the innovative work appeared, and she could appear in such conditions.

16.1.2. Coffin 2 - or cut in pieces

Note 94 Yves Ladegaillerie started working with me in 1974. It was "just in case" in a moment hollow home - I submitted then some naive thoughts on dips 1-complex in topological surfaces, at a time when I knew nothing on surfaces (except the term kind), and it even less. It was a bit grothendieckerie (home anyway it always starts days like this. . .), And it hung

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home more or less, until it ended up making "tilt" I do not know p. 399

more too when and why. It was perhaps when emerged visibly juicy question

some conjecture-key on the determination of isotopy classes of a compact-1 complex in a surface to compact oriented edge. Right wrong ? It was the suspense, which is extended for six months, and the theorem of God ", " The Iniquity - or sense of a return, "" The Perversity ", " Dating from the grave ", " The Victim - or both silences ", " Le Pavé and beautiful world ", " credit Thesis and comprehensive insurance "(Notes n ° s 46, 48 @75, 76, 78, 78@

80, 81).

5 (***) Legion are those who acted as gravediggers in this funeral there, which is practically part of the Colloquium Luminy (June 1981) as a whole. Apart cohomologistes my students (see the note about "My students (2): solidarity", n ° 85) those whose good faith is professional here directly and seriously involved and that I know are JL Verdier, B. Teissier, P. Deligne, Beilinson AA, J. Bernstein.

6 (*) Of course, Zoghman Mebkhout is no more stupid than me and is enough in the game to have a clear idea on the work of each of my students cohomologistes, and to realize its scope as its limits, without any propensity to idealize. This only prevents inhibitions of considerable power have chosen to have the same idea he can publicly call into question any of them, even where malice is obvious.

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one year, during which Yves was made aware (and filled me in on the heels) theorems key the theory of surfaces, while pushing the parties "foundations" of his work. Known results made the conjecture rather plausible, but were clearly off the mark - and conjecture impliquait Baer cows results and Epstein, and other things that had unusual aspects see suspects. It finally came to prove the key guess in summer 1975. It amounts essentially to a complete algebraic description in terms of fundamental groups of all classes of isotonic embeddings pie of a compact space triangulable (say) in a compact oriented edge surface 7 (*). From the moment when Yves was "hung", he wrote his thesis in a year, a year and a half, results, writing,

all, and to the nines again. It was a brilliant thesis, thinner than most of those who had do with me, but no other significant of these eleven theses. The defense took place in May 1976.

The thesis is still not released today. She might not be thick, it seems she was still too much to be publishable, among many other excellent reasons that you gave me. I noted some in the note "You can not stop progress" (n ° 50). The history of my efforts to "Place" this unfortunate thesis, one of the best I have had the good fortune to inspire, would make a small book that would surely be instructive but I give up writing. Among the relatives of old friends who had so good reasons to forget to see the results and to bury all eyes closed, he are (in order of appearance on stage) Norbert A. Campo, Barry Mazur, Valentin Poénaru, Pierre Deligne

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besides B. Eckmann interposed by Springer house s (*). The main result will finally appear, p. 400

nine or ten years later and reduced to the bone, in a short article Topology (shhh - I have an accomplice in the Committee Writing of this estimable paper. . .). The rest of the, work, first showed that all things world has always used without proof (and we was well spent indeed!), secondly develops typical grothendieckeries, quite contrary to the customs and morals. I know that if my Deligne friend does charge of the "discover" loudly in the next ten years, others will help rebuild the next thirty years or fifty, as my healthy instinct tells me that these are things fundamental. They were a valuable thread in my cogitations anabéliennes, and God willing life, I will have ample opportunity to refer to it in the part of developing Mathematical Reflections Yoga anabelian algebraic geometry.

This adventure was a revelation to me, the first of its kind - the revelation of something I have ended up with reflection fully aware the Burial. I tended elsewhere to forget since my mind is absorbed elsewhere. Yves Ladegaillerie, one of the brightest students I have had, meanwhile understood from that moment that to be accepted in the mathematical world today it is not enough to invest heavily and do a job that meets all the requirements of excellence.

Having more than one string to his bow, for seven years he has engaged in more down to earth and tasks 7 (*) The statement "analog" in the undirected case is wrong - it is definitely a delicate result, "cut" carefully in a set of assumptions, findings also "plausible" but still wrong! For others Comment Working Ladegaillerie, see Outline of a program, including the beginning of para 3.

8 (*) I do not personally know Eckmann, and my correspondence to publish Yves thesis by reading notes was made with Dr. Peters, responsible for LN Springer. I think by fifteen LN volumes that were published by me (including SGA) or students (theses) in the sixties, I was among those who contributed deposit their credit and unprecedented success of this series still in its infancy. The reason given for refusing the job I recommended (they did not publish theses) was a joke.

My first experience of New Look for correspondence also dates from this episode with a whole really impressive, A. Campo, B. Mazur, V. Poenaru and Dr. Peters abstained to honor me with a response to a second letter, when naively (I am thinking-slow ...) I returned to the charge, after their reluctant response showed that they had not bothered to read the results discussed in the introduction to the work Ladegaillerie.

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16.1. X Van Funeral

Returns less problematic. He is fortunate to have held, even before his unfortunate encounter with me,

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a post of lecturer, assuring him that his security mishap has not jeopardized. The year p. 401
Last mathematical spark seems to have woken up again, on a nearby theme of those which I was interested in recent years - hyperbolic geometry to Thurston and relationships group Teichmüller. You can even make it a little way together again, or he does his personal ride, just for fun and without expecting any return other than that that mathematics itself can give. He knows that if he waits for others, it had better change interlocutor or companion (and even past...).

16.1.3. Coffin 3 - or jacobians too on

Note 95 My first encounters with Carlos Contou-Carrère were made in the halls of the Institute Math, from the aftermath of my arrival in Montpellier in 1973. He jammed me in some obscure corner to dump on me year flood of mathematical explanations, before I had time to apologize politely and slip away. What he poured me mixed up with an impressive speed passing me entiè- surely over the head, but he does mine to notice, nor to be the least disturbed when I let him hear shyly. There was a compelling need to contact and I was not his only "Interlocutor in spite of himself." It was a time where I absolutely was not connected to the math.

For a year or two, I fled as soon as I saw his silhouette (easily fixable) appear after a corridor. It was like that until Lyndon, who was in Montpellier for a year as associate professor, made me understand that Contou-Carrère were unusual ways and that he was about point of shipwreck, not knowing how to use them. Until then the question if what Contou-Carrere poured I was standing on or not, and if he or n is the means, had not even touched me, so it was all off. Perhaps the suggestion of Lyndon did it come at a time when I began to take some interest in mathematical questions. Still, I have then taken the bit by the teeth I asked Contou-Carrere if he wanted to tell me something he had done, so that I can understand. I suspect that I was the first to ask such a thing, at least from the bunch of years he was already in France. It was not easy to explain something to him, but it was not not impossible, and it was worth it. I quickly realized that Lyndon

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had not deceived - that p. 402

Contou-Carrere was full of ideas who only wanted to be identified and developed with care, and that had an immediate and very safe intuition in almost every mathematical situations that Pou Vait submit. With this speed and the safety of intuition, even things he was not familiar, it was beyond me and impressed me - the only other student I have known a comparable degree was Deligne 9 (*). By cons, he had an almost total block against writing! Incredibly, he made math **without writing** - God knows how he managed to make even little it may be, let alone the communication with others, where the "shipwreck" was complete (see above).

If I had something urgent and useful to teach Contou-Carrère, it was the art of writing, or more frus- ment itself, to make him understand that math only, it is in the **writing**. I had to try for two years, maybe three, until 76 or 77 10 (**), without being quite sure if I really entiè- surely succeeded. His first work written entirely black on white scale of his thesis is on cycles 9 (*) I@ not sure to have met with other mathematicians, except for Pierre Cartier (which had me much impression SIONNE in his youth by the remarkable capacity) and at Olivier Leroy, which will be discussed in the following note. 10 (**) (June 7) made verification, it was until February 1978.

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Schubert, supported only last December (1983) 11 (***). Between 1978 and today our relations was also more episodic, my role is merely to support practically my best in NOM breuses occasions when he

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found stuck in one way or another in his career, constantly

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suspended on delegated assistant positions more precarious.

For two or three years, I had tried to provide Contou-Carrère the foundations of a mathematical language precise and flexible, some principles systematically. With this background, and its resources and its wealth of ideas, it really was spoiled for choice on what to branching. Rather than starting over from ideas to him, he branched on the theory of local and global jacobians on which I had spoken to him as about possible thesis. Once I left to himself, he made in the space of barely a year nice work, part of which was announced in a note to SARC (95 1). Go to the end of this seam would have represented a few years of exciting work and highly motivated to learn what together all the subtleties of the technical diagrams. I still doubted anything at that time - it was obvious to me as Cartier, Deligne, Raynaud would all three be a warm welcome to the work already. Actually, that was deep, difficult and unexpected in several respects. Cartier was very pleased indeed to see some old ideas to make it a new news. By cons, indifference Raynaud, as Deligne that keeps the full manuscript in a drawer for six months, without deigning to sign life 12 (*).

It was two against one - enough to feel the wind. The jacobians too are related sine dropped die in the profits and losses. The saw has done its job. . .

It has not avoided provided the misadventures to Contou-Carrere, including a detailed report would well another little book, that I give a good heart to write. It was around that time I believe that for the only and only time since I left (in 1970) the institution that I had been alone for four years (1958-62) to represent and make credible "field"

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during the years when she had not yet roof

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to it - it@the only time I have taken upon me to recommend someone for an invitation (for one year in this case), at a time when Contou-Carrère might be without post and on the street. I knew that the one I recommended, just as unknown as were formerly Hironaka, Artin or Deligne when I

have warmly welcomed to IHES, would like them to honor the institution that welcomed him. Of course, I did quick to say. Fortunately for Contou-Carrère, its delegated assistant (admittedly unworthy the honor of an invitation to such an institution selects) has finally been renewed ¹³ (*).

I was not so surprised this episode, while already knowing the provisions of Deligne, and since ¹¹ (***) This is a long process (which I have not read), where he developed ideas carefully where I have nothing to do, including giving a resolution explicitly singularities of all cycles of the type "Schubert" - something nobody could do before him. For a Once he made a writing in form, it was criticized that it was too detailed (besides his statements were too general. . .)! Personally, if I have a criticism to make, it would go in the opposite direction: while Contou-Carrere says its methods must be applied to all types of semi-simple groups and Schubert cycles, it has done the work in the case of the general linear group - so it was not until the end of the work is to be done on the specific question description Resolutions equivariant singularities universal Schubert cycles, **and** singular places said Schubert cycles. This gap seems to me as a legacy of this "block" against the working parts and against writing, which had been for long its main handicap.

¹² (*) Contou-Carrere had nevertheless gone ahead and not a word in his note of me, who had provided the pro-starting gram. It was a lost cause - as he might add it©own, there is a "style" which does not disappoint, attached, that like it or not, some topics best avoided if you want a career in math today. (June 7) return mation taken from the person concerned, I find that I am confused here two different episodes around the work Contou-Carrere on Jacobians. See the following note (n ° 95) for details and precise references.

¹³ (*) I have no reason to complain, since five or six years later, on the occasion of the jubilee of twenty-five years of IHES last year, I was indeed the honor, to me, an invitation, and even was given the choice between the solemn reception Speech of the Minister, or a subsequent one-week stay at IHES and all fees paid yet (was I quite sure). I said to my old friend Nico Kuiper it was very nice to have thought of me like that, but I was traveling not at my age. . . 402

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Nico Kuiper warned me that everything depended on him in this case. (The idea is not even occurred to me to suggest that the thing could possibly affect other members of the Scientific Council, saw exactly the case ...) The episode struck me most strongly affected by against, of all misadventures Contou-Carrere (my "protected" as Verdier was advised to call in a letter, as a matter of course. . .), Is placed in October 1981, about his application for a professorship Perpignan. Colleagues from Perpignan (where he had delegated his assistant) have surely appreciated among them the presence of someone who was comfortable and you could see in almost every branches of mathematics. At a teacher vacancy, they have put it on single candidate the post,. - much more rare, clearly marked that it was he and no one else they wanted to post. CC had relatively few publications outside his doctoral thesis passed with Argentina Santalo, it was mainly the notes to the SARC, announcing the results (some deep), but without demonstration. No one had suggested to him that in this day and age and until one is not stowed away, it is better to have as "exhibits" articles complete with demonstrations - thing I had pretty well was drilled into him on my side, but a less utilitarian point of view ¹⁴ (**). Still the candidature for

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Contou re-Carrere was deemed inadmissible by the Advisory Committee of Universities and p. 405 sent folder. The thing that blew me then is that neither the President of the CCU (the national organization made the decision), on behalf of the Committee, nor the individual members, has had this little respect to write, or to the main interested Contou-Carrère himself, at least to the director of the Institute of Mathematics of Perpignan, to give a few words of explanation about the meaning of this vote, which in the absence any explanation could be received only as a stinging repudiation of choice colleagues Perpignan and as a disavowal of their unique candidate as capable of performing respectably the position for which it proposed. There was in the Council three of my former students, two of whom knew personally Contou-Carrere. Of course they knew that he was my student like them, especially as the file included a report from me particularly complimentary about the work of the candidate. None of them, nor none of the other Board members, no one thought of the insult this vote represented clever without further the trial and the torpedoing in good standing of an equally honorable mathematician none of them. It was this incident which, for the first time in my life of mathematician, made me feel that "breath" I mentioned more than once in my thinking. I had already felt four years, with the episode foreign ¹⁵ (*). But it was not inside the world that was mine, blowing on **one of their** - someone who unreservedly identified with this world. I was as sick during weeks; perhaps months. To free myself of anxiety then hugged me without

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I care p. 406

to become acquainted ¹⁶ (*), I am agitated me, writing letters to the right and left, and a text of thirty pages "The Brain and the Horror," a black comedy vein, I finally gave up

published 17 (**). Looking back, I realize that it was now or never to **meditate** on the meaning of this
 14 (**) The year before Contou-Carrere was a candidate for a teaching position at Rennes, where he knew Berthelot and Larry Breen. His application was considered admissible then by the CCU; but the post was awarded to another candidate. No one bothered to warn the person that if he wanted a chance to have a job, he would publish detailed proofs of the results he announced. The disallowance by the CCU in the following year came as a surprise Total both Contou-Carrère for his colleagues to Perpignan for me. With hindsight and in the light of the this reflection, I doubt also that the situation has really changed with the writing of his thesis (already declared "Unprintable" as is) and its defense, and it has a chance to find a teaching position in France.
 15 (*) See the section about "My farewell - or foreign", S.24. - 406
 16 (*) I became aware of this anguish only over a long period of meditation the year after, I discovered the role of anxiety in my life, the presence of (chronic until 1976, and occasionally after 1976) was "the secret best kept in the world "all my life. There were mechanisms of high efficiency that waved back all signs generally accepted anxiety, which remained ignored both myself and my family.
 17 (**) I was disheartened to publish by the very people for whom I was about to go to war, to whom I had the good sense
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happening. The funny thing is that what "prevented me" then to go even need a account deep meditation, it was a long meditation in which I was then engaged 18 (***), and I had opportunity to talk) - and meditation, what is more, my relationship to mathematics (if not on my past mathematician)! She was disturbed by an episode in which life interpellait me hard - and I evaded interpellation shaking me and then plunging into the "meditation". I realize in retrospect that this "meditation" then do not fully deserved that name, it lacked an essential dimension true meditation: attention to my own person at the **same time** . I "meditated" then the meaning of some more or less remote events, while ignoring repressed anxiety (perfectly controlled it True as a result of long habit of such control), a sign of my refusal to take cognizance of message brought me this "breath" disqualified.

But I@ away from my remarks. The sinking of course, had the effect that he could not fail to have. Colleagues of Perpignan were reminded to order once, that was enough. Apparently, there is no longer even delegated assistant home, at least not for Contou-Carrere. He found a replacement in extremis in Montpellier, for the current year, the holder of which will come back next year. I do not worry too much anyway for his future, it@been a while since Contou-Carrere had the wisdom to take the lead on the stroke of fate, and is connected to the computer. With the means bright that

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are his, he must dominate on top for a long time, while doing the math it

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likes in his spare time. He is a family man with two children, and math through these times and with the past that sticks after, it is definitely risky, if not violent. He has every interest in a brilliant computer scientist career, where nobody will discipline him for being my student so slightly.

Score 95 1

(June 7) This is the late 77 I submitted to Contou-Carrère a detailed work plan for a theory of local and global jacobians on, including in the local case, the suggestion "Tighten" the Jacobian and the independent group of Cartier, to find a Jacobean "complete" with more beautiful universal property, which would be "self-dual". I had no idea demonstration to propose, and am no longer took care of his work after February 78, being I realized that my presence inhibited its capacity, instead of stimulating them. It happened also to "start" in the year that followed, and his first notes "The generalized Jacobian of a relative curve, construction and universal property of factorization" (Of overall cases) appears on 16.7.1979 (SARC t.289, Series A - 203).

The following month he finds the decisive results for the local Jacobian, but not publish anything about for a year and a half, where he publishes "half" (universal property of ordinary local relative Jacobian, not screwed back with Cartier Group), in a note to SARC March 2, 1981 under the name (not very convincing at first sight) "Body of geometrical local class on" (SARC t.292, Series I - 481). As the theory of complete local Jacobian, much more interesting to me, there is one project Note the SARC, which was never published, under the title "local Jacobian, bivectors group Witt and universal symbol tame. "Of course, I was informed as early as 1979 results, that is to say a completion of the provisional program that I proposed him, for which he had to be overcome considerable technical difficulties, requiring much imagination and technical power. I do not have aware (I believe) that the first note, and astonished that he did not publish the result, ie the part Local, without his ever explained clearly - but he was visibly disappointed by the reception given to this first note. After the failure of his bid for Rennes in 1980, and since my letter of support attached to its folder

candidacy status was remarkable about the global and local for jacobians,

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show my text before attempting to make it public.

18 (***) On this subject, "The killjoy boss - or the pot to pressure," S.43.

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he must still find it prudent (to prepare its bid the following year at Perpignan) published in still less a note on local jacobians otherwise empty all her bag. It@two months later still, May 81, it sends the draft to the third grade Deligne and Raynaud (probably Cartier was to be aware for a long time), probing first land I presume. (I do not think it would have been any difficulty to present this third note by Cartan, at any time since

. August 1979 where he had the results in hand) Neither Raynaud Deligne nor does it give any sign of life - but March 1982 Deligne sent him the manuscript of an article "A remark is tame symbols", dedicated to Deligne by Kazuya Kato, who made the Contou-Carrere theory in the case of a basic body, and guess its validity on any base ring. Contou-Carrere talked to me then, saying Deligne was convinced that reported its results (without naming him, nor indeed give demonstration indications) K. Kato. At that time the thing seemed so incredible that I did not take Contou-Carrere seriously - while Now I realize it would be quite in style "go!" My usual brilliant friend Deligne.

Contou-Carrere was really outraged that someone look "allows himself to speculate" something he seemed to regard as a kind of private property. Yet himself kept his conjectures to me, without believing no longer necessary to refer to my person in any of the three notes 19 (*)! Self-vis screw me it must have seemed as self-evident, while the simple presumption the same time that it would be done by Deligne reviled, but he dares so far in saying a word to the person concerned. (I had him urged to explain to him what he was careful to do. . .)

He had to somehow make violence over the years, I guess, not to publish very good results, in which it had to invest heavily in the making. If it is done well violence is for the sake of a situation, obviously not conducive to this kind of grothendieckeries. He was astonished in recent days received a letter of the same Deligne, wondering (not mine!) that he has not published his note on jacobians "total" and calling him everything he has on the subject and even more. Zoghman Mebkhout had already told me a few days before

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that Deligne was going to use these things and p. 409

he even named Contou-Carrere in this context. It would seem that the time is ripe for that Contou-Carrère finally acknowledging a child to him, he was careful to bury nearly five years. Perhaps, who knows, she is the time came for a reconciliation of the two "enemies student"; of the two brightest among my students, one academician medalist and one assistant delegate, yet (they are reconciled or not) long two **brothers** .

16.1.4. Coffin 4 - or topos without flowers or wreaths

Note 96 (May 22) I could hardly overstate claiming that I never saw Olivier Leroy. What is certain, is that as soon as he heard me, he decided to avoid me like the plague. His reasons, I confess, escape me. Perhaps an instinct he told her that I would get him into trouble, perhaps that Contou-Carrere (who for a long time has been good friends with him) the he blew it - I will perhaps know never. Still, I had the honor and pleasure of two substantial conversations with Leroy, which I remember very well.

The first time was to be 76, 77, it was seen at his Contou-Carrere and I, without warning, History discussing math a little - I do not know if we had any ulterior motive in mind. Perhaps still it was understood that Olivier was thinking of embarking on a doctoral 3 ° cycle, and I certainly had issues filled my sleeves. For having seen once or twice in Contou-Carrère, and from what Contou-19 (*) About a certain role in league I@e played in this kind of situation with some of my students, see note "Ambiguity", n ° 63 ".

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Carrère himself gave me to understand, as I had an impression that Olivier was thinking-have fast, not just in math. This evening three was memorable. I had to quickly have a word with Olivier a program for a theory of the fundamental group of a topos and van type theorems Kampen topossique in the frame, and he was interested. He must have a small stain topossique by algebraic geometry seminar Contou-Carrère, and he seemed interested to have an opportunity to "make

hand "with the language of the topos of an example of practical theory. For many two hours or three, I had to pour him a prime contractor detailed theory that I could develop, which fleshed as and as I spoke, and that went up in me a host of concrete situations geometry and algebraic topology - situations that it was expressed in the

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toposique part, and that each

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When he first had me "remember" to someone who heard about it for the first time. More than one time in the evening, Contou-Carrere (who nevertheless read everything or almost and has strong stomach) he the wave and dropped eye, even for him it was a lot at once - and more than once I have grown wise Olivier ask if it was better not to stop for today and resume another day. I could have spare me the trouble - Olivier was visibly refreshed, bright-eyed and perfectly comfortable, I laughed Similarly, it was so incredible that not crack, but not so! He was a young guy of twenty years perhaps, which was to have just a dye patterns, some topology and topos, he not bad when even manipulated infinite discrete groups I think ... it was next to nothing, in short, and with that he came to fulfill anyway all white and "feel" effortless that I, an old veteran, told him at full speed in two or three hours on the basis of familiarity with the subject fifteen years. I had never encountered anything like it, or at most in Deligne, and perhaps at Cartier, who was also quite extraordinary in that line in his youth.

Still, that apparently it was awarded, Olivier was going to do his thesis 3 ° cycle on the subject.

It was not to doubt anyway, of what awaited him at the end. Still, during the two years

he typed the work, and even beyond, I saw him again. Its official boss was Contou-Carrère, okay,

but it would have made me happy for the opportunity to talk with a guy as trendy. In fact, I have not even been warned of the defense, and does not think never having received a copy of this thesis - but I remember taking them into my hands a copy of someone who had been right 20 (*). I can not say if the defense took

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made before or after the "casting" of the note to the SARC where Olivier summed up his work. I

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speaks of this casting, so some length but without naming anyone, in "The note - or

the new ethics (1) "(S.33). The two mathematicians who have taken care of this casting are Pierre Cartier (The very one whose staggering rapidity of intuition was talking back to me that of his young non-colleague Cartier flowed so nicely and with all the regrets in the world), and the other was Pierre Deligne, 20 (*) All this secretiveness is even more unusual that I was surely with Contou-Carrère, the only person in the whole Languedoc able to understand anything at work had done Olivier Leroy. Needless to say, I@ never had hands nor the draft note to SARC Leroy. Maybe I@ illusions, but it seems to me that if I

had been sidelined so drastically that it was impossible to me to intervene, I would have found a way when even to publish this unfortunate note through Cartan Serre or if necessary, which are not connected, but I would have done if I could vouch for their confidence seriousness of the work. (June 7) I had to learn long after Leroy had spent his thesis, and be too busy to think on my side then to wonder how it was that I had

not even been informed. It made "tilt" Only after the thesis defense Contou-Carrère himself, I@ supposed being the supervisor (s). He found means that, alone among the members of the jury, I have no right to copy final and official thesis! I finally just received a copy today itself - he thinks (he wrote) that it "not interested" to have one. . .

(X) More specifically, for a year or two DC prudently played on two "managers" at a time (no one knew, never. . .), Both of ignoring the existence of a master "parallel". I was informed of the role of director in Verdier extremis, when DC finally folded on me in the spring of 1983 when it became clear that Verdier definitely wanted still his skin!

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with its historical word that these math "does not amused" (They have yet "fun" in his young age. . .) I should add Contou-Carrère himself, who has not lifted a finger to defend his pupil - it exposed him to the risk of upsetting powerful men. He had suggested that it was Olivier Leroy better to forget the unfortunate episode of his thesis. What is clear in any case is that Leroy has indeed made a big mark on this episode - although the possibility was to report to publish not only a Note to CRAS, but even his entire work, I doubt he would use 21 (*). This time again, Chainsaw has done his job 22 (**).

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Despite this mishap, I still had fun for several months, the 1981 debut, see

Leroy regularly. It was a micro-seminar I then gave the algebraic-arithmetic theory

Teichmüller tower (which is a little question in Outline of a Program). The only listeners the true sense were Contou-Carrère and Leroy. Even for an ultra-exclusive Parisian public (and I know what I mean), there would have been three or four in a room not to be dropped. Actually, if I made this seminar, at a time when Contou-Carrere was fully occupied with the preparation point of his ideas on the Schubert cycles, it was for Leroy, thinking that maybe he would hang a about as splendid. Apparently he "felt" what I was doing, but he had decided in advance (I think) that n "cling" no. It's strange that he even bothered to come - something had to fascinate, just as I was fascinated, and it was not too clear himself of what he really wanted. When I including that it does not cling, I stopped expenses. It does not interest me to continue a monologue before two spectators, so bright they are. It was also at that time that the second place and last conversation I had with Leroy. I even think I never seen him since.

There was no real mathematical discussion between Leroy and me, outside that of seven years ago - which is why I hardly know anything about the work he did outside his unfortunate toposique work. His misadventure has not had to increase his confidence vis-à-vis people like me, even Contou-Carrère or other people beautiful people

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mathematical. I heard he was doing a seminar p. 413

the Faculty of Arts, where there is a group of mathematicians friendly and get along well with each other. There is 21 (*) A telltale sign of this "thick line": the application of Olivier Leroy an assistant position at Montpellier; presented during a holiday there two years, Leroy does not mention the title of his graduate thesis, nor the name of Contou-Carrère who had been his boss, There is also mention of any personal work whatsoever. Obviously he was not then decided he wanted this job or not - the fact that despite its impressive gifts this post was awarded to another candidate, who had a strong case and that there was no doubt about his intentions.

22 (***) Coincidentally, I had just recently echoed that Cartier had the attention of dedicate myself one of these presentations Bourbaki (this is the first time I believe that such a thing happens to me), and moreover, this talk was just devoted to topos theory - these topos, judged by the same Cartier unworthy of inclusion in a note to SARC. Sign of a changing fashion wind the last few years? Surely not, and everything stands still: the charge in question involved the use of the topos in logic! The touching dedication of my friend Cartier seems to me in the same vein as In Praise of Death pronounced last year in a big occasion (see note "In Praise of Death - or compliments," n ° 104) where the word "topos" is pronounced (among many others sent compliments) to hasten to add immediately (as single and eloquent comment) they are "now used in logic" - and nowhere else, is it necessary to say, too at least until my compliments prodigal friends can prevent it, by the power that is in their hands. . . (Presentation of Cartier Reference: Categories, logical and beams, models of set theory, Bourbon Seminar baki n ° 513, February 1978).

I feel, in the condescending attitude (and boycott...) Of some (such Deligne, Cartier, Quillen, from those who give the tone. . .), Vis-à-vis innovative deep concepts such as topo geometry, a **presumption** phenomenal. AT Even one of them have the fabric (or innocence...) to out of nothing, like I did with the introduction of topos stalls and crystalline, a new topological view of algebraic varieties (and from there, the means of renouvel- LEMENT deep algebraic geometry and arithmetic, pending topology) - no doubt that this same attitude contempt he likes to cultivate in himself and to arouse in others, defuses the power of vision and renewal for the only benefit of a conceit.

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expose combinatorial topology of ideas - a subject all that in my line, for nearly ten years. As I am of discrete nature, yes, yes!), I did not ask what he says, and I do not know if he intends it to a publication. position side, he led a life of more illegal (without Yet foreign or undocumented), making TD (tutorials) right and left, paid (Shhh ...) I know not what secret funds and the nose of the paymaster and the Court of Auditors. I think it is not very determined especially if it will or will not ultimately make a mathematical career, and it must be an uncomfortable situation at length Court of Auditors or not. I would be happy if my edifying picture a Funeral, where he now appears to fourth deputy coffin could help dispel perplexities, this both knowingly.

16.1.5. Gravedigger - or the whole Congregation

Note 97 (May 24) It's against some reluctance in me I finally decide to men- namely OPERATE some of my close friends and former colleagues in the mathematical world, I could see doing work of "gravedigger" (or "Chainsaw"), cutting short from the start attempts made by some mathematicians in small or precarious, to use some of my ideas and develop according to their own logic, or just (as in the case of Yves Ladegaillerie) to follow an approach and a style that bears the mark of my influence. As I have said again and again, such reticence involve others, or just to name the 23 (*) without a

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see consulted, were not rare in crops

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and Seeds. In each case, I ended up reviewing the reluctance and that she was not entitled, its source was not a delicacy but confusion, not to say a pusillanimity. In all case (I think) which I mentioned namely acts or attitudes of others, they were by no means of "Confidential" in nature. They concerned person@working life, with attendant implications they involve in professional life (and there in life itself) other colleagues, including myself. Each of those I mean is as much responsible for his actions and attitudes, and any their range of implications (whether it pleases or not to ignore them), as I am of mine. It is not no reason to be offended if some consequences of his actions due to it in one form or Another example that of a "questioning" public, through my intermediary in this case. If by times my language is imaged and thick, my intention is not controversial, nor to offend or insult anyone, but rather to describe the facts and the way I feel, as an incentive for everyone (and first of all for each of the ones I mean) to examine its side, rather than evacuate one way or another (as I have often done it myself before thinking Crops and Seeds).

If that is so challenged chooses to be offended, this is a choice is concerned. This choice can hurt me, from people I believe in or even affection, but he did not weigh myself. The reluctance that I spoke, a sign of confusion in my vision, vanished without trace once it has been

23 (*) For example, I had such reluctance to include a footnote (footnote ° 19) in which he would mention namely all students who prepared a status doctoral thesis with me and have completed. This hesitation in me had to come from the reluctance among many of my students to be associated with my person, reluctance that I have received a level unformulated

for some years now. The only one of my former students (with or without quotes) where the will to stand out my person had been so clearly perceived by me, were Contou-Carrere (in which I had only just discovered it), and Deligne (where the thing was clear enough already since 1968, though I suspect, however, how far this will would take him). In the case of Deligne, my reluctance to appoint him as having figure "more or less" student was particularly strong, not wanting to appear to avail myself of a "student" as bright, so that he himself did not want to let it show nothing the link between him and myself and my work. My reflection made me understand also that this link had in life and the work of my young friend infinitely greater scope than I had ever suspected.

(June 1) View about these deliberate about me in the note of 27 March (three days) "Being apart" (n ° 67 © 408

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understood and thereby exceeded.

At no time during the discussion the burial, I have been feeling some vast "conspiracy" allegedly hatched against my work and against those who have had the temerity to inspire (rather than simply to borrow tools, hiding the name of the worker who had shaped them and put their hands). There is no plot, but there is a **consensus** that, in what I have called "the great world" mathematical, occurred to me until now without flaws. This consensus, except at the most in extremely rare exceptions, no not powered by a "malicious" idiots

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cient vis-a-vis my person or my work. In p. 415

exceptional cases only, it is expressed by a malicious unambiguous vis-à-vis one or other of four "co-buried" which was discussed in the preceding notes 24 (*). But surely such malice could proliferate in some of my former students, and she could not express themselves without hindrance, by encouraging the general consensus.

This consensus was evident in most if not all of my old friends and former students, not by atti-Studies of "malice", but by mechanisms (I think) entirely unconscious of uniformity déroutant and efficiency without flaws, sweeping like straws common sense and healthy mathematician instinct to make way for the **rejection attitudes** purely automatic 25 (**). Such automatic attitudes, I suspects are not only raised by myself and by those whose "smell" the mathematical reminds so slightly - but also vis-à-vis any mathematician who does not show up as invested already the **tacit guarantee** of a certain "establishment"; either he makes himself already part or it appears as the "protected" (to borrow the phrase from the pen of Verdier) one of those.

It seemed

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that in almost all mathematicians, provisions of a minimum "opening p. 416 mathematical "(necessary for this" common sense "and" healthy instinct "math can come into play) **triggers only vis-à-vis someone already invested such a deposit .**

Such mechanisms should be practically universal, not only in the mathematical world, but in all sectors of society without exception. It far exceeds any case. Yes (As it seems) exceptional situation there is in the case of me, and those eyes

of the establishment are figure of "my protected," is that in the past I have been granted the status of "a their "with the usual effect of the" minimum aperture "vis-a-vis me and" mine ". This status was me withdrew because of my departure in 1970. Or more precisely, by my own choice, clearly expressed and more an opportunity in the years since I left, and my lifestyle until today, I have indeed ceased to be a "of them." In fact, I myself am no longer felt "one of them" and I left a world that was common to us without thought of return. Even today, my "back to math" is no return "among them" in the establishment, but a return to mathematics itself; more 24 (*) I have been aware of what I regard as malicious acts unequivocally that only in cases of Deligne and Verdier.

25 (**) These attitudes of rejection, of course, never appear as such, even in extreme cases such as My friend Deligne or Verdier. They are almost invisible in the provisions conscious to me, which (As I have already had occasion to say) are almost always (maybe always) among my friends and former students, sympathy arrangements (including sometimes such of them trying somehow to defend) and respect. Such provi-sympathy and respect tions are present not only at the superficial level "opinions" conscious, but even deeper level of attraction (or repulsion) real, and real knowledge one has of others (regardless images in which efforts are made to enclose).

We are in a typical situation of **ambivalence** (collectively, I am almost tempted to say) where. visibly, no "Sees" nothing! (Compare with reflection in "The enemy Father (1), (2)" (Sections 29, 30), where for the first time in Harvest Sowing and I approach this ambivalent aspect that has marked many relationships in my life, not just in the middle Math.) Yet at the concrete manifestations (extensively reviewed in the Burial), the "resultant" these ambivalent forces has nothing more ambivalent, he seemed to me, but she has indeed, with "consistency confusing and efficiency flawless "as the" automatic rejection attitude "I am about to take a closer look. 409

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Specifically, a "return" to a continuous mathematical investment, and publication activities of my mathematical thinking.

I only just beginning to realize how much my departure was felt as a kind of "desertion" or as an "outrage" by my old friends and my students 26 (*). That must be how the easier to evacuate the direction of my departure, the question that she could arouse in them by such feelings ment of a diffuse **received wrong**, and automatic reaction a grudge, speaking through an act of **retaliation** (Which rarely had to be perceived, not even an act, the conscious level) as it is cut us, we cut it - we cease to give it to him and "his men," the benefit of the "automatic ism attention "reserved" for us "- he and his family will be entitled, as the first comers, the rigors automatic rejection!

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The situation is further complicated (for my old friends and students) that I was not only p. 417

part of the establishment, but also it is impossible for any of them to his mathematical work ticien without using every step of the concepts, ideas, tools and results I© an author. I do not know if had in the history of our science or any other science, as embarrassing example of a paradox! Views in this light, the chainsaw-effects (not limited to my friend Deligne) to determine any net vel-Leite Development for ideas that bear my impression (although such a development could that increase perplexity) now present to me as driven by an inner logic relentless as a **necessity** from a choice already made - the choice of rejection. And it is the same I see the efforts made everywhere to go under complete silence behind these concepts, ideas, tools and results entered into the common heritage which we can not do without, like it or no. This "indifference" I grew see in front of "operations" yet very big one Deligne pretending to arrogate, one by one, the authorship of a number of my main contributions to the mathematical (or crumbs, attributing them generously so inseparable pal) - this is only nulle-ment indifference, but a **tacit approval**. Deligne only do what the collective unconscious the establishment expects him **to delete** the name of one who is cut off from everyone, and solve the intolerable paradox, **by substituting a fake paternity tolerable but a real paternity unacceptable**. Seen in this light, the main celebrant Deligne appears, not as one that would have fashioned a fashion like the deep forces that determine his life and deeds, but as **the instrument** any designated (in its role "legitimate heir") of a **collective will** for consistency seamless, clinging to the impossible task to clear and my name and Mathematics personal style Contemporary.

I have little doubt that this view essentially expresses the reality of things: all least collectively. Surely my "return", which ended unexpectedly at a funeral that continued to

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so satisfactorily for all, or (if there ends) that at least disturbs so

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unseemly and unacceptable the course of a ceremony that seemed preordained - it goes back in-commoder and dissatisfy not only this or that among the main celebrants, but embarrass whole congregation assembled for this occasion funeral! And I have no idea, of course, the "pa-harbor" that will invent the famous collective unconscious, to evacuate the mess created by the untimely return the late deceased, coming suddenly (unacceptable scandal) the cozy coffin intended for him, and making Officer mine his way to his own funeral. I trust however that the congregation found

26 (*) This way of seeing and feeling things was expressed most eloquently by my friend Zoghman Mebkhout. By this desertion that I am responsible for his troubles with the great mathematical world, he alone having found lacking of "protection" and support that had once found with me today those who are fond of deal in layabout.

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16.1. X Van Funeral

good way to release that extra contradiction in mathematical building, which is no longer it close!

It seems perceive quite well now, at the images and attitudes of each one in particular, reflection and general shape that takes the collective agreement and the collective will to remove, bury. It is the universally used system of "two tables" mutually contradictory on which one works simultaneously, and which I have had occasion to speak for the first time in Crops and Seeds in the case my own person. (See "The merit and contempt", s. 12.) I doubt there is anyone who say outright and clear: "Grothendieck has only bogus math, no more about it and spend down to business. "As such, it would be too explicitly contrary to the axioms of the establishment, for moment at least. In the expected evolution of things in twenty years or thirty-the question would arise of Anyway even more, as it will no longer even a question of pronouncing the name, forgotten by everyone from a very long time ago. The common tactic, individual as collective, is one of silence: it is not thought to deceased, not as any mathematician at least we do not speak of him, and does not mention (except, when you can not do otherwise, by the providential acronym SGA or EGA, until these references are replaced by others from which all traces of the deceased or absent).

Yet it is opportunities, exceptional no doubt, where complete silence becomes impractical. A of these occasions, I imagine, has been my application at the CNRS, who had to embarrass more a 27 (*). one in

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will be the preliminary release of Crops and Seeds 28 (*), pending publication p. 419 in Volume 1 of Reflections Mathematics (if my editor does not crack and refuses to put on all the scientific establishment back together). These are opportunities created by the unacceptable gaps deceased himself, accidentally leaving the role that was assigned to it. Another opportunity (maybe more instructive for an understanding of the Burial, before disruption by unruly deceased) was the jubilee of twenty-five years of IHES, which was celebrated last year "in style". As a "first four Fields Medals of IHES" it would have been difficult to pass me completely silent on this solemn occasion - even if we have ignored the role that was mine to give life real to IHES in four heroic years of its existence. The Praise of Death that was concocted my honor in the brochure issue on the occasion of this anniversary (brochure to which I have had occasion to refer already twice), seems a model of its kind - as elegant and discreet way to solve to the satisfaction of all, this "little contradiction" in contemporary mathematics. . .

And suddenly there I was cheered - as the horse begins to feel the stable! For nearly two weeks I started thinking about this instructive episode in a note that once took the name "The Praise of Death - or compliments." After some hesitation where to place the note (from a note low late to the first page written notes for burial), it appeared that the place more natural for the insert was (not the "chronological" place but) in the "Funeral Ceremony" which must complete the burial. And now, without seeking it, connects the "thread" that I pursue for three weeks through the last three processions "The Symposium", "The Pupil" and finally "The Van Funeral" which only just joined the convoy, with the final part of the Burial, namely the Funeral Ceremony;

27 (*) (26 May) I just learned even today by a call from Zoghman Mebkhout. my colleagues on the Committee National CNRS have made an effort for me, leaving me a "welcome center" for two years. I do not know if they did it with enthusiasm - it is certain that none of my friends in the Committee has pushed the effort to give me a call or quick note to tell me the good news (dated May 15).

(September) I ended up to be notified by letter of CNRS dated 16 August - this is an appointment for one year (not for two), to a position of research officer.

28 This is the distribution of a limited edition (150 copies) is talking care of my university, for distribution among my closest colleagues and friends.

16. D) THE BURIED

This ceremony marked above all, precisely by this

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masterpiece of Funeral Eulogy that I started

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consider May 12, and now is the note following naturally to it 29 (*).

I finally touch (again?) To the point! At the same time the beginning of consideration of a Eulogy Funeral takes suddenly a new dimension. It is merely the clever invention of a powerful brain

service of a fixed idea, spending at the indifference or command attention brand diners

a "great opportunity" official - but especially the perfect answer and served with skill, made this

delicate opportunity among all, collective expectation, about the attitude that should be taken

with regard to my person. If anyone of his generation deserved recognition unreserved

congregation whole, this is my friend Pierre Deligne, filling with perfection burr

although he expected the role to him.

29 (*) (November 1984) Following an unexpected episode Medicare, the note (n ° 104) is separated from "it" by a new procession - "The deceased - still not died" (n ° s 98-103).

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Third part .
THE BURIAL (II)
or the Key of Yin and Yang
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17. The deceased (still not deceased ...)

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17.1. The incident - or the body and mind

Note 98

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(22 September) The latest notes for the Burial (except for a few low p notes. 421 of page) is May 24 - so it will be four months ago. The two weeks that followed, until 10 June, were devoted mainly to rereading and completing or editing here and there the notes already written, without counting a day or two visit from Zoghman Mebkhout, who came to read all the notes for the Burial before I entrust him to typing, and to make me his comments. I thought that the definitive manuscript would be ready by early June, and that he would be hit and shot (it was still optimistic ...) before the big ones university holidays. I wanted to send my "five hundred page letter" to each other before the commotion of departure on vacation!

In fact, the text of the Burial is still not complete as I write: like four months ago, there is still lack two or three final notes - plus 1 which it is added in the meantime: that I have just begun with the lines I write, as a quick account of what has happened in the meantime. On June 10, a new unforeseen broke out in the writing of Harvests and Seeds, rich in unforeseen: I got sick ! A point aside, suddenly appeared (while the minute before I had no idea), pushed me on my bed with a peremptory force, unanswered. Standing or even sitting suddenly had become very painful to me, only the reclining position seemed to suit me. It was really stupid, and especially at this very moment when I was about to finish a job all that was urgent, and that we speak more! No question of typing at the lying position, and even to write by hand in this position, it©not a sinecure. . .

1 (23 September) In fact, it appears that the "note" scheduled broke into three separate ratings (n ° s 99-101)

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17. The deceased (still not deceased ...)

It took me another two weeks, during which I was trying to keep going my work against everything, to get to the obvious: my body was exhausted and required with insistently, without seeming to hear, a complete rest.

I had so much trouble hearing it, because my mind was fresh and alert, all wagging to continue as if he had an independent life, totally separate from that of the body. It was even so fresh and so wriggling that he had the greatest difficulty in taking into account the body©need for sleep, constantly refusing to the limits of exhaustion, the expiry of sleep, this obstacle to turn in circles!

Throughout my life and up to three or four years ago, the unlimited capacity for recovery through a sleep profound and prolonged, had been the solid and salutary counterpart to sometimes excessive energy investments: when sleep is safe, we fear nothing, we can afford (without being mad) to start

body lost and exhausted in orgies of work - left to catch up with sleep orgies
repairer! This ability that all my life had seemed self-evident as much as the ability to work,
the ability to discover (and surely both are closely related ...), ended in recent years by
to fuse, and sometimes to disappear, for reasons that I discern poorly now, and that I do not really
makes the effort still to sound. More and more, when, after a long day spent on my typewriter
(or on handwritten notes) and obeying the injunctions of my body that refuses to continue, I am resolving
to go to bed, lying down (and the partial relief it provides to the tension of the position
sitting) immediately raises the reflection. This one leaves more beautiful, during hours or for the whole night
(or rather what©left of it ...) I realize that the system is not profitable (assuming it
be **liveable** in the long run), because (at least in me) a prolonged reflection without writing support ends
to go around in circles, to become often a kind of rehash - the wrong fold is well taken, and tends
to get worse. It had become, it seems to me, the big focus of energy dispersal in my life in these last
years, while other mechanisms of dispersion have been eliminated one by one, gradually, over the years.
If this mechanism was rooted in my life with such tenacity, if I was willing during all these
past years to pay such a price, it is surely that something in me has found its account, and there
would regain his account when the time comes. It would not be a luxury that I examine the situation closely - more
once in the past four months I have been about to do it.

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This was probably an urgent task. I came to understand, however, that there was still more urgency. he
p. 423

First of all, I had to go to the hurry: renew the broken contact with my body, help it to recover from the state.
of exhaustion that I finally felt and admit, and to regain the vanished vigor. I understood then that
for that, I had to give up indefinitely any intellectual activity - even that of
to meditate on the meaning of what was happening to me. It is with the notes taken today that this long
and salutary "parenthesis" in my large investments, which for a time (since the month of February
this year) were joined in the writing of "**Crops and Seeds**". This note is a whole
first thought, or at least some sort of summary account, about this "parenthesis" of
four months.

The time to understand, at the end of the ends, the need for a complete rest, a great fatigue had become
deep exhaustion. Without having been able to listen to the language of my body, which is peremptory, the few
derisory pages of comments and retouches to the Burial, torn from a state of physical fatigue in
these first two weeks, have been at the cost of an energy bet that with hindsight, seems demented!
Still, after these feats, I had to lie down for long weeks, not getting up
only a few hours a day for the essential practical tasks.

Remarkably, once finally **understood** the need for a complete rest, I have not experienced any
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17.1. The incident - or the body and mind

difficulty to get completely out of intellectual activity, without any hint of "cheating". I did not have
not even making a decision, strictly speaking - just because I understood, I had already dropped out. The
tasks that the day before had kept me in suspense, suddenly seemed very distant, as belonging
to a very remote past. . .

The present was not empty so far. While for weeks and months sleep remained
reluctant to come, and that I was lying long hours, apparently in total inaction, I do not
Remember not once to have found the long time. I rediscovered with my body, and also
with the most immediate environment - my room, or sometimes the piece of grass or dry grass
bathed in sunshine right in front of my eyes, where adventure I had lay, near the house or during
a short (and prudent ...) walk. I spent long moments to continue the dance of a fly
in a ray of sunshine, or the wanderings of an ant or tiny green translucent critters
or roses along endless strands of her

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be, in inextricable forests such strands entangled in p. 424

my eyes. These are also the arrangements where, thanks to silence and a state of great fatigue, we follow with
solicitude the hesitant wanderings of the slightest wind through its guts - the provisions in sum where
we reconnect with the elementary and essential things; those where we know how to fully measure the whole
the benefit of a restful sleep, even the wonder that it is to simply piss without problem!

The humble functioning of the body is an extraordinary wonder, of which one does not become aware
(sometimes in his heart defending) only when this operation is disrupted one way or another.

It was quite clear that "technically", the bottom of my "health problem" was the disruption of sleep.

The deeper reasons for this disturbance escaped me and still escape me. It is by trial and error

I tried above all to get back to sleep, the big fat sleep as I knew it, and who shirked

Mysteriously when I needed it the most! I only found it recently. Useless to say

doubtless the idea would not have come to me to rely on seals, and if I have tried herbal teas or the orange blossom water (of which I became acquainted on this occasion), I knew basically that they were experiments. More seriously, I took this opportunity to make significant changes in my diet: reduction on starches for green vegetables and fruits (both raw and cooked), reintroduction (moderate) of meat as a regular ingredient of my food, and most importantly, drastic reduction on the consumption of fats and sugars, where there has been at home (as in many other countries of affluence) a systematic imbalance, since at least the end of the war. I was helped a lot, to realize the importance of such a change of regime to find a balance of disturbed life, by my stepson Ahmed, who practices Chinese medicine and who has a very good "feeling" for these things. He also insisted on the importance of an important bodily activity, on the order of a few hours a day, to make the weight in the presence of intense intellectual activity. It tends, if not to exhaust the body, by pulling the vital energy available to the head and creating a strong imbalance yang.

Ahmed did not just give me good advice, yang to which I am sensitive enough, for four or five years that I had ample opportunity to familiarize myself with this delicate dynamic of things. As soon as I was good enough to garden,

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and seeing me p. 425

put mine there to restart a little garden that looked bad, Ahmed taken the lead in initiating large-scale work: clearing new strips of land, bring back soil, transplant and sow, make terraces, retaining walls, rearrange the pile of compost ... Over the days and weeks, I saw unfold in front of me, under the impulse of my tireless friend, enough landscaping tasks to keep me busy for years, if not for the

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17. The deceased (still not deceased ...)
remaining of my days!

That was exactly what I needed, and what I also need in the long run to counterbalance to an intellectual activity too spirited. In this respect, daily walks that I could ask, as has been suggested for a long time, would not be of much help: the head continues to grind during the walks as in the bed, without being disturbed by the beauties of the landscape, that I cross without seeing anything almost! By contrast, watering the garden, my responsibility to take care that it is carried well, and even better by hoeing a vegetable board, I can not help but be careful and to get to know the texture of the earth, how it is affected by hoeing, by the vegetables as by the "bad" herbs that grow there, by the compost and by the mulching - and also, by force, to realize the state of the plants that I am supposed to cure, a state that reflects in to a large extent the greater or lesser attention I will have given them. This gardening activity, and everything that revolves around, responds to two strong aspirations or dispositions in me: that which pushes me towards an action which I see daily **take something out of my hands** (which is not the case for walk, and even less for the weights that suggested to me colleague and friend. . .); and that too pushing me towards an action where, every time I have the opportunity **to learn** from things. he would seem to be the best way to learn in situations where I "do" something - "something" that takes shape and transforms under my hands. . .

Once the state of exhaustion was gone, my recovery was, it seems to me, favor of two types of activity, or rather, two types of important and beneficial factors in my day-to-day activities, both in the house and in the garden. On the one hand there was **the physical effort**: even that I often felt tired and unenthusiastic before going to work - the more this work was "hard", doing wielding

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a heavy pickaxe or big stones say, more afterwards I felt fit, heavy
p. 426

a good tiredness. And there was also contact with **living things**: plants that had to be treated; the land that had to be prepared to welcome them, then mulch or hoe; the foods that had to be prepared and that I ate with as much pleasure as I had had to prepare the meal; the cat claiming his pittance, and his share of affection; the tools and tools too, and even the rugged pebbles and often badly licked that it was necessary to turn and turn in all the directions, in order to assemble them in walls which want to hold well standing. . .

Physical effort and contact of living things - these are two aspects that are lacking in the intellectual work, and that such work is inherently incomplete, fragmentary, and ultimately completed and compensated by something else, dangerous or even harmful. This is the third time, in just over three years, that I had the opportunity to realize it. It has become very clear now that I am placed before a drastic deadline: change a certain way of life, find a balance where the pole

yin of my being, my body, is constantly being neglected in favor of the pole yang, the spirit or (to put it better) head - or else, leave my skin in the next few years. That's what my body told me, too clearly that it is possible to say it! I come now to a point in my life where the need for some "wisdom" Elemental has become a matter of **survival**, literally and literal sense. It is surely a good thing - otherwise the so-called "wisdom" was perpetually postponed forever, in favor of this species of bulimia in intellectual activity, which has been one of the dominant forces in all my life adult.

Placed in front of a clear deadline: "change or die!" - I did not have to probe to know my choice. That's why for almost four months I've been able, without ever having the impression of to do violence, to refrain from all intellectual activity, maths or not maths. I knew, without having had to

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17.1. The incident - or the body and mind

say, that at the limit, a living gardener is even better than a dead mathematician (or a "philosopher" or "writer" dead, do not worry!). With a little mischief, we could add: and even better than a living mathematician! (But that's another story ...)

I do not believe that I find myself once cornered in such a "limit" situation, where I would have to give up in the long run to any intellectual activity, whether mathematical or meditative. Rather, the task convenient

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The most immediate and most urgent in the coming years, I think that just reaching p. 427 a balance of life where the two types of activity coexist day by day, that of the body and that of the spirit, without either of them becoming devouring and stigmatizing the other. I do not hide that it's good in the direction "spirit" that are since my childhood my most powerful investments, that it is towards also that still bear to me today the two main passions which continued in these last years to dominate my life. Of these two passions, the mathematical passion and the passion of meditation, he seems to be the first named especially, if not exclusively, that acts as a factor of imbalance in my life - as something that would still delay an unfortunate tendency to "devour" everything else at profit from her alone. It's no coincidence surely, if the three "disease episode" in my life that marked a situation of imbalance, since June 1981, have been placed in periods precisely where it is passion mathematical that was on the front of the stage.

We could say that this is not quite the case for this last episode, which occurred during the writing of Harvest and Seeding, which is a period of reflection on myself, not to mention a period of meditation itself. But it is also true that this reflection on my past as a mathematician has been constantly fed by my mathematical passion. It was so especially in the second part, the Burial, it seems to me, where the egotistical component of this passion was particularly involved. Firstly strong and constant. Yet, even in retrospect, I do not feel that at any time, this reflection has taken a rhythm, a tuning fork devouring, even dementia, as in the previous two occasions where my body was finally forced to sound a "fed up!" without reply. Separate view the context of a lifetime, my intellectual activity for a year and a half (since the "recovery" with the Poursuite des Champs, followed by Crops and Seeds) appears to be continuing at a rhythm of the most reasonable, without forgetting to drink or eat (but sometimes even a tad, the to sleep. . .). If it ended up leading to a third "health episode" (to use a euphemism), it's undoubtedly on the bottom of a whole life marked by this eternal imbalance of a head too strong, imposing rhythm and law to a robust body that has long cashed without flinching 2 (*).

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Over the past two months, I have had ample opportunity to realize the irreplaceable benefit p. 428 from a body work, to the intimate touch of humble living things, silently talking to me about simple things and essential that books or reflection alone are powerless to teach. Thanks to this work, I found sleep, this companion even more precious than drinking and eating it - and with it, a revival of force, a steadiness that suddenly seemed faint. And I could see that in the season of life that is mine, if I want to continue for a few more years this new mathematical adventure started last year, I can not do it without endangering my health and my life, if not with my two feet firmly planted in the potting soil of my garden.

The coming months will be those where a new way of life will have to be put in place. and conciliate day by day the labors of the body and those of the mind. There is work to do!

2 (*) I should do here except the five years from 1974 to 1978, which were not dominated by a large task, and where manual occupations have absorbed a significant part of my time and energy.

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17. The deceased (still not deceased ...)

17.2. The trap-or ease and exhaustion

Note 99 (September 23) I had to force myself last night cut short, so as not to continue my thrust until two, three, am in the morning and being caught up in a gear that I only know Very good. I felt refreshed, and if I had followed my natural incline, I would have even continued until early morning ! The trap of intellectual work - at least that one pursues with passion, in a matter where we end up feeling like the fish in the water, as a result of a long familiarity - it is that it is so incredibly **easy**. We shoot, we shoot, and it always comes, just shoot; it's hardly that sometimes we have the feeling of an effort, of a friction, sign that it resists so little. . .

I remember, however, from the time of my early years as a mathematician, a persistent feeling of heaviness, gravity that had to be overcome, by a stubborn effort, leaving in its wake a sensation of fatigue. It was mostly a period of my life when I was working with insufficient tools, even inadequate; or later, when I had to acquire tools more or less painfully few "all-out", under the pressure of a medium (essentially, that of the Bourbaki group) that used them commonly, without their *raison d'être* appearing to me as and when years. I had the opportunity to talk about those sometimes painful years (see "The welcome stranger" s.9, and "hundred irons in the fire, or: there is no point to dry," said ° No 10) in the first part of Crops and Seeds. It was mostly the period from 1945 to 1955, which coincides with

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my period of functional analysis. (He
p. 429

it seems to me that among the students I had later, between 1960 and 1970, this resistance against a learning without sufficient motivation, where we swallow notions and techniques on the faith of authority seniors, was much less strong than she was at home - to be honest, I did not perceive it at all.)

To come back to my point, it is from the years 1955 and following especially that I had the impression often to "steal" - to do the math by playing me, without any feeling of effort - just as my elders whom I had so long envied for such an almost miraculous facility, which had seemed to me out of reach of my modest and heavy person! Today, it seems to me that such an "ease" is not the privilege of some exceptional gift (as I met some at a time when such "don" seemed completely absent from me), but it appears of itself as the fruit of the union of a passionate interest for such a subject (as mathematics, say), and of a more or less long familiarity with it. If the "gift" really intervenes in the appearance of such ease, it is undoubtedly by the time factor, more or less long from one person to another (and sometimes also an opportunity to the other in the same person, it is true. . .), to arrive at a perfect ease in working on such or such a subject 3 (*).

Still, the more things go - with the passing years - the more I feel this "ease" when I do math - things just want to be revealed to us, if we just take the trouble to watch, to scrutinize them a little bit. It's not a question of technical virtuosity - it's clear that from this point of view, I am in much less good condition than in 1970, when I left the maths: since then I have had the opportunity to unlearn what I had learned, "doing maths" only sporadically in my corner, and in a spirit and on very different themes (at least at first glance) of those of yesteryear. I do not want to say either that it would suffice for me to fix such famous problem (de Fermat, de Riemann, or Poincaré say), to fight my way straight to his solution, in a year or two 3 (*) Yet I know many mathematicians, who each produced a profound work, and who never seemed to me to give that impression of ease, of "ease" that we are talking about here - they seem to struggle with omnipresent gravity, that they must overcome with effort, at every step. For one reason or another, the "natural fruit" just mentioned, did not "appear on his own" in these eminent men, as he was supposed to do. Like all unions do not wear not always the fruits we could expect. . .

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17.2. The trap-or ease and exhaustion

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three! The ease of which I speak is not one that seeks and achieves such a **goal**, set in advance: p. 430 to prove such a conjecture or to give it a counterexample ... It's the one that allows you to jump into the unknown, in such a direction whose obscure instinct tells us that it is fruitful, with the intimate assurance, which never be denied, that every day and every hour of our trip can not fail to bring us his harvest of new knowledge. **What** knowledge just for us the next day, or even already the hour that follows on this very day, we certainly foresee it - and it is this "presentiment" constantly taken of short, and this suspense with which it is body, which constantly push us forward, while these things themselves that we delve into seem to draw us into them. Always what becomes known goes beyond what was sensed, in precision, in flavor and in richness - and this in turn becomes a point of departure and material for a renewed presentiment, darting in pursuit of a new stranger eager to be known. In

this game of discovery of things, the **direction** we follow every moment is known to us, while the **goal** is forgotten, assuming we left one goal in fact, that we intended to achieve.

This "purpose" in fact was then a **starting point**, the product of ambition, or ignorance; he played his role to motivate "the boss", set an initial direction, and trigger that game, in which the goal does not really depart. As long as the journey undertaken is not a day or two, but is long-term, that it will reveal us over the days and months and where it will lead us after a long cascade of adventures unknown, is for the traveler a total mystery; a mystery so far, so out of reach, to tell the truth, that do not care! If it happens to scrutinize the horizon, it is not for the impossible task to predict a point of arrival, let alone to decide according to his wishes, but to make the point where it is at the moment same, and among the directions that are offered to him to continue his journey, to choose the one that from like the hottest. . .

Such is this "incredible facility" I mentioned earlier, about discovery work in one direction entirely intellectual, like mathematics. It is **hampered** neither by internal **resistors** 5 (*) (as is so often the case in meditation work such

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I practice) or by **physical exertion** at p. 431

provide, generator of fatigue that ends up giving a stop signal unequivocally. As for **intel-** efforts **lectual** (assuming we can even speak of "effort", reached a point where the only "resistance" is left is the time factor. . .), it does not seem to generate fatigue nor intellectual nor physical. More precisely, if there is "physical fatigue", it is not really felt as such, if it is not aches occasional, for sitting too long in a fixed position, and other same kind. These are easily eliminated by a simple change of position. The supine position has the unfortunate virtue of making them faint, and thus to encourage a revival of intellectual work, instead of much needed sleep!

There is, however, I finally realized, a physical "fatigue" more subtle and more insidious than a muscular or nervous fatigue, which is manifested as such by an irrevocable need for rest and sleep. The term "exhaustion" here (rather than "tired") would better define the thing, although it is understood that this state is not perceived as such, in the ordinary sense of this term, which signifies extreme fatigue, manifesting itself 4 (*) Yet I know many mathematicians, who each produced a profound work, and who never seemed to me to give that impression of ease, of "ease" that we are talking about here - they seem to struggle with omnipresent gravity, that they must overcome with effort, at every step. For one reason or another, the "natural fruit" just mentioned, did not "appear on his own" in these eminent men, as he was supposed to do. Like all unions do not wear not always the fruits we could expect. . .

5 (*) But I know a remarkably gifted mathematician, whose relationship to mathematics is typically confrontational impeded at each step by powerful resistances, such as fear that such expectancy (in the form of a conjecture say) can prove to be wrong. Such resistance can sometimes lead to a state of intellectual paralysis. Compare this with the previous footnote.

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17. The deceased (still not deceased ...)

especially by a great effort necessary to only get up, walk a few steps, etc. It is rather from "exhaustion" of the body energy to the benefit of the brain, which is manifested by a gradual lowering the general "tone" of the body, its level of vital energy. It seems that this exhaustion by an activity excessive intellectual I mean: not compensated by a sufficient body activity, generating fatigue Physical and need rest) - this exhaustion is gradual and **cumulative**. These effects must depend on the once **intensity** and **duration** of intellectual activity during a given period. At the level of intensity where I pursue intellectual work, and with age and the constitution that are mine, it seems that in Me cumulative exhaustion in question reaches a critical threshold, dangerous, after a year or two of business uninterrupted, without compensation by regular physical activity.

In a sense, this "ease" of which I speak is only apparent. The intense intellectual activity involves considerable energy is clear: energy is taken somewhere and "spent" in a job. he seem that "somewhere" is at the level of the body, "cash" (or rather, **pays**) as spending can (sometimes steep) that the head is paid lavishly. The normal route to recovery of the energy supplied by the body, is sleep. This is when the head becomes bulimic she finally impinge

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on sleep, which is to eat an energy capital without renewing it. The trap and danger

p. 432

the "ease" of intellectual work is that she relentlessly urges us to cross that threshold, or staying beyond when it is crossed, and over this crossing does not report to our attention by usual signs, unmistakable, fatigue or, exhaustion. It takes great vigilance, I go account, to detect the approach and threshold crossing in question, so that is engaged around

in pursuit of an exciting adventure. Perceive this vacuum energy to the body of a demand level listen state with respect to the body, which I have often missed and that few people have. I doubt elsewhere such a state of communion conscious attention to the body to flourish at anyone, a period of his life dominated by a purely intellectual activity, excluding any physical activity. Many knowledge workers also feel instinctively the need for such physical activity, and arrange their lives accordingly: garden, mountain, boat, sport. . . Those who, like me, neglected this healthy instinct in favor of a too intrusive passion (or excessive lethargy), sooner or later the Brunt. Three times in three years that I spent at checkout to have done without complaint I have say, or rather, thankfully, realizing each new episode-disease I was only the fruits of my own negligence, and in addition, it also brought me a teaching, only perhaps he could give me. The main lesson, perhaps, that gave me the last these episodes and that just ended is that it is time to take the lead and make it unnecessary now such calls to order - or more concretely: it is time to cultivate my garden!

17.3. Farewell to Claude Chevalley

Note 97 in my reflection yesterday and today, I deliberately left out of all events which is placed right in the episode-disease, in the first days of July, at a time so I was still bedridden. This is the death of Claude Chevalley.

I learned it by Article Liberation wave more or less dedicated to the event, a friend had me past the off chance, thinking that might interest me. There was almost nothing on Chevalley, but some Bourbaki bread on which he was a founding member. I felt stupid while learning the new. It had been months since I saw myself about to finish with Crops and Seeds, hit shot Paperback and everything - and ride

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Paris dare dare to bring a copy still warm! If there were

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17.3. Farewell to Claude Chevalley

a person in the world I was sure she would read my pad with a real interest and pleasure often, that was it - I was not sure at all if there would be someone other than himself!

From the beginning of my reflection, I realized that Chevalley had brought me something to crucial point in my itinerary, something sown in effervescence, which had germinated in silence.

What I felt then connect to it was not so much a **feeling** of gratitude say, or sympathy, affection. These feelings were present surely, as they are also present to this or such other of "elders" who had welcomed me as one of them, more than twenty years earlier. What made my Chevalley different relationship to my relationship with any of them and most of my friends, not to tell everyone is different. This is the feeling I think, or rather, the perception of a **relationship** vital, beyond differences of culture, packaging of all kinds that have marked us from our youth ages. I can not tell if it reflected something of this "relationship" in the lines of my thinking when he comes to him ⁶ (*). In the period of my life which refer these lines may appear Chevalley more like an "elder" again, this time at an understanding of some basic things life as like a "parent". This is a distance yet my subsequent maturation had to reduce and perhaps abolish, as was the case long ago in the mathematical level, in my relationship him as my other seniors. If I now try to understand in words the meaning of this relationship, or at least one of his signs, he comes this: either we are "free riders" - one guest and the other in her own "solitary adventure." I am speaking on my own in the last "chapter" (and name) of "Fatuité and Renewal" ⁷ (**). Perhaps, for those who knew Chevalley (and same for others), is that part of the reflection more apt to suggest that I would express that namely that concerning.

To meet him and talk to him so slightly surely would have allowed me to better understand this friend than in the past, and to better position and this essential relationship, and our differences. If there were, apart from Pierre Line,

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a person for whom I felt a wait to give him personally the text p. 434

Crops and Seeds, it was Claude Chevalley. If there was a person whose comment, mischievous or sarcastic, I would have particular weight was himself again. In that day the first week of July I knew I would not have the pleasure to bring him what I had best to offer, nor hear even the sound of his voice.

The strange thing - and that probably helped to make me feel so **stupid** on the stroke of this new - is that more than once in recent months, citing an upcoming meeting with Chevalley, I remembered that he was struggling with health problems - and there was in me as a concern, consistently ruled that this meeting could not take place, that my friend could perhaps disappear

before I came to see him. The course idea crossed my mind to write to him or call him, if that to inquire about his health and how he was, and say a few words about the work I was engaged, and my intention to go see about that. The fact that I rejected the idea as foolish and obtrusive (that there was really no reason... etc.), as is done so often in situations of this kind, illustrates how I, like many others, continues to live "below my ways" - pushing the obscure prescience things that blows me knowledge that I am too busy and too lazy to hear. . .

6 (*) See "Meet Claude Chevalley - or: freedom and good feelings" (section 11), and the last paragraph of the section Next, "The merit and contempt."

7 (***) See above, in that sense, the two sections "Forbidden fruit" and "solitary adventure", n ° s 46, 47.
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17. The deceased (still not deceased ...)

17.4. The surface and the depth

Rating 101 (September 24) After the digression of the previous two days around "episode disease" of months, it is time that I resume the interrupted thread in June, where I had left. I then foresaw that there would still two final notes, which remained to write a "Eulogy Funeral (2)" (which would result and would complement the note "The Eulogy Funeral (1) - or compliments" May 12) and "From Profundis "final, where I intended to sketch a record of all of my thinking about the burial.

The substance under these two notes was still warm when I got sick -

I was about to throw everything on paper, just time to finish finalize the whole previous notes, to have the feeling of working on "back" solid and tidy. . . during three full months (since June 23 exactly) where I virtually stopped all work on the burial, except occasional strikes of corrections, it is me, unfortunately a bit out of mind. I feel even a little silly, embarrassed in any case, to me wisely to fill blank pages waiting behind voucher impositions under the pretext that they Figu

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rent in a draft table of contents, and I had

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imprudently do there allusion here and there in a text for publication. This is especially true for "The Eulogy Funeral (2) ", and even sometimes reread the first juice" The Eulogy Funeral (1) "(aka" compliments ") was not enough to warm up for me a substance which for months had had time to cool down in its corner!

Yet the next day May 12 when I wrote that note, and everything in the month that followed, I do swarmed into the hands to dig deeper into this new mine which I had just put hand without even known. When Nico Kuiper had the attention send me the jubilee brochure the twenty-fifth anniversary of the IHES last year, I had to spend that half hour to go (there including the two topo, half page each on Deligne and me), without finding special. The one thing that struck me was the absence of any allusion to the difficult early years of IHES where his reputation was established in the local property, myself (with the first Geometry Seminars Algebraic) being the only one to represent the "field". I thought about it months later, writing note "The healthy tear" (n ° 14) in March 84. Not being sure of my memory, I for conscience Nico asked to send me another copy of the wafer (not arriving more to lay hands on first). It was a second opportunity to retrace the two topo in question, one eye may be a little less hasty. Yet, again I am not connected, definitely. I note in passing, with some surprise, he says in the guidebook on Deligne as "Axis director of its work is "Understand the cohomology of algebraic varieties", "who would have grown! To forget the thing for a or two months (until I have to remind myself, by writing the note "Denial of inheritance - or the price of a contradiction ", n ° 47) For cons, I did not realize that the history on my word. "Cohomology" is not pronounced any more than the word "scheme". In the state of inattention that is mine then nothing yet makes me suspect that this anodyne text, somewhat overloaded with hyperbolic epithets, made function Funeral Eulogy, "served" (more) "with a perfect tact!" A fingering so perfect even as I application if any of the readers of this board (a bit boring at the edges, has the force intentionally ointment all azimuths, as occasion required should we believe. . .) Noticed it more than me, when my first and my second reading.

This immediately joined a finding that comes up to me, each time for one reason or for another, I have to look with

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care so little intense and sustained something

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I contented myself earlier to look "through" with the "usual" care, routine, that I give to things and small and large events that pass in my life daily. This situation

17.4. The surface and the depth

frequently occurs in times of meditation, which many times leads me (often also "of Sewing up "and without deliberately) to submit to a closer examination of such events day or night (including dreams), who had spent more or less unnoticed in my state of customary attention or whose meaning (often clear and obvious) had entirely escaped my first conscious attention.

When I speak here of "care so little intense and sustained," what I mean basically it is a **awake look**, a fresh look, a look that does not weigh down the habits of thought, or "know" that their serves as a facade. If only for one reason or another, we are led to ask a waking glance careful about things, they seem to turn our eyes. Behind the apparent flatness of the dull and smooth things we present our "attention" Everyday we see suddenly open and animate a **depth** unsuspected. This deep life things did not wait to be here we take the trouble to be informed - it is there for all time, it is part of their intimate nature, whether mathematical objects, a garden lawn, or all the forces psychic acting on such a person at a given time.

The **thought** is an instrument among others to reveal to us and allow us to probe the depth behind the surface, this secret life of things, that is "secret" because we are too lazy to watch, too inhibited to see. It is an instrument which has its advantages, as it has its drawbacks and limitations. But anyway, it is rare that thought is used as an instrument of discovery.

Its most common function is not to discover the secret life in us and in things, but rather the hide and freeze. It is a multi-purpose tool available to both the worker and Child Boss. In the hands of a sail becomes, able to capture the strength of our desire and carry us away into the unknown. In the hands of the other it is immutable anchor, that tub or storms arrive shake. . .

The thinking was going to stray a bit, and now she returns to the starting point - which is as the finding on which I had

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arrested yesterday: how, by habits and conditionings p. 437

inveterate, I live below my means! (In what I am, again, in very great company...).

It is in favor of a gradual discovery of Burial, from facts as big as the volume

LN 900 s (*), that attention lazy finally finally awaken. A reading of the note "Denial of inheritance - or the price of a contradiction "(n ° 47) brings me on May 12 read the third time the two famous (!)

"Topo". This time, though, I noticed a slightly unusual detail: no matter at any time

of "cohomology" (or algebraic varieties or patterns) in the small text rave style

me is enshrined in the jubilee brochure! The thing seems quite comical to merit a footnote

page, I set out to write too dry. Along the way, I realize one or two other details

"Comical", which had not yet caught my attention: it was nice to be a third reading, it

remained too superficial, mechanical - to pretty much, I confined myself **to repeat**, **to reproduce**

the readings above. Only by writing what was to be a footnote on page, and

Note that became "The Eulogy Funeral (1)," little by little I am stung me to the game, that **curiosity** has

awake, made me come back again on these texts, looking a little closer this time. It is

only then that this transformation took place which I mentioned earlier - that "depth" is

open, intense life behind the flat facade of a laudatory speech, served in a flons-flons

great opportunity! It is this curiosity that turned a mechanical gaze, repetitive, distracted, at a glance

"awake". . .

8 (*) See Note "Memory of a dream - or the birth of reasons", n ° 51 and the following footnote "The Burial - or New Fathers ".

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17. The deceased (still not deceased ...)

"The awakening" in question was not instantaneous besides, it happened gradually, with tracking thinking continued in the note-to-bottom-of-page-sic. To be honest, it was not complete until the point yet this final note, as the hour was late (I seem to remember) and encouraged me to "finish" 9 (**).

But I had no sooner placed this point, or at least the next day that I realized that

I was far from having exhausted the subject of the Funeral Eulogy. It was only then that I felt

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fully

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how these two texts, so short and insignificant in appearance, were rich in meaning, real mines

to be honest ! And I was far from having made the rounds of what they had to say, as long as I started to listening. . .

(25 September) It was not even that night, I cut short reflection, as she had just start, would he seemed to me. Yet it was half past three in a row I was sitting at my typewriter, and small discrete signs began to show me that it was time I got up and moves.

I will remember the first time I have come to lead a "strong and sustained attention" on writing, text and where I lived day after day, for months in a row, the amazing metamorphosis of a "Surface" dull and flat, taking life and revealing a rich and precise meaning, a "deep" hidden. It was also, at the same time, my first lengthy meditation in the mind of a journey into the unknown, that would last it would last ... The starting material was the voluminous correspondence 1933-1934 between my father (emigrated to Paris) and my mother (still in Berlin then, with me who was five years old). my purpose was to "get acquainted" with my parents. I discovered last year that the admiration I they had dedicated all my life, and who eventually congeal into a kind of filial piety, and covered maintained a great ignorance about them. This phenomenal ignorance in which he appealed to me all my life to keep me, is indeed appeared to me in all its dimensions that during meditation Long term the following year to August 1979 to March 1980.

I had begun to "prepare the ground" throughout the month of July 1979, in particular making a first reading of all correspondence on the sidelines of a work on a "poetic book my composition " 10 (*) which I was then in the process of finalizing. Every evening I spent some hours reading three or four letters and answers, with interest for sure, and I would have said so without hesitation, of closely. Yet I realized obscurely that I was staying abroad, outside of what I reading - that the true meaning escaped me. What I read was pretty crazy often, as

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if this man and
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this woman that I saw live and parading before me had nothing in common with those I had increased know - those my memory restored me a clear picture, intangible. lack of work patient, meticulous, demanding that I read, I would have pursued as and when due I advanced, I was just stunned, without more, the (relatively) little, in these letters, which was pretty "big" to hang my superficial attention. What was recorded was superimposed and without the "well known" that was from my childhood and until those days again (without my ever visited me account, certainly) the invisible and immutable foundation of my life, my sense of identity. Supposing that I@ me then held in this first reading, surely the thin layer of "facts" new and undigested who had mistresses and superimposed on layers would quickly be eroded and washed away without hardly trace, in the months and years to follow.

9 (**) All the more surely, I already came the same day to go through the long and substantial reflection "massacre" (n ° 87), to which I refer also to the end of the note "In Praise of Death - or compliments" which was chained to it.

10 (*) Reference is made to the book and the episode of my life it represents, at the end of the "Guru-not-Guru, or the horse three-legged "n ° 45, and in Note ° 43 to which there is referred.

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17.5. Praise writing

At the time of this preliminary work, my main investment was also in writing an or-vrage which then absorbed the bulk of my energy. I was well aware of the limits of a job done on the sidelines of another, and it would take me back over the beginning to end, by working on parts in which I will invest myself fully. I anticipated that it would be a matter of weeks - in fact I spent seven consecutive month, devoted to scrutiny of the letters and writings left by my parents, whose party Here more "hot" is surely the correspondence in 1933 / 34. Seven months, moreover, after which I finally cut short, I realized that the subject ("get to know my parents") was inexhaustible as say. He had become more urgent now to **get to know me - even** helping me all these things I had learned on my parents, and thus, indirectly at least , . . on my own childhood forgotten. . .

I spent almost two hours to travel the beginning notes of this meditation on my parents, started on August 3, 1979. Contrary to what I thought hastily remember, I did not realize even then, if it can just be very confused, the need to review thoroughly, "from beginning to end" (as I wrote earlier), letters and other written records of my parents that I had read in the past month.

I leave at least hear anything in that direction in my notes. After a summary reflection of a day or two, making the provisional assessment of my many impressions, a tan

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Tinet confused, resulting from p. 440

reading this, I do not pretend to take it by working on meticulous parts. I makes rather (as something that goes without saying) with playback (also high speed) has to **ther** letters (including a voluminous correspondence with my parents in the years 1937 to 1939), and with a parallel reflection fueled by reading impressions. This is leading to another, during the month of August and the following month, I began to learn what it is that **work** on a letter (or other written testimony of a life), that allows to grasp the true meaning, sometimes dazzling - yet a sense that the person wrote often likes to ignore, to retract to itself and to other seen or experienced! while managing to spread "between the lines" of sometimes ostentative way incisor. And it must be rare or qu@sinuation provocative (sometimes fierce...) reaches the recipient, it is perceived and "hosted" by him at level, while also takes care not to let this perception, this knowledge into the field of his gaze, and enters full sail, too, in the same game of "neither seen nor known". What are the most obscure passages, inevitably, those who seem curling debility (or dementia...) And defy rational interpretation, which the curious eyes are most rich in meaning: true mines, providing irreplaceable keys to penetrate further into the simple and obvious meaning behind accumulation apparent nonsense. Such passages, frequently in the correspondence between my parents, and especially in the letters of my mother who led the dance, of course I have completely "passed over the head" during my first readings, during the month of July. I started to hang in there, here and there, in the following month. It was only in September that the various intersections make me understand really, I had maybe missed something essential in what I had to learn the letters from 1933 to 1934, and bring me back to them, making me a first reading "depth" of some. This Reading upset immediately to bottom image I had, since childhood, the person my parents and what had been their relationship with me and my sister.

17.5. Praise writing

Rating 102 (26 September) For two days here I am in full in "reminiscent autobi- cal "while I left to write (" cold ") following a certain note on a praise Fu 427

17. The deceased (still not deceased ...)

Nebre. I do not know if this digression will have known so little warm my ardor! It is time at least I get to the point that I had in mind when I got started pre 0

yesterday, a bit towards "On

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the art of reading a message that pretends not say what he has to say. "This kind of text message is more Often I@ suspected it once. . .

It goes without saying that the question of "how" of this "art" does not arise as long as one is willing (as I it was the biggest part of my life) to be taken for granted and literally everything you said or writing, and not to look or see, and nothing to anyone, other intentions than those expressly expressed by the person concerned. It arises by cons when one is confronted with that indefinable expression, in such a declaration, or tirade narrative, something "wrong", that there is something fishy, that something "happened" somewhere that is not supposed to have been called (qu@iez you so you imagine the !). Sometimes it is the perception, elementary and disconcerting inconsistency, an absurdity, if sometimes huge and elusive at the same time apparently it seems to defy formulation, limits it appears to be debility or delirious. These situations are often overloaded with anxiety - and it is by instant influx of anxiety, never recognized as such but blurred and retracted as soon as a wave of violent rage, distracted, invariably I reacted to such situations, Hence the absurdity suddenly burst into my life: an unacceptable absurdity, incomprehensible, heavy threats, shaking to its foundations every time my serene vision of the world and myself! he has been the case at least until I discovered "meditation" when an intrepid curiosity enterprising defused and taken over these waves of anger and anguish. . .

It is curious, that is, the desire to know, that made me find spontaneously under pressure needs, this "art" to decipher a text garbled testimony - or more modestly speaking, a method suitable for limited resources and cumbersome that are mine. Though I do and might be curious, first reading (or even second) of these letters heavy with meaning, everything essential passed me by above his head - "I could not see that fire." Sometimes, commenting on some often confused impressions, about maybe this or that particularly obscure and confusing way, I came over to the pen penetrate deeper into the meaning of a text which had seemed airtight. Along the way, I was sometimes brought to copy, the citation purposes, more or less long passages that were distinguished either by a dark, either because at first glance they gave me the impression of being "important" for a reason or other. As the days and weeks, I realized that merely **copied** verbatim

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such a passage

I scanned the text, amended surprisingly my relationship to this passage in the sense of an opening an understanding of its true meaning.

This was something entirely unexpected, as my initial motivation (the conscious level at least) was question of convenience. I even remember that for a long time, there was in me an contained impatience to spend precious time doing clerical function neither more nor less, I gnawed my brake reached the end and wrote as fast as I could. . . But there is no common measuring between rapid eye browsing in the reading of written lines, and that of the hand that transcribes word for word. It was nice write fast, the "time factor" is absolutely not the same. And I suspect that this "time factor" is not a purely mechanical way, quantitative - or rather, it is one aspect of a more delicate and rich reality. There is no common measure in effect at me at least, between the action of the eye that runs through lines another has thought and written, and the act of hand that letter by letter, word by word rewrote these lines. Surely, there is a profound symbiosis between the hand and the mind or thought; and at the same pace of the writing hand, and without any deliberate, the mind can not help but to reform, rethink the same words, phrases flocking charged

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17.6. The child and the sea - or faith and doubt

meaning, and these speeches. For a little desire to know animates the hand that reproduces letters, words and sentences, and that animates this spirit that, in unison, the "reproduced" too, to another level - surely this double action creates an otherwise intimate contact between me and this message I@ getting the scribe-editor, the act, particularly passive and without support or tangible trace of the eye that just reads.

This groping intuition goes in the direction of a long observation - is that home Rhythm thought working (either mathematical or other work, including the work I call "meditation") is often (if not always) that of the writing hand, and not that of the eye that reads 11 (*). And the **paper trail** foreshore

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See by my hand (or sometimes by the typewriter manipulated p. 443 by my hands ...), the rhythm of thought which progresses without haste and without dawdling, is the support essential equipment that thought - both his "voice", and "memory". I suspect also that it must be more or less the same (perhaps to a lesser extent yet) in most if not in all "Knowledge workers."

17.6. The child and the sea - or faith and doubt

Rating 103 (September 27) Anyway, the fact is there; as I can "enter" a theory mathematical writing that I hardly begins to enter a text message in the "between the lines" a message that in the **rewriting**. My first meditation work "on texts" has become a apparent flatness began to open on a living depth, and the absurd to find meaning, **from the moment** I started to rewrite the message verbatim, or (if it has dimensions prohibitive) passages flair that made me feel as crucial.

Some will say that without reliable criteria "objective" to ensure the validity of an "interpretation", presented as a result or culmination of a (supposedly?) "work" t say a text, one can say exactly everything you want in any text or speech, invent such a "message" we please to lend him. Nothing is more true and certainly safe ment examples abound! I doubt elsewhere (except perhaps in a discipline defined as history - and again. . .) It is possible to identify such criteria.

This would not be much good anyway: either to stop anyone inventing galore inter-fanciful interpretations, nor allow anyone to probe and discover the true meaning of a message, a situation, event. Rules and criteria are ingredients of a **method** , which has its uses and its importance (often overestimated besides, to the detriment of other factors and forces of one other nature) as a tool for discovery and consolidation in the development of scientific knowledge or technique, in that along with a knowledge one: drive or fix a car, etc. On the other hand, the level of knowledge and self-discovery and others, the role of the method becomes completely accessory: it@ "stewardship" following for sure, when the key is there. And draw or from a method, or even to cling tenaciously, does nothing to the appearance of this most essential thing - on the contrary!

To put it differently: one who leaves to find such a thing decided

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in advance (he qualified for "real", p. 444

or "truth") will have no difficulty to find, and even prove to his satisfaction - and surely

11 (*) This circumstance, which seems to play at home to a greater degree than most of my fellow mathematicians, I had previously made it difficult to insert myself in the collective working sessions of the Bourbaki group, finding myself incapable

follow the readings at the rate they were continuing. I have also never really liked **reading** mathematical texts, even those beautiful. My spontaneous way to understand math has always been the **making**, or the **remake** (in helping me to need, here and there, ideas and guidance provided by colleagues or, failing better, by books. . .).

17. The deceased (still not deceased ...)

he will find much the way one or another, if not a crowd, delighted to enter into covenant with him and share beliefs and satisfaction. It's like the butterfly hunter, who goes with his net a beautiful butterfly (stuffed if it is), and that the fate all happy (and to its satisfaction) returning his "hunting".

And there is also one which is faced with a stranger, like a naked child in front of the sea. When the child wants to know, he comes in and knows - whether warm or cool, calm or agitated. This attracts such unknown thing, and left for knowing, surely the experience or less. With or without a net, he found the true, or at least **the** truth. His mistakes as his findings are steps in his path, or rather, in **his loves** with what he wants to know.

I know whereof I speak, because in my life I have been abundantly turns, and butterfly hunter and this naked child. There is no difficulty in distinguishing one from the other. I doubt that the "objective criteria" are Here a great help, it's much simpler than that! One has only to use his eyes. . .

And there is no either difficulty distinguishing successive stages, settling successive stages sive in this journey which I have just mentioned, from this step "dead" or invalid tipped flush consciousness does still suspect "something" beyond a certain flat surface and amorphous we have somnolent eyes, and through "awakenings" successive leads to an ap-grasping more and more delicate, more intimate, full of that "something." It is not likely essentially different, whether the journey in the discovery of mathematical things, or in the self and others. The sense of a **progression in knowledge**, which deepens little little (albeit through an accumulation of errors patiently tirelessly corrected) - this feeling is also undeniable in this case as in the other.

This **insurance** - there is one side of an interior disposition, the other side is an **opening doubt**: an attitude of curiosity excluding any fear with respect to his own mistakes, which allows the *dépister* and correct constantly. The essential requirement of this double seat, this **faith** must to accommodate doubt as to discover, is the absence of fear (whether apparent

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or hidden)

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about the "release" of the research enterprise - from fear in particular that the reality we are about to discover challenges our beliefs or convictions, she disenchanted hopes. A such fear acts as a deep paralysis of our creative faculties, renewal of our power.

We can discover and renew ourselves in sorrow and in pain, but not in fear before which is about to be known, which is about to be born. (No more than a man can know a woman and to develop, in a moment he is afraid of it, or act that the in it.) Such fear is probably relatively rare in the context of scientific research or any other research which theme does not involve any degree deep our own person. It is against the great stone stumbling when it comes to the discovery of self or others.

Yet the feeling that accompanies a discovery, large or small, is also undeniable in the case the discovery of self or others, in the context of an impersonal research, mathematical by example. I have already had occasion to refer to this feeling. He is the reflection at the level of emotions, a perception of something that just happened - the appearance of something **new** - and that "some thing" appears as tangible, irrefutable as (I apologize rehearsals!) that the appearance of a mathematical statement say, or a concept or a demonstration, what we had never dreamed before.

IT also seems to me difficult to distinguish or separate this feeling that accompanies discovery particular, the sense of progress which I mentioned earlier, which accompanies a search. The "large and small" are discovered as the **bearings** successive materializing an increase, as

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the **thresholds** successive we must take. Progress is none other than the result of crossings these thresholds, accessions of each of these levels to the next.

The "feeling" or better, reflecting the perception that renders this process is a "test" of course, unmistakable - I do not remember that he ever misled me, either math or meditation: I have had to see, with hindsight, that feeling would have been illusory. Often it can probably residue from

The distinguishing right from wrong, or discern the true that is in the wrong, and wrong in what is supposed to be true. But it is mainly a **guide** irreplaceable in any real research - a ready guide to inform us check the time (as long as we take the trouble to consult it) if we are wrong, or are on a track.

Listening provisions with respect to the course guide are nothing,

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it seems to me that in another p. 446

Instead of my reflection 12 (*) I named "rigor". This rigor is not essentially different, to me it seems, whether the requirement in mathematical research, or in the self-knowledge, without what it can not have such knowledge. But it goes without saying that this does not mean that the presence of this rigor at the level of such intellectual work or guarantor or sign of his presence for knowledge of self and others. In fact, the opposite is true, that I have seen in countless opportunities, starting with myself. In this area there the "rigor" of which I speak here appeared in my life along with meditation. Or rather, I can not really distinguish between the one and the other. Meditation moments in my life are other than where I examine my person (the often through my relationship to others) in such a frame of extreme demand with myself.

12 (*) In the "Discipline and rigor" on n ° 26, where I talk about the "rigor" as "a delicate attention to **quality understanding** this every time "in a search.

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18.1. The Funeral Eloge
18.1.1. (1) Compliments

Note 104

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(May 12) 1 (*) Remarkably, in the small "topo" my work is done in this

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18.1. The Funeral Eloge
same brochure 2 (**), the word "cohomology" or "homology" is not pronounced! The word "schema" either elsewhere. It is certainly about it (as the circumstances demanded, while I was acting as Fields first medal brought to the IHES ") titanic aspect "of my work, number of volumes published, clear essential problems, with the greatest natural generality (funny French that), very careful terminology, allusion to the "Grothendieck groups" (again one of these greatest natural generalities I bet!), and even topos and their usefulness in logic (but especially not elsewhere!). . . But no hint at a **result**, or a **theory** I@developed and that might have been used - we must believe that these twenty titanic volumes were drastically empty, or just problem collections (never solved) and notions, with the greatest natural generality it@something heard: Grothendieck@group is adjudged (since my name is already glued after), presented as "ancestor" of the algebraic K-theory (!) (and which has nothing to do of course with the topological K-theory, which we breath word) 3 (***) ; as to the theorem of Riemann-Roch, it must be the descendants of "the ancestor" who took care of it - the ones who make the real theorems, serious things!
At a time when fashion is in defiance of generalities (paralyzed by this turn of events)

ridiculous "greater natural generality". . .)

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anonymous pen that took care of my praise here p. 448

funeral abundantly gratified me of what now comes to disdain 4 (*). I also appreciated to its value (perhaps I am the first ...) all the humor of the same anonymous pen in this passage of eulogy:

"He created at the IHES a school of algebraic geometry, gathered around the seminary he animated and **nourished by the generosity with which he communicated his ideas**" (my emphasis). Unfortunately like my "titanic work", this "school of algebraic geometry" that I have rigorously empty - not a single name is spoken, and no one has come to complain that it has been forgotten, not to me anyway.

It seems to me, however, to have seen the young Deligne haunt faithfully this seminar (presumed empty) between 1965 (he must have been nineteen years old) and 1969, and learn in this seminar and in our tete-a-tete schema technique, cohomology techniques, and cohomology - ie, the tools precisely used on every page of his work (among those I have seen, at least). In the

1 (*) (18 May) the following footnote is "following a footnote page (in footnote 47 °) who took prohibitive dimensions." I got it inserted here, thinking that this order is this time more natural than the chronological order.

Since the very moment this note was written, I felt the need to develop it even more - it will be done in a note that will follow this one, which is not written yet at the time of writing these lines. The two notes together have now took the right name: "The Funeral Praise"!

2 (**) (May 18) This is the brochure published in 1983 by the IHES (Institute of Advanced Scientific Studies) on the occasion of the celebration of the jubilee of its twenty-five years of existence. It is already referred to in the footnote to the note "The separation

healthy" (n ° 42), and again at the beginning of the note "Denial of inheritance - or the price of a contradiction" (n ° 47), to which the

present note (The Funeral Praise (1)) refers (see previous footnote).

3 (***) My work on the Riemann-Roch theorem are the first strong start of **Algebraic K-theory** and nulle- an "ancestor". The **topological K-theory** was born the same year (1957) where I demonstrated the Riemann-Roch- theorem Grothendieck, following my lecture at the Hirzebruch seminar. "Ancestor" of this "descendant" passed over in silence had not another year! The algebraic K-theory (with the introduction by Bass of the functor K in addition to the functor K

that I had introduced)

developed in the years that followed, under the double influence of "the ancestor" and the first "descendant" of it.

I also, in the second half of the sixties, an approach to a description of the K_i higher (for a category "monomial", p. ex. additive), in line with Mrs Sinh's thesis. It remained heuristic, being based on intuition of ∞ - **category enveloping Picard**, when nobody yet at that time (or since) had taken the leisure to develop the notion of ∞ -category (non-strict), ie The notion that I call now the name of ∞ -field (on the punctual topos) With the sketch of foundations for a cohomologico-homotopic formalism of the fields that I am preparing to develop in the Pursuit des Champs (in line with the ideas I developed between 1955 and 1965), this approach "geometric" towards a theory of higher K-invariants would finally be available.

4 (*) (May 18) And I have spent! For a complete quote from my Funeral eulogy, see the note "The Funeral Praise (2)".

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18. XII The Funeral Ceremony

"topo" dedicated to Deligne in the same brochure, no hint either that could make suspect reader

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that he may have learned something from me. Yet, remarkable thing, my name is pronounced

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three times in this eulogy (by no means funeral for the coup) of Deligne ("IHES third Fields Medal").

And even in a periphrasis it is alluded to, with the wave of rigor that must surround each appearance of my modest person, the fact that I would have "constructed the theory of cohomology in geometry on a body

any "- and surely again" with the greatest natural generality", it smells the grothendieckerie to full nose 5 (*). The complete quotation of the context is worth giving, it is a small masterpiece of the type:

"Starting from there [classical Hodge theory] and l-adic analogies suggested by Grothendieck

[One wonders where Gr. has found the time to learn such serious things, while writing

his twenty volumes of larger natural generalities], he [Deligne] has unearthed the notion of a mixed Hodge structure and has equipped the cohomology with any complex algebraic variety. In

l-adic cohomology, so [?] for varieties over a finite field, he proved the conjectures of

Weil, of a proverbial difficulty. This result seemed all the more surprising [! that Grothen

dieck, having constructed the theory of cohomology in geometry on any body

wonders what he went to get there again, had brought back the remaining conjecture [? ? ?] at

a series of conjectures that are as unaffordable today as they were then. " Clearly, far from having contributed in any way to prove this surprising result of a difficulty if proverbial, these grothendieckeries there (in the name to make escape the most hardened generalist-naturalist) were just good to still cluttering us to **conjecture** as fair (he actually never more!) and unaffordable what is more (we would have suspected), as much today as when he had the crazy idea to do them.

0 However, I think I remember having touched on them, these unapproachable conjectures, but it was probably because p. 450 that I was badly informed. It was about the moment I left, sorry deceased I meant, and my posterity better informed than me was careful never to put his nose in this stuff, since Deligne was formal: it was unaffordable!

I recognize the style well: we did all his duty, quoted Grothendieck abundantly (him or no one will be able to claim burial on this solemn day), and even an allusion-inch to "analogies l-adics "who had played a role in starting the mixed Hodge theory, that must be the second time since the famous half line lapidary thirteen years before 6 (*); both references look like strangement to "weight considerations" of a 1968 article 7 (**): one is "inch", and led the drive by the nose at the same time! Here, the solemn occasion helping, the inch reference does better than to drown fish - the impression that this text suggests about this famous Grothendieck is that this fashion "wind" that I have felt for a few years - the one I had the opportunity already feeling today 8 (***) , not in shades of eulogy and occasions

5 (*) (18 May) In Praise of Death, it is question of "attention" I wore terminology. In use silly expressions like "the greatest natural generality" or "the theory of cohomology in geometry on a body whatever, "I clearly perceive the intention to deride this attention.

The extreme care I give to the names given to things flows naturally from the respect I have for these things, including the name is meant to express the essence, or at least some essential aspect. By the echoes that reach me, I was shocked more of once by the affectation of disdain which today seems to put in relation to this attitude of respect, disdain which expresses sometimes by the use of abracadabrant names for important notions. See also the note about "The perversity" (n ° 76).

6 (*) This "half-lined lapidary" is in the ratio of Deligne "Hodge Theory I" at the International Congress in Nice 1970. See comments in note 2 ° 78.

7 (***) See in this regard the beginning of the note "Weight canned and twelve years of secrecy" (n ° 49) and the more detailed examination in note "Eviction" (n ° 63).

8 (***) See note on the same day "massacre", n ° 87.

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before many assistance, but in those of the massacre. . .

I continue the quote, it is worth it:

"This theorem (formerly Weil's conjectures) helped to make l-adic cohomology a tool powerful pointless to name the brilliant and modest inventor of this powerful tool. . . , applicable to seemingly distant questions from algebraic geometry such as, for example, the Ramanujam.

More recently, he has studied the Hodge cycles on abelian varieties, taking a first step towards "motivic" theory as Grothendieck had dreamed. He also demonstrated the algebraic mechanism of the "intersection cohomology", MacPherson and Goresky topological theory. This allowed to transpose it to the l-adic theory, where it has proved surprisingly useful. "

Thus, an anonymous pen (which I guess the same) has finally repaired, one year after the publication of the "memo" Maple volume °9 (****), a little" forgotten "in said volume. Someone had perhaps put even when a question, and Deligne here performs repair forgetting in its own way (it's nice to even quote this dreamer

0 Grothendieck, when it comes, finally, to serious mathematics!). And always deceiving the reader, p. 451

seeing that the "first step" was made in 1968 with Deligne's launching of the Hodge-Deligne theory, rooted in yoga patterns that he had indeed "nourished" indeed to my contact, all along four years before. This yoga of which his work is issued, of which he never knew how to detach himself while denying it, is actually sent in the periphrasis of the first quote under the name of "analogies l-adics "A reader who would not be both very aware and very attentive would certainly not suspect a link between these "l-adic analogies" which would have played a role of starting point (but especially not beyond ...) for the Hodge theory Deligne-10 (*), and a "motivic theory" that I had indeed dreamed (and a damn dream more precise) - if not this link, it is still this same dreamer Grothendieck who arrives (by force of larger natural generalities) to suggest analogies to true mathematicians, dependent on them for do real work.

As for the famous "algebraic mechanism of the" intersection cohomology "", here we are right in the

Perverse 11 Symposium (**) (though the "perverse" word is not pronounced). We certainly took gloves with one Four Fields Medals

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the IHES ", given the solemnity of the occasion - but not to interfere with the student is 452 percent. posthumous of this same Grothendieck. My own burial on this exceptional occasion under fire the ramp, speech of the Minister and the rest, is not the burial by silence, but by the **compliment**, skillfully dosed and administered. But it goes without saying, where Mac Pherson and Goresky are named, that for the student posthumous Zoghman Mebkhout silence is de rigueur, as it had been two years earlier at the Symposium Perverse, and as it is still today.

9 (****) This volume Lecture Notes ◦ No 900 published in 1982, referred to in the notes "Memories of a dream - or Birth of reasons "and especially" The Burial - or New Father. "(n ◦ 51, 52) This is the volume where" exhumed "reasons (after a twelve-year death silence about them), under a (implicit) alternative fatherhood.

10 (*) This theory of Hodge-Deligne still in its infancy, failing to develop the concept of "complex Hodge-Deligne "on any finite type scheme on C, and the formalism of the six operations for these" coefficients ". such a theory was obvious for Deligne as much as for me, even before his first work on Mixed Hodge, it flowed evidently from the yoga patterns. But as soon as I left the mathematical scene has developed Deligne a "bloc" against the key ideas I introduced in homological algebra (derived category, six operations, without counting the topos), which prevented the natural rise of a theory whose start had been spectacular.

11 (**) See, on this symposium, Procession VII, "The Symposium - or bundles Mebkhout and perversity."
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18. XII The Funeral Ceremony

18.1.2. (2) The force and the halo

Note 105 (29 September) "previous" notes, "The Praise of Death (1) - or compliments" (No. 104 ◦) is May 12 - more than four months old. It had started as a footnote to "Refusal a legacy, or the price of a contradiction "(note 47 ◦, late March), history up through a small made "comical" which I had just noticed. But when I wrote it, I realized over the lines and pages that these two short seemingly innocuous texts I was commenting on, without much to have expected or sought, were a real "mine" 12 (*). It was also the day I had come provide a picture of a massacre (note 87 ◦) table that had emerged from the mists gradually over weeks gone by. There he materialized suddenly, had taken shape by the mere virtue of a description enumerative, and now he was calling out to me forcefully. The massacre, and the "compliments" - Praise at the address of the late deceased - these were just like the two complementary parts of the same and striking chart, appeared on that same day!

There was something to fill me certainly! The next day, "hands swarmed" to continue the momentum and, in particular, probe further into this little jewel of mine on which I had just put my hand unexpectedly. It became clear that the first thing to do was to quote in extenso the two passages in question of the jubilee plate - at the same time it would also be the best way to better contact with these texts and better immerse myself in their true message, the message "between the lines". . . 13 (**). Without even have had the

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leisure still to copy the two texts, the contact of the previous day had already sufficed to

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to awaken in me several associations of ideas, which I felt juicy. I could not wait to continue without too much to know where they would lead me. . .

Finally, it is not on this momentum that I chained in the days and weeks that followed, all promising me, all the while, to come back in the next few days. A "health incident" unforeseen ended for more than three months in any work of reflection on Harvests and Seeds, and even at any intellectual work whatsoever 14 (*). The "hot moment" conducive to the pursuit of this direction for reflection, which had just opened up in those days, has now passed. He◊not sure he◊come back, nor even that I want to make the effort to "blow" (hot!) to make it come back at any cost. For everything say, my real desire now is to come to the final score, taking a provisional **assessment** of the entire reflection called The Burial - and draw a **final line!** For the purpose of this note, I am going at least already give the complete quote that I had promised myself (and already promised to the reader, moreover); and maybe at least some summary hints too, about some associations of ideas that these two texts (and perhaps also rewrite them black and white) will have aroused in me.

The two texts in question (pp. 13 and 15, respectively, of the 1983 Jubilee Plaque entitled "Institute High Scientific Studies ") are part of the series of "minute portraits ", " permanent "and" guests " long term "that have passed to IHES since its founding in 1958, arranged in chronological order of entry. These are short texts, about half a page each, each with the dates of the transition to the IHES and the function (professor, or long-term visitor), the main honors, the prin- main areas of interest and the most important contributions, with (if any) the names of certain

employees. For my modest person however, there is a remarkable void about these three

12 (*) For some retrospective comments on this subject, see the beginnings of the note of September 24, "Surface and depth" (n ° 101).

13 (**) On this subject the note "On the art of deciphering a message - or praise of writing" (n ° 102), which follows the note quoted in previous footnote.

14 (*) See the notes about "The incident - or the body and mind" and "The trap - or facilitated and exhaustion", n ° s 98, 99.
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"objective" aspects of a work and a personality - areas of interest, main contri

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tions, princi- p. 454

collaborators or pupils - which empty is filled by these "compliments" in dithyrambic style, some have been noted and cited already in the previous note. . .

The series in question, which I have the honor to open, is made up of the following mathematicians and physicists: A. Grothendieck, L. Michel, R. Thom, D. Lane, P. Deligne, NH Kuiper, D. Sullivan, P. Cartier, H. Epstein, J. Fröhlich, A. Connes, K. Gawedzki, M. Gromov, O. Lanford.

I thought I remembered that Dieudonné had been a professor at IHES at the same time as me, and I noticed on this list that it is not - he had therefore contented himself with ensuring the direction of Publications Mathematiques. However, I notice now, on page 3 of the brochure, in the "Curriculum Vitae" of the IHES, that it is not so, that Dieudonné has indeed been like me "permanent professor" since 1958 (and than in 1964), theoretically at least. Little contradiction a little strange! I copy here the beginning of the "Curriculum Vitae", at the first two "dates", 1958 and 1961:

1958 Creation of the association Institute of Advanced Scientific Studies in Paris by Léon Motchane, assisted by renowned scientific advisers: worldwide and by a group of European industrialists.

The scientific activity is launched by two mathematicians: Jean Dieudonné (- → 1964) and Alexandre Grothendieck (- → 1970) appointed permanent professors. Issue of number 1 "Mathematical Publications of the IHES".

1961 Recognition of public utility.

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I note in passing that it seemed useful, in this brief Curriculum Vitae, to mention the publication (a tad symbolic) of the number 1 of the Mathematical Publications (consisting of a 24-page article by GE Wall, whose author had no particular connection with the association which had just been born), but not algebraic geometry (well known under the familiar acronyms SGA 1 and SGA 2) by which I started to to ensure alone the scientific reputation of an institution, for years where it hardly existed than "on paper". Moreover, up to volume 24 of the Mathematical Publications, most of these publications consisted of successive volumes (1 to 4) of the "Geometry Elements Algebraic" 15 (*) all other volumes tower

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ing around fifty pages each (high scientific level, it p. 455

Obviously). Moreover on page 19 (after the series of "portraits-minute" of which Dieudonné was absent, God knows why 16 (*)), we read in a layout very "display ad" (with a photo enticing battery impressive volumes of the prestigious Publications):

Mathematical Publications

It is Jean Dieudonné who, alone [!], Took since 1959 the Mathematical Publications at the pinnacle of world excellence.

Since 1979 they have been published in a regular periodical of 400 pages a year, under the directorial committee whose editor-in-chief is Jacques Tits.

Distribution is ensured by. . . (etc.)

15 (*) of which I am the author, with J. Dieudonne.

16 (*) (September 30) The idea came to me that the reason might be this: not to have to say that during the years in question (1958-1964), Dieudonné@time was essentially divided between the drafting of the Elements of Geometry Algebraic (where I unfortunately appear as the lead author) and Bourbaki writing - apart from the piano and cooking (Dieudonné was both a fine musician and a fine cook), which, alas, could not be discussed in this booklet, too select for a passing smile to slip in. . .

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If Mathematics Publications pin are mounted in **this way - there** in this presentation ju- of a prestigious institution whose main vocation has never been that of publisher of a periodical, no doubt that this is to forget some unpleasant fact some 17 (**) that this institution would

doubtlessly passed on to profit and loss, and forgotten since the beautiful Lurette, if for three or four years tick a certain quidam, stubbornly pursuing in his corner ideas to him (who had the good fortune to hang on some, including in the "big world"), had then brought it against the odds ^{18 (***)} a cau- and credibility that the

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the most beautiful statutes of association of the world, and even the most beautiful "advisers
p. 456

world-renowned scientists "(sic), are powerless to give.

(September 30) The style "to the epate" and "all-round ointment" sorry, I meant "public relations" of (very) high standing, this jubilee plate (which I will get to know well!)} is certainly not that of my friend Pierre, or Nico©- they certainly have other things to worry about, than to compose this kind of circumstantial text. On the other hand, it is obvious that the two minute portraits that occupy me, one of me and another Deligne, have not been written without the latter provide at least the words - if only because he is the only one at IHES who is in a position of competence to do so; and he is equally clear to me that these two texts, at least, were not delivered to a printer, without that this same Deligne did not read them at first and gave the green light. Also, it seems to me clear from the outset that the two texts in question reflect in any case and in the first place the provisions and intentions demon friend - the image he strives to give of me and his, both to himself and to the public mathematical. It is for this reason of course that these two passages interest me. This interest does not depend on the fact whether or not Deligne is the author of these revealing lines, or whether the author is another (the one undoubtedly who has "thought" the brochure as a whole), Which for one reason or another would have married this "message" that my friend wanted to pass.

At the end of the two endings are the two portraits taken from the portrait gallery (pp. 13-19) entitled "Activity of permanent professors and long-term visiting professors".

A Lexandre GROTHENDIECK, mathematician, professor at the IHES from 1958 to 1970, Fields Medal. During the 12 years he spent at the institute, A. Grothendieck renewed the foundations and theories of algebraic geometry, and opened up new applications, including arithmetic. He has created at IHES

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a school of algebraic geometry, gathered around the seminary that he animated and nourished
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of the generosity with which he communicated his ideas. The titanic aspect of his work is reflected in his publications, including the treatise "Elements of Algebraic Geometry", in collaboration with Jean Dieudonné (8 booklets) and the 12 volumes of "algebraic geometry seminars of the Bois-Marie", in collaboration with many students.

In algebraic geometry, he identified the essential problems and gave each concept its greatest natural generality. The concepts introduced have proved essential well beyond the algebraic geometry brick. They often seem so natural that it is difficult for us to imagine the effort they cost. Yes

17 (***) due respect to my friend Nico (who was director for twelve years from the said institution celebrating Jubilee), which surely (in this occasion as in others) saw only fire. . .

18 (***) Tides: without letting it affect me throughout these four years by the warnings and rumors persistent imminent bankruptcy of an "adventure" (as suggested by knowledgeable friends ...) entirely unrealistic, not to say fumitic on the edges! The fact is that IHES did not have the least financial or land base, its life He was constantly suspending short-term donations from some more or less well-disposed industrialists. I do not I was hardly worried, limiting myself to trusting founding director Léon Motchane, who came year after year to "save the put "by prodigies of financial conjuring and" public relations. "After all, in these mild times, if it crumbled, I had a good chance to quickly find a less problematic base! On the other hand, if I won the bet that I had done on the IHES (with the encouragement of Dieudonné, who knew Motchane and in which I had all confidence), my position at IHES suited me better than any other I knew.

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they are today self-evident, it was undoubtedly facilitated by the great attention he paid to terminology. Recall also that the "Grothendieck groups", linked in algebraic geometry to the theory of and used in topology, are the ancestors of the algebraic K-theory. The topos introduced in geometry algebraic on a general base body to transpose the previously proven results to \mathbb{C} by way of topological, are now used in logic.

He left IHES in 1970, at a time when his passion for mathematics was eclipsed. Should we believe that the problems he had in the line he had sketched had become too difficult?

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P IERRE D ELIGNE, mathematician, professor at the IHES since 1970 Fields Medal, Gold Medal Henry Poincaré, Foreign Partner of the Academy of Sciences.

The main focus of his work is to "understand the cohomology of algebraic varieties". If the variety

complex algebraic X is non-singular projective harmonic integrals of the theory provides $H^*(X)$ a Hodge structure. Starting from here and from the analogies suggested by Grothendieck, he has notion of a mixed Hodge structure and has provided the cohomology of any complex algebraic variety. In l -adic cohomology, so for varieties on a finite field, he proved Weil's conjectures, of a proverbial difficulty. This result seemed all the more surprising that Grothendieck, having built the cohomology theory over an arbitrary field, had brought the remaining conjecture a series of guesses which today are still unaffordable then.

This theorem has contributed to the l -adic cohomology a powerful tool applicable to issues remote appearance of algebraic geometry, for example, conjecture Ramanujam.

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More recently, he studied Hodge cycles on Abelian varieties, making a first step p. 458 a "motivic theory" as Grothendieck had dreamed. He also demonstrated the algebraic mechanism the "intersection cohomology" topological theory MacPherson and Goresky. This allowed the transpose the l -adic theory, where it has proved surprisingly useful.

His current interest is in noncommutative harmonic analysis (theory of functions on groups real Lie or p -adic - or finished conventional - and some homogeneous spaces), in the extension of its work on automorphic forms (Guess Ramanujam) and, with G. Lusztig, representations of finite groups.

He has great speed of assimilation and penetration of all mathematics and he, by Therefore, enlightening and constructive feedback for each question put to him.

These two instruments are supplemented by a third, where Deligne and I figurons in a breath. I got it found in a separate sheet inserted into the wafer under the same title "Orientation of research the IHES portrait gallery "that chapter where the inserts are" ", with the subtitle: " Brief Note on the "outlook of scientific activities". "This is essentially a" shortcut "draconian gallery portraits, this time reduced to only "permanent professors" (present or past) 19 (*), with two or three lines for each. These are (in the order they are cited) myself, Deligne, Michel Thom Alley Sullivan Connes Lanford III, Gromov. This is the order of the most detailed portrait gallery, except that this time Deligne has "risen" to the benefit of being quoted in a breath with me. Amusing detail in this text proper names of reviewed eminences appear underlined in all, with the exception of my modest person 20 (**)! Here is the passage about my friend and me:

19 (*) (October 1) To make "good weight", so we included it Connes (although it is that "visitor"), it's always a "Medal Fields "more for the collector. However, my friend Nico Kuiper was left behind. It is not he who would made a difficulty to erase for the occasion. . .

20 (**) (October 1) The typographic effect obtained by the brilliant method (whose intention is perhaps not conscious) is that 443

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The theories of legendary depth of Alexandre Grothendieck and Bright discovered Green Pierre Deligne (both Fields Medal) have linked the topology, algebraic geometry and Number Theory by "Interdisciplinary" means (cohomology). Recently, This allowed G. Faltings of West Germany (who previously worked at the IHES) to prove difficult theorem that makes mark in number theory and illuminates the famous "theorem Fermat ".

I note in passing that the "Fields Medals" were treated in this mini-gallery, a capital M - and that "interdisciplinarity" has been from the beginning of the great IHES favorite theme of his Director-founder. This is perhaps due to this circumstance, moreover, that in this digest, it seems finally leave hear that my person might have something to do with some "interdisciplinary way" called "cohomology" (which happens to be "the center director" of the work of Deligne, for some unknown hazard).

But here I am taking this text through the wrong end! The occasional reference to Faltings which had, overnight, to rise to the forefront of scientific actualité with his sensational result (here called "arduous" as if that's what it was - but no matter for my purposes...) - it also belongs to the "small piece" of the text: the "signature" of the scribe in short, and hardly deserves than I stopped. This is the first sentence of Deligne and I obviously contains the "message" critical transition. He told me a lot about certain provisions in my friend and former pupil - and above all on a deep "Unsi-cherheit "(insecurity, lack of confidence, deep footbed) 21 (*). Here, just as in any published texts signed him 22 (**), or both portraits minute that preceded nothing

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could SUP-

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ask my friend could at any time have learned something from me. But here he is, in terms clear and sharp, looks like a **different father** a wide unifying vision "taken" to another 23 (*), as captivated by the intimate conviction of his profound inability to conceive himself and let him flourish

his own visions as large or even larger; and as if to be and look "great", he he remained since the paltry resource **back on his own** this halo, which he rained from his youth to surround a prestigious and now deceased elder (or at least so declared providentially consensus. . .). Grab a **halo** rather than let germinate and grow in him things shapeless, nameless who are waiting to be born and be appointed - rather than live **his own strength** based in him, and that she also expected. . .

(October 1) It seemed to me that night again touch the heart of the conflict - the very one I had spoke in general terms from the very beginning of Crops and Seeds, there will be eight months (in section this passage will be cited appears as dedicated to P IERRE D ELIGNE (whose name appears typographically as head in the line of "permanent", excluding mine), and I do a little figure of **collaborator** , foreign to the establishment! The order is respected certainly nothing to say for sure - yet the effect (and surely sought) is the one a **reversal** of roles, arousing in me familiar associations (mentioned in notes as "overturning" "The eviction", "Thumb", n ° s 68 ©63, 77). So I also found a **style** of ownership - style "Go!" - which ... me clearly indicates the **true** author of the message.

21 (*) The German word "Unsicherheit" that came here has no equivalent in French, or (I think) in English. his translation literal "insecurity" can hardly be applied to describe a psychological trait. The negative term "insecurity" is a Another makeshift approximation. It is understood that this is "insurance" has a deep level, which can be perceived lack on some occasions, while superficially prevails printing an assurance of perfect ease; they form as a protective shell, an inertia and a "strength" often considerable foolproof. . .

22 (**) In at least those that I had before my eyes until now.

23 (*) There is a special irony in this, moreover, that this vision by taking others as "halo" to himself, has was actually delivered to the disdain and systematically country from the "death" of the master, by the very person making figure heir

while distinguishing itself and by repudiating the legacy. On this subject the three notes "The heir," "The heirs ...", "... and Chainsaw "(n ° 90,91,92); and other illustrations, the procession X (Le Van Funèbre) formed of four" coffin "1 4 and Deadman (notes n ° 93-97).

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"Infallibility (of others) and contempt (of course)", n ° 4), and I found "in an extreme case, particularly brilliant "to the beginnings of the Burial (in the note" node "n ° 65, April 26). This was again an unexpected encounter, turning a quote that I ended up including in the wake of two others, matter of conscience! I spotted passing it a few days ago already, in the famous refeuilletant plate, he hit me well on the shot, but without me to dwell. But yesterday, after I had written in black white, it seemed once more full of meaning and brighter, both circumstantial passages I had just copy and who were supposed to be the main theme of the note I was writing. Yet there was no shortage of places that made tilt in both passages, sparking associations I would not have missed it, there are four more months to also develop dry

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ten pages even if not p. 461

not twenty. But it struck me suddenly that I could develop and was responsible, to a exception at most of the **already known** that I found confirmed an angle perhaps somewhat different, and above all: that they were aspects **accessories** finally, the kind of issues on which I had expanded sufficiently in the previous note "compliments" of May (and all through my reflection on the Burial). The third crossing against taking me back to something e **ssentiel** , and I tended to lose sight throughout this long "investigation" that was (among others) my work on Burial.

I was also tempted to stick one then, without at least trying to capture in words what this single pithy sentence of four lines said to me, and at some level was indeed "heard". I have eventually overruled. The words were slow and reluctant to rise, while printing, first diffuse to decanted over the writing. Once it was in black and white, and pruned what seemed useless, I knew I had identified what I "heard" as well as I would be able to do so.

It was getting prohibitively later he really had to stop there. I went to bed happy but not sure yet if I would include in my testimony for publication, I had just written. After all I could safely leave to the reader, if he wanted to go beyond the surface of a message; take the day itself that **he** could hear! It©only now that I knew that I will include this passage, expresses indeed a certain perception or understanding I have (or believe to have) something I think is important, even crucial as deep spring of this Burial.

18.2. THE KEY OF YIN AND YANG

18.2.1. (1) The muscle and tripe (yin yang bury (1))

Rating 106 (2 October) I want to continue for at least associations of ideas, prompted by the Funeral Eulogy in three parts (which I finished yesterday give the full citation). This association was imposed on me the day after May 12, when I had to write the note "The Eulogy Funeral (1) - or

compliments "(n ° 104). It touches on some aspect of the things that often breaks unnoticed, and which I have dawned on me that really counts

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for five or six years.

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Lines in the texts examined, we see say the cult of certain **values**. So what is highlighted about the Weil conjectures, proved by Deligne is their "**difficulty**"²⁴ (*) - not their ²⁴ (*) (October 3) qualified Difficulty "proverbial" to boot! This makes little sense, if not the intention of those who impress are not in it! The "difficulty" of a conjecture can be truly appreciated once it is demonstrated - it is his against fertility can be approached immediately, and often manifests itself objectively, even before his demonstration, for the work it has inspired. The "big" conjectures are not distinguished from other by their "difficulty" (which is unknown - even if the term has any meaning. . .), But by their **fertility** . I note in passing that this is an aspect

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beauty , simplicity, vast perspectives they opened already from the moment when they were set by Weil. I also think of the fruit on these prospects interviews, long before they are demonstrated, glimpsed and other fruits that now are timely, once crossed the final step in the long journey which led to his demonstration. This is the beauty, the extraordinary internal consistency of these conjectures, and previously unsuspected links they provide a glimpse, which made it a source of inspiration so powerful and fruitful for two generations of surveyors and arithmeticians. The deepest part My work (both the "fully completed", the "dream of reasons") is directly inspired (by interposed Serre, who was able to capture and communicate the strength of the vision in his speaking conjectures). Without them, neither the l-adic cohomology, or even the language of topos would probably saw the day. Rather, the "vast unifying vision" geometry (algebraic), topology and arithmetic that I sought to develop for fifteen years of my life, it is in these "Weil conjectures" I@e found as a first draft and striking. And as the vision gaining in scope and maturity, this vision itself and things previously hidden it possible to understand one by one, not that blew me what to do, where to "take" what appeared at hand. The last step in the proof of the Weil conjectures was no more, nor less than one step in a long and fascinating journey started I can not say when, long certainly before I was born, and after my death still is not close to completion!

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But in the spirit that we detect in the quoted text, one might think that the "Weil conjectures" were

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a matter of weights: Here are the weight to be lifted "in extremis"! Two hundred kilos is not nothing, the difficulty is proverbial, many have tried it and no one has yet been able to do - to "update H" (like "Hercules")! The result is surprising (106 1), so feel two quintals - nobody would have believed that will never happen. . . It is the same spirit that perceives in the laconic comment on the "difficult theorem" proved by Faltings: again, the same designation of this new stage in our knowledge of things is the **difficulty** still is highlighted, to arouse the admiration of the crowd - not the perspectives that open, from a record high reached ²⁵ (*). It does not even seem worth mentioning the name "Mordell conjecture" (unknown, it is true, a non-mathematical audience) - as if apprehension and the formulation of the conjecture (here by Mordell) was something accessory, for "easy". Instead of that, a perspective-can on the "Fermat theorem" (which is supposedly "enlightened"). It is true that it is universally known (and even outside mathematical circles) as a weight well three hundred kilos (which has withstood three centuries of effort).

The first point I was getting at is that the values that are exalted in these texts (with discretion befitting for the occasion, certainly) are those we can call the **values of the muscle** , the "brain muscle" in this case: one that makes it able to exceed the strength of the wrist, proverbial Records of "difficulty".

Those values are not only those of the heroes assembled here hairpin, like those of the author of a some jubilee brochure (author remained anonymous and I think I recognize). These are also the values that more (do-it seems) predominate in the mathematical world, and more generally, in the world scientist. Even beyond this world, still relatively small,

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we can say that they are also, and

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increasingly, the values of a certain "culture", described as "Western"²⁶ (*). Today and since typically "yin", feminine, thing, while the "difficulty" is a value typically "yang", "male".

²⁵ (*) What had me most hit, as soon as I held the hands preprint Faltings where he proves three conjectures-key, including Mordell (discussed here), rather it is the extraordinary **simplicity** of the approach, whereby it proves forty pages these results, which were supposed to be "out of range"! (Compare with footnote ° 3.)

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ages ago that "culture" and its values have conquered the surface of our planet by destroying all others, undeniable proof of their superiority. Global symbol, the heroic embodiment of these values, this was the spaceman in his tight armor, trampling the first some unimaginably distant planet and desolate, before millions of viewers panting, sprawled in front of their screens. These values, that lack of understanding closer I merely denote a summary term value symbolic, "the muscle" does not date from yesterday. In jargon ethnologist, could also be called the "patriarchal wedges ". One of the earliest written texts, it seems, when their rule is affirmed with force (a force without replica!) is the Old Testament (especially the book of Moses). Yet just read in This fascinating document of an early period, to realize that the primacy of values "patriarchal" that of man over woman, or that of the "spirit" of the "body" or the "material" was far to go to denial or disregard of complementary values (which were perhaps not even then perceived as "opposing" or "antagonists") 27 (**). I do not know if the story of the vicissitudes of these two sets of Additional values was written - and it should be a fascinating thing to continue this history, La- to centuries and millennia of Moses to the present times. It is also the story undoubtedly degradation progressive a balance of "values", "patriarchal" or "male" one side "matriarchal" or "Feminine" on the other - the "muscle" and "guts" of the "spirit" and "matter"; degradation visibly ment is made in the direction of "male" values (or "yang", in traditional oriental dialectic) at detriment of values "female" (or "yin").

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I think our time is characterized as that of an exacerbation of this excessively degraded p. 465 cultural dation. Among the last acts of this story, there are those, closely interdependent, the "race space "between the two super-antagonists (imbued substantially identical values), and arms race (including nuclear). As a final act and likely outcome of this évolu- tion frenzied overbidding in a certain type of "strength" or "power", we can predict now a nuclear holocaust (or other, there is plenty of choice...) globally. It may have it deserves to solve all problems at one stroke and once and for all. . .

My purpose here is not yet paint a tantalizing picture of "end of the world" (I was not expected for this), let alone go to war against the "muscle" or against "the brain" (aka the "spirit"). I know that even my "guts" have nothing to gain! I want my muscles and my brain, which me are very useful one suspects, as I also like my "guts", not less. Rather, it seems useful here to say a few words (if possible) how was played in my own person this deep conflict, mediated by the surrounding culture, between these two values. In more land ground, it is also my attitude to history (or even acceptance of exaltation or rejection) of two **aspects** or **sides** also real and tangible to my person, inseparable and complementary in nature and no antagonistic by themselves. I could call them "**man**" and "**woman**" in me, or as (To take designations less "loaded", and for that offer less risk to mislead) the "**yang**" and "**yin**".

It seems that for most people, "Game Over" in early childhood, which is put "Official" - those carried by the school, the media, the family, and are subject to a general consensus in the various professional backgrounds. This does not mean that these values are accepted without reservation by all, nor are they the base note in the attitudes and behavior of all. Moreover, it is with sorrow that honest people, media The competent and professional literature (from the pen of educators, sociologists, psychiatrists etc.) speak of a "certain Youth "in particular, which decidedly not" frame "and not disfigure a table!

27 (**) Thus, the worship of the mother is a strongly rooted in Jewish culture tradition, which probably has a role compensation against "official" values (so to speak) highlighted in the sacred texts. This tradition is found, in a modified form and exalted, in the Catholic tradition, the cult of (virgin!) Mary.

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Essential mechanisms in place which, during life, will dominate in silence, with an efficiency PLC perfectly developed, attitudes and behaviors. At the heart of these mechanisms are those of AF firmation or rejection of such and such traits in us, or such deep impulses to "signature" or yang is yin, or such and such "packets" of data signature traits and impulses, and even the "yang" or package package "yin" whole. It is these mechanisms that, to a large extent determine all other choice mechanisms (affirmation or rejection) structuring our "I".

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For reasons that are still mysterious to me, in my own case history of relationships (both

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conscious and unconscious) between the self ("the boss") and "male" and "female" in me (as well in the "boss" himself in the "workers", which both depend double aspect yin-yang of all things) - this story was more eventful than usual. I have identified three periods. The last joined in a sense the first, which covers the first five years of my childhood. The third period, I can call that of **maturity**, can be seen as a kind "return" to the child, or as progressive reunion with the "**infancy**" with harmony nuptials without stories of "yin" and "yang" in my being. The reunion began in the month of July 1976 at the age of forty eight years - the same year that I made the discovery (three months later) a to previously ignored me, the power of meditation ²⁸ (*).

The dominant values in the person of each of my parents, both my mother that my father, were yang values will, intelligence (in the sense: intellectual power), self-control, influence on others, intransigence "Konsequenz" (meaning in German extreme consistency in (or with) its options, ideological logics in particular), "idealism" at the political level as practical. . . My mother, this valuation has taken from a young age heightened strength was the reverse of a real hatred she had developed screw screw "the woman" in it (and from there, vis-a-vis women in general). This hatred she eventually take a vehemence and even more destructive force, it remained completely obscured his life during. (I myself have come to find out these things there are only five years, three years after meditation appear in my life.) In such a parental background is a mystery (and yet a fact that is no doubt for me) that I could develop myself fully for the first five years of my childhood - until tearing the family environment and the destruction of my family of origin (composed of my parents, my older sister and me), by the will of my mother and the favor (so to speak) political events of 1933.

Rating 106 ¹

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(October 3) Neither I nor Deligne have never had any doubt that the Weil conjectures

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may not be valid, and I do not remember hearing anyone express such doubts.

Qualify the "result" (ie the demonstration of these conjectures) as "surprising," still reflects the deliberately grandstanding. Moreover, at no time since the introduction of the "topology" and cohomology the stalls, I had the feeling that these conjectures were out of reach, but (from 1963) that they would not fail to be demonstrated in the next few years. At time I left in 1970, I had little doubt that Deligne, who was best placed for all this, do soon not to prove (it has not failed to do), along with "standard conjectures algebraic cycles", stronger (it is attached to discredit against).

Moreover, it is with reason that Deligne has reservations about the validity of recent speculation, including I am not convinced that it. But the scope of conjecture does not depend on whether it will eventually be true or false, nor his character so-called "problem", which would make it "out of reach"

²⁸ (*) See the two sections "Desire and meditation" and "Wonder", n ° s 36 and 37.

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- entirely subjective, him. It only depends on whether the **issue** on which the guesswork puts his finger (which was not perceived before it is asked) - if this issue affects some something really essential for our knowledge of things. It is obvious (to me at least!) there is no question of having a good understanding of algebraic cycles, neither of said properties "Arithmetic" of the cohomology of algebraic varieties (or, the "geometry of reasons"), as long as the question of the validity of these conjectures is not resolved. Today as in the Congress in Bombay in 1968, I consider this issue to that of the resolution of singularities, as one of the two most fundamental issues in algebraic geometry. I feel the scope one and the other! This potential fertility can not fail to manifest itself as soon as it is longer confine itself to circumvent chugging a conjecture declared "too hard", and someone will take Finally penalty up his sleeves and wrestle it!

18.2.2. (2) The story of a life cycle in three movements

18.2.2.1. (A) The innocence (the nuptials of yin and yang)

Note 107

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(October 4) I had occasion already to mention an important aspect of these first five ^{p. 468} years of my life, as a "privilege" of great price ²⁹ (*): a deep identification and problem with my father, which has never been touched by fear or envy. I realized that circumstance and the very existence, as the silent force of this identification with my father, there only four years (during the meditation on my childhood and my life that followed the August 79 March 80 on my parents). This identification was like the quiet heart and a powerful identification

the family that we were, my parents, my sister (who was my elder by four years) and me. I vouais a admiration and unbounded love my father as my mother. Their person was to me far of all things.

This does not mean that my attitude towards them was that of a rubber stamp, a blind admiration. I knew they were probably not the measure of all things for me, but I knew well they were fallible like me, and there was no fear in me that would have prevented me from see disagreement and express it clearly. In conflicts around me, I was not afraid to take part in my way. This in no way affected to a certain faith in insurance which formed the foundation deep, unshakable of my being - rather, it spontaneously arose from that faith, that same assurance. It happened that my father, in impotent tantrum when my sister (without seeming) took fun cause, striking brutally - and each time I was outraged, in a show of solidarity fully with my sister. I think these were the only dark clouds passing in my relationship with "my father (there was not with my mother). It©not that I approved the pranks sometimes my sister, nor do I think they really disturbed me - it was not **she** who was for me the measure of things. Its towers (the reason surely as much escaped me that my father, who "walked" every time, or my mother who took care not to intervene either before or after) - these towers in a sense does not really firing at result for me. It was my sister, she was as she was, this tower. But as **my father** lets go to such a blind brutality. . .

The three closest beings, which together formed as the matrix of my early years, were torn by the conflict between each

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of them and himself, and the other two: insidious conflict, p. 469

impassive face between my mother and my sister, and conflict violent outbursts between my father and my mother a 29 (*) See note "massacre", n ° 87.

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side, sister of the other, each for its own account (and without anyone alive my parents ever pretended to notice. . .) Did walk his way. The mysterious thing, extraordinary, it is thus that, surrounded by the conflict in the most sensitive years, the most crucial of life, it remained **outside** for me, he did not really "bite" on my being in those years and it is not installed remains.

The division in my being, which marked my life as well as that of any other, has not installed me in these years, but in two or three years that followed, my sixth to my eighth year around. At some point (which I thought I could locate within a few months, which would be placed in my eighth year) there was a **changeover** , after more than two years of separation with my parents (who did not care to give me a sign of life) and my sister. It was above all a **break with my childhood** , "buried" from this moment by effective oversight mechanisms (which remained in place, just things close until today). At some deep level (not the deepest yet ...)

my parents were then declared by me as "foreigners", like my childhood was now declared "foreign". I **abdicated** , in a sense: to be accepted in the world around me now, I decided to be like "them", like adults who make the rules - to acquire and develop weapons who command respect, to fight on equal terms in a world where only a certain kind of "force" is accepted and popular. . .

This was also the force, too, which was preferred by my parents, who had surrounded my first years. And then I come back to this "mysterious thing" (which I have to walk away, following the thread another association aroused by this thing) has **bsence division in me** in those early years my life.

Perhaps the mystery is not for me this absence, but rather this: my parents, my father like my mother, then I have each **accepted my all** , and completely: in what in me is "manly" is "man," and what is "woman". Or put another way: my parents, torn one and the other by conflict, each denying an essential part of their being - unable loving each an opening to himself and the other as an opening loving my sister. . . Nevertheless, they have found that such open, unconditional acceptance, respect to me

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their son.

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To put it differently again, at no time in the first five years of my life, I had not known feeling **ashamed of being who I am** , either in my body and its functions, or in my impulses, my inclinations, my actions. At no time did I have to deny something in me, to be accepted by my surroundings and to live in peace with him.

Sometimes of course I do things that "went" not: like all children I happened

surely be painful, even unbearable when I was putting myself - and it was clear I needed sometimes

to correct the shot. I was not the law, nor was tempted to want to do, not having to compensate any Secret mutilation. And in the love of my parents for me, there could have been room for adulation, complacency whims - for an unconditional approval. But if it necessarily happened that I do "send on roses" by my father or my mother (like the reverse could happen sometimes) Never in those years one nor the other made me ashamed of an act or behavior which would not had the good fortune to please them.

On the bottom of a deep identification with the father, unambiguously myself as a child me today appears footprint of both masculinity and femininity, strong one as the other. It seems that every being and every thing in these nuptials of indissoluble and fluctuating Yin and Yang qualities in him that make him what he is, and whose delicate balance is profound beauty,
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the harmony that lives in this or that thing be - in this intimate union of yin and yang there often (Maybe always) a background note, a "dominant", that is either yin or yang. The base note is not always easy to detect in a person, because of the repressive mechanisms more or less effective and complete distorting by substituting an original harmony, a borrowed image. So my "Brand" for forty years was an image almost exclusively male - without it ever be put in question or even be detected as such by myself or (it seems) by others, to my forty-eighth year. I tend to believe, however, that the base note present at birth remains present during the whole life, in the deep layers at least that never perhaps not find the opportunity to express openly. In my own case, strangely enough, I can still say what this keynote, so that

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that permeated my childhood and that was "mine" p. 471

already at birth. Various signs made me suspect more than once that this note is "yin", it are "feminine" qualities that dominate my being when he found opportunity to manifest spontaneously, in the moments when he is free of all kinds of packages that have accumulated in me since childhood. In other words: it could be that what is creative strength in my body and in my mind, what I have sometimes called "child" or "worker" in me (as opposed to "boss" that represents the structure of the self, i.e. that which is conditioned in Me, the sum or result of the conditioning accumulated in me) - that this force is more "feminine" even as "manly" (as in nature and need it is one and the other).

This is not the place to review all these "signs". The important thing also is not that this deep dominant note in me is "feminine", or is "manly". Rather, as I know in every Nothing **to be myself**, welcoming unreservedly both traits and impulses in me by which I am "woman" as those by which I am "man", and allowing them to express themselves freely. When I was a child in those early years, it was not uncommon for foreigners take me for a girl - also without the thing ever created in me the slightest discomfort, the slightest feeling insecurity. It was mostly my voice I think that was the purpose, a clear, high voice - not counting I had long hair (often messy), maybe just because my mother (who not without other concerns) does not often took time to cut me a little. I was also strong as a Turkish and a little violent games or daredevil did not displease me, which prevented not a penchant for silence, even for solitude, and also a penchant for playing doll 30 (*). I do not remember that someone made fun of me about it, but the thing surely hardly have failed to occur here and there. If such incidents have happened without leaving signs of injury or humiliation, surely they collected no echoes or amplification, by any sense of insecurity in me, so that acceptance of who I was, for those who only counted for me really was beyond all question. Mockery could not reach me, she could only turn around against one who would appear to me as a fool well, to mine to find fault with the most thing natural world.

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I knew also that this kind of a bit strange stupidity is by no means rare, the only view p. 472 nudity may cause scandal! Yet as far as I could remember, I had the opportunity to see my mother, my father and my sister naked, and any occasion also to satisfy my curiosity as legitimate to how each of them and myself were made. It was obvious that there was no cause scandal in the shape of men or women, who certainly seemed very much like 30 (*) If this tendency seems rare in boys, it is mainly I believe because it is systematically discouraged by the entourage.

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she was - particularly (I did not in mystery) of women.

18.2.2.2. (B) The Superpère (yin yang buries (2))

Rating 108 (5 October) In 1933, when I was in my sixth year, that places the first turning point in my life, which was also a turning point also in the life of my mother as My father, in their relationship to one another as in that of their children. This is the episode of the destruction violent and definitive family that we were all four, destruction of which I was the first and only forty-six years later, to the finding and follow the events in the correspondence of my parents and one or two memories bloodless, enigmatic and tenacious, patiently and decrypted surveyed - long after the death of my father and my mother ³¹ (*).

It is not my intention to dwell here on what I have learned and understood during this long, about the scope and meaning of this episode. I have already mentioned it three days ago at this turning ³² (**) as marking the abrupt end of the first of three major periods in the history of the nuptials yin and yang in me. In December 1933, I found myself hastily dropped in a foreign family, that I nor my mother who brought me from Berlin, had ever seen. In fact, these unknown people with whom she brought me were just the first comers who will please me as "resident" for pension more than modest, and with no guarantee whatsoever that it would never be paid, while my mother was about to join as soon as my father, who languished in wait in Paris. It was one thing in

0 stretched between my parents that everything would be better for both me Blankenese (near Hamburg) p. 473

for my sister who in recent months had been dropped in the late purposes in an institution in Berlin Disabled children (where we had kindly to her, although she was not more disabled than I or our parents).

In ending six months strange, heavy veiled threat and anxiety, I ended the day the next day in a totally different world of the only world I had known in my life, that formed my parents and my sister and me. I rediscovered myself as one of a group of residents who ate apart of the family and children did figure second class for children of the house, which were a world apart and we looked down. From my mother I received a hasty letter and stilted at long, and my father never a line of his hand during the five years that I have remained (until 1939, on the eve of the war, when I finally reach my parents under pressure events).

The couple who had welcomed me me quickly took a liking. Both he, former pastor who left the priesthood and lived a meager pension and private lessons in Latin, Greek and mathematics, as her bubbly woman©life and sometimes malice, were no ordinary people, engaging in many ways. He was a humanist of vast culture that was a bit lost in politics, and had been in trouble with the Nazi regime, which eventually leave him alone. After the war I returned and stayed in touch followed with them until the death of one and the other ³³ (*).

Him and above it, like my parents, I received the best and also the worst. Today, with a long back, I am grateful (as I am to my parents) for this "better", as also for this "worst". This is the best and worst that I received from my parents first, then from them, which formed the bulk of the large "package" I have received a share in my childhood (as each receives

³¹ (*) My father died in Auschwitz in 1942, my mother died in 1957. The work which I speak here continued between August 1979 and October 1980.

³² (**) See end note "Yang buries yin - or muscle and guts", n ° 106.

³³ (*) She died at the age of 99 years, two years ago, and I have been able to see her dead, face to face with it, the day before the funeral. 452

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his. . .) J, it was mine to unpack and examine. They are part of the substance, of the richness of my past, he©up to me to feed my present.

My new environment was all that there are "properly" and conformist in many respects, with in any case the repressive attitudes of rigor for all that concerns the body and, in particular, sex. It took

0 Yet several years, I think, before I internalizes and resumes to my account p. 474 these attitudes there, like ashamed to show me naked, coupled with an ambiguous relationship with my body. This shame, instilled from a young age, is one aspect of a deep division, where the body is subject tacit contempt, while the values called "cultural" (confused with intellectual ability storage and others) are mounted in pin. This division in me remained ignored until my forty eighth grade, when she began to resolve. This is the second major turning point in my life that mark the advent of the "third period" in the history of my relationship to myself, that is to say if the years of

my relationship to my body, and "man" and "woman" in me. But first I had ample opportunity help convey this to my children division 34 (*), I could see the pass in turn. . . I mentioned yesterday already 35 (**) to "tilt" that eventually take place in me. With an offset of more than two years after tearing the original family environment (or rather, after the **destruction** of this environment), this shift spends the implementation of current repressive mechanisms, including childhood had the rare chance to be free until then. I detected so far two great forces of nature repressive, which dominated my adult life and most of my childhood (108 1). I think I can say that their appearance has not been gradual, but in my case these mechanisms appeared more or less overnight and in full force, as a result of a **choice** deliberated at unconscious level. I have previously described the choice as "abdication", but at the same time it was also a powerful principle of action: "I'd be like them" (not "like me") also meant; I'd "bet" the "head" no worse at home than anyone after all, and fight and "the" beat their own weapons!

One of these mechanisms, and the one that interests me most here, is one of the most common of all: it is the **Punish my "feminine" traits** (or those perceived as such by common consensus) in favor of "manly" values. The place of the coin was of course investment background on my features and abilities perceived as "masculine" and the excessive development of those, who have taken a disproportionate place.

If something here out of the ordinary, this is not of course the mere **presence** of this dual mechanism, p. 475 nor (I think) the strength of the "repressive" component itself, so the strength of the Suppression of traits, attitudes, "yin" impulses. There is no comparison here with what took place at my mother, whose life (and that of his family) was devastated by his hatred (remained hidden during his lifetime) of this which made her a woman. At no time, I think, my ways of being were not entirely free some sweetness or tenderness, which stubbornly arrondissement the corners of the character I was carved me since my childhood and which often attracted me sympathy and affection. The exceptional side rather be in excess of my investments in **excess** of the energy I invested in my tasks without being distracted by a glance to the right or left! Outside of work itself, my mind constantly is projected toward fulfillment, toward completion of a particular stage of job. That attitude ("Zielgerichtetheit" in German, "aimdirectedness" in English) is a quintessential attitude yang, an attitude **tension of closure** to everything that does not appear directly related to the task. This excess was likely to arouse in others the image of a kind of "super-man" or "super male" 34 (*) At least four of them that I helped raise. The fifth and last was raised by his mother, and so far it has not presented a favorable opportunity to just get to know, him and me.

35 (**) See the beginning of the previous note "Hatching of force - or nuptials" footnote ° 107.
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certainly admirable alas! (See the values that prevail), but immediately raising (at a level which remains unconscious mostly) instinctive defensive reactions or even antagonistic to such deployment force experienced as threatening or aggressive or dangerous in any case (108 2). Above all, this picture irresistibly evokes the image of the " **super father** ", and sets in motion once the ambiguous multiplicity of reactions attraction and repulsion tied around the perennial conflict father. . . This is **my** contribution in these relationships **ambiguity** , which were so common in my life, and to which I found myself confronted as times during Crops and Seeds. This ambiguity is enhanced, not diminished, by the persistence yin traits in me that fuel sympathy, the only hypertrophy yang traits into a kind of gigantic "superman" would be powerless to create.

And again I can see, in these same old "ambiguous relationship", which I still do that reap what I sowed myself, even though every time the harvest turns out unexpected (and unwelcome...)! For motivation (or at least **one** of the motivations) which pushes "the boss" in me to surpass constantly in the accumulation of works, does she not just to force and revive ceaselessly the esteem of my peer (first) and my odd (in addition); to hear some of the best they lament can follow me, at the rate I run ahead? ! Yes, it has taken me this secret desire to arouse in others (like myself) this "larger than life" disproportionate, as the same one she reflects - and stubbornly comes back through another, in clear words and high, the expected praise (and cashed for granted) - and **also** by the dark and deep ways of the deaf enmity and conflict. . . 36 (*)

Rating 108 1

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(6 October) I mean that the repressive forces that have played in my life seem p. 476

take primarily, if not exclusively, one of the two specific forms: burial of the past and set before my face "manly" to the detriment of my "feminine" traits. I do not mean that these two "Forces" repressive nature of one and the other (i.e., to a "discharge", a retraction of a certain reality), are the only ones that have "dominated my life!" It would not forget the ego aspect of

my being, knowledge instinct speaking both in body and the spirit. (On this subject, including "My passions", section n ° 35.)

Even among the forces structuring me offshoot of the "boss" Therefore, it is at least one kind of non-repressive itself, well before the forces of repression and whose role in my life has been more yet essential: it is the identification with my father, who was as "peaceful and powerful heart" feeling my own strength. This identification was not in the direction of the exaltation of certain values or qualities (manly say) over others ("female"). Regardless of the values professed by my father, person (until 1933, when a failover occurred in her 37 (*)), was imbued with a strong balance yin-yang, where intuition and spontaneity did not have a lesser share than the intellect and will. Finally, like other "force" of important ego nature intimately linked it, law enforcement mechanisms (or rather, of "repressive" nature itself), it is also necessary to count the eternal **vanity**, whose role was also heavy in my life and in that of anyone else. But the "strength" -There is likely if Universal, as the dominant role it plays in the lives of everyone (in a more or less gross or subtle), there is little reason to include the specific, in a statement of specific forms 36 (*) (6 October) All in all, "this secret desire" to which I have again the finger is not consumed today, even if it was detected last (since a few years...), and if it is less consuming today than before. 37 (*) Remarkably, this "tipping" to my father (then aged 43) was made to a state **super - yin**, towards a kind pasha of passivity in close collusion with my mother, playing a great role-yang. This was supported instead of their children. (They dropped the "profit and loss", at least until 1939, the year under the pressure of events and against his will, it will eventually take me to her. . .) This dependent relationship of my father and rollover yin-yang roles between my parents, lasted until the death of my father in 1942.
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that are in a person's strengths and mechanisms for framing me, and give it its special character and its seat.

Rating 108 2

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(6 October) in this "deployment force" there is no intention "aggressive" in the usual sense p. 477 the term, conscious or unconscious, only an unconscious desire to impress, to force esteem. It is While the term "force believes" that spontaneously comes back to me, already carries a connotation of **constraint**, close to that of "aggression". This unconscious intention to stress, perceived at the unconscious level *égale-*ment must often be experienced as a kind of aggression (even though this experience remains hidden, as antagonists reactions it triggers). At the same time, he must often make an amalgam of this experience with similar experiences, from childhood with the father as protagonist, and where it appears as the main holder of repressive authority, even as a crushing rival, envied and hated. Even without such an amalgam, and also regardless of any perceived in others an intention to "constraint" in Me, he must often have the perception of a strong **imbalance**, a land disharmony, in this "deployment force" exclusively yang (in spirit and intent, at least). this excessiveness is harmful to the main interested to know myself, and nice and well limit "dangerous" for survival same physical (such as health problems in recent years have shown me!). This is without doubt that was implicit in my thinking when I wrote that "such deployment force" was felt "At least as dangerous" - dangerous "by nature", an example therefore especially not to follow. . . ! Such feeling is surely enough to generate "defense reaction", even in the absence of any aggression or intention to attack.

It is true that such ambiguity relations have reproduced after 1976, with some of my students especially in times when any mathematical investment was absent, and where there was no "de-*ployment* force "apparent in my life. It is also true that "déploiements "in question the **past** have created a **reputation** that continues to stick to my skin, especially in my professional life, and in a to some extent replaces the perception of who I am **in this**. Moreover, I have acquired in the trade in certain mathematical themes such ease that even outside my periods mathe-*matic* and helping my reputation, that ease or natural control may already have the effect of "deployment force "on the unmotivated students, and make me feel by them (despite some traits or endorsements reassuring) as a kind of Superman (some Superpère on the edges!).
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Moreover, as back of the ease of which I speak, I often tend to underestimate the difficulty p. 478 may present for such students acquire such baggage, or the development of such a tool - which tends to place it in cantilever with respect to my expectations. (See the note about "Failure to education (1)", n ° 23 iv.) Such a situation is often enough to be one of the important ingredients of a false relationship to the father. . .

18.2.2.3. (C) reunion (the awakening of yin (1))

Rating 109 (9 October) I felt all happy, ending the previous note 38 (*), there are four days.

I found myself unexpectedly reconnect with an intuition that came to me some Sunday, October 17

1976 (there will be eight years by a few days) - the intuition of the devastating impact in my life and in that of my mother, "some force" in me. It was the first time in my life that I spent a reflection, so summary as it is, to what had been my life and especially my childhood. It was also the day after 38 (*) See note "Yang buries yin - or the Great Father" on p. 108.
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the day I discovered the power of meditation 39 (**), and it was the first time since then that I made use of this power, so long ignored. This is without deliberation by the effect of a pulse deep, as if moved by a sure instinct, that thinking that day ended up heading to my childhood. Looking back only, I measure how good it was the source of my true strength, such as the conflict and division in me that had carried me so deep need to know. For nearly three years I would not come back, distracted as I was during these years by the only issues "agenda" without realizing that I was staying on the outskirts of the conflict in my life, taking me obstinately away from the heart: this child drowned in mist, which seemed so infinitely far away. . . I just go again, "diagonal", the eighteen sheets, outstanding density of this crucial meditation in my life. It was in the night that followed this meditation, or rather early morning after that night of meditation, I had a dream of an overwhelming power - as the first dream in my life I have sounded the message, passionately. I did not realize it more so where I was going and what was happening, that the day before when I was in the process of "discovering meditation." Of

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four rant
p. 479

hours I pushed myself in the sense of what lived there, that dream-parable, through successive layers meaning more and more hot, before arriving in the heart of the message, its simple and obvious meaning. It was not then the click undergoes an understanding of "intelligence, or even as a light Sudden in a dark or in dim light. It was more like a deep wave born in me that suddenly swept through me and its vast waters brought me this sense that had stolen so far: I rediscovered now be a very expensive and very valuable, I had lost since my childhood. . . That moment was seen as a **birth**, as a profound renewal. This sentiment remained hard all that day, and again in the following days. Looking back eight years, that time appears to me even today as a creative moment of all my life, and that of a turning point in My spiritual adventure. He was certainly well prepared by other "moments" in the days and the months preceded. The first precursor maybe this was "beneficial tear" over ten years ago, an institution where I intended to end my days 40 (*). These earlier times appear a little such as ingredients, or rather as the **means** at my disposal, with which I could cross this other "threshold" in front of me without my noticing, which stood at a level deeper, more hidden others I had crossed. Everything came together for some days or hours for me to crosses - and I could cross it, as I could not take the plunge, every day of my life. . . And also, this threshold is indeed passed, the path was found open to other crossings still, to other "awakenings" or "alarm clocks", each of which by nature is renewed, and ever so slightly, a "New birth", a re-birth. I happened to evade some months or even years, and eventually take the plunge, easing me in passing of some tenacious illusion that a lifetime had interposed between me and the full flavor of my life and the world around me. And surely, too, is that I continue to evade, even when I write these lines. . .

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In view of the reflection of these days is the time of reunion with my childhood
p. 480

lost and raw died a long life, which marks the end of the "second half" of my itinerant spiritual ritual: that of dominance, in my personal life, of **egotistical mechanisms**, against the forces creative, knowledge of strength and renewal, which had gone through an almost stagnant complete forty years. This is also the time of the preponderance of "some force", a character strength almost exclusively "manly" like the honored values in the surrounding world, at the expense of 39 (**). See "Desire and meditation" on p. 39.

40 (*) See footnote on p. 42, of the same name.

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deeper aspects and strengths "feminine" of my being ignored and repressed (with never complete success, God thank you!).

The first intuition about the destructive nature of that strength, which had dominated my life as

my mother, and that of other women who had been important in my life - this insight is a short appearance in these days of intense maturation, surely favor of energy resurgence yin, "feminine" in my conscious understanding of things. Contrary to what I thought hastily remember now, this appearance does not take place in the meditation on the eve of the reunion, but some hours after these, a short meditation on the meaning of what had happened. Intuition is born and takes shape at the very end of a few pages of notes of this meditation. I see the destructive nature this "force" (today I call "superyang force", ie mainly excessive yang) in my mother first, then in other women to continue with these final lines:
"As for the" force "myself, she certainly has made me the target and object, an expected young life, the secret hatred and resentment of M. and J. and S. - a hatred they filed long before they know my existence in the days clueless a private love child. "

The word "child" in the last line still reflects an important day of all in my life, appears also last for nearly three years! As for intuition about the nature of force superyang in me as provocative antagonistic reactions, even hatred and resentment, she had trend (it seems) to sink a little into oblivion until recently any more days. More precisely, it remained present only in my perception of certain important relationships in my life (and especially, relationships with women I loved). By cons, it has hardly

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really penetrated situations p. 481

conflict a bit of everything from " 41 (*), with some students in particular, as I had to examine or discuss many times in Crops and Seeds. Throughout this discussion again, that by a kind

"provocation" involuntary, I have myself made my own contribution to conflict situations

I spoke or was looking here and there - this fact is often remained completely obscured, while the contribution of protagonist appeared against me very clearly. This is of course one of the most common reflex, to not mean universal! The reflection of recent days has finally defuse it and at the same time, to let me detect again myself - making me find myself suddenly around the corner (for reflection the yin and yang. . .) Face to face with myself - with **some** myself, at least.

The short reflection of it four days ago does indeed barely qu@ntamer the many aspects of my person, which was felt by yang imbalance in the "character" I camped since my childhood ; and also crushing effect that this imbalance could sometimes have on others. Of those especially in that the yang type of force still lacked seat - and first of all on my own children. I am thinking above all a "mode" of peremptory assurance that I was operating in all things (and they were many) which I had, rightly or wrongly, to see how one or feel, or strong opinions. Certainly, the idea I could not come to impose these views to anyone, and my children least of all - and this very lack of any hint of coercion in me (the conscious level at least), I was able most of my life to go

yet realize how much these ways to be me (that seemed spontaneous and natural to me, and whose I was far from discerning the complex. . .) - how they had on my children and others same effect as a constraint; or rather a more insidious effect: to create or maintain in the other an **insecurity** about the value of his own feelings, ways of seeing, opinions - as if

41 (*) or treated as such. . .

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these (opposite my insurance flawless, even my pained surprise) did not even **place being** .

I suspect also that the development of this tendency in me, especially in relation to my children could be quite complex, interlocking closely with the vicissitudes of my married life.

This is not the place to try to follow the arcane; nor to an invented

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complete other aspects of my person by which manifested this imbalance, which I tried in the previous note identified a particularly obvious aspect: that of "deployment force."

We should not believe that this imbalance, cultivated a life, and the multitude of mechanisms psychop- quids by which he manifested, will be vanished overnight as if by a magic wand

Magic. I was not expecting anything like elsewhere, either in this day of reunion, or in the days and weeks that followed.

(October 10) These were days of melting ice, carried by a strong influx of new energy - days of inner work and wonder, before these new worlds that every day I saw ajar, begin in the humble frame of everyday occurrences menus and deploying the action

intense eager eyes to see. They were also the days where it began to dawn on the first foreboding the richness of this stranger who suddenly interpellait me, I had ignored the day before. I dreaded by these "tips" that came to be known to me, in that moment of reunion, and in the journey Unexpected and unpredictable that had followed. I felt that this "birth" by which I had spent was just the **beginning** of something entirely unknown, or rather the **recommencement** something that was interrupted, which had been cut or suppressed one day and had gone mysteriously. Actually, this "becoming" intense had already set in motion since the months prior, but at a level where the **mind** introspective had not had much still share. . .

One of the deeper aspects of this that had become revived, this work had resumed, was the restoration progressive of the original balance of "woman" and "man", the yin and yang in me over the days, weeks and years. Somehow, I can say that from the moment of reunion, "Childhood" or the child condition remained present, "power", a profound and indelible knowledge me of my own nature, my essential unity, indestructible, beyond the effects of a certain "division" which often continues to agitate the surface of my being. The very word "child" or "children" to denote thing, this unity of being, is not

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also appeared that years later, around the time when I started

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to know, at the conscious mind, with double aspect yin-yang of all things. It was this time also appeared that this knowledge (or at least, that feeling) that the state of childhood, the creative state, is the perfect balance of yin and yang forces and energies, that of "nuptials" yin and yang, manifested as a creative harmony condition.

It seems that at some level, this knowledge of my land unit is present in all moments, and it **is** at any moment. It is also true that this action is more or less sensitive and effective at different times, and it is not in the nature of a more or less permanent removal, even a block destruction of egotistic forces of the "boss" so - or even a removal forces of repression (which form a large part of the "I", if not quite a whole ...). These are the forces surreptitious retraction of the reality that surrounds me and the reality that is taking place in me - the forces silently and stubbornly at work to maintain against all odds stubborn illusions that without them would collapse immediately under their own weight. . . Some of these enforcement mechanisms were identified one by one and disappeared. I got rid of some **illusions** which weighed heavily on me, and have elucidated some **doubts** obstinate that, over a lifetime, had been relegated (for the care of

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"Boss") languish in underground trash, never examined. Their last message heard these doubts disappeared, leaving a peaceful and joyful knowledge. I also spotted enforcement mechanisms of great power, deeply rooted in me, I realized (in recent years) that their reach into my life remains significant today as ever. They go in the direction of the imbalance yang in the direction of the occultation of certain forces yin and faculties. I do not know whether these mechanisms will be defused one day - and I know it up to me. No doubt they vanish the day, and the day only, where I will be entered into the origins of the conflict in my life more deeply and fully than I have done so far.

For now, with the present direction of my life to an important mathematical investment, I can say that it did not take the way!

18.2.2.4. (D) Acceptance (the awakening of yin (2))

Note 110

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(October 11) I have been wanting for a day or two to take stock, in a few words, what is p. 484 (After eight years) that "progressive restoration of the yin-yang balance" in me.

Perhaps the biggest change of all is in **accepting** much greater than in the past of myself as really from moment to moment. Another way to express it, is that the enforcement mechanisms in me have greatly relaxed. As I said yesterday, some disappeared after being discovered and understood, and others, I had ignored my life, I have become familiar in their everyday manifestations. I see them in action, not as enemies I would have to try to root out any cost, but as part of the multiplicity facets of my being conditioned, and hence the wealth of the "given" present, which accurately reflects my past history; both history "old" my conditioning and roots of division in my being that the more recent history of my maturation, so the work by which I finally unpack and by "eating" and assimilate the initial packet left by my parents and by their successors. This "acceptance" me therefore includes not only urges and traits of the "child" I had long ignored and repressed (especially those that reflect the feminine aspects in me), but also the mechanisms own repression of the "boss", that is to say precisely inveterate mechanisms of "non-acceptance"!

Accept them has nothing in common with "grow", or strengthening. Rather, it is a first no need to close out or defuse so slightly by the effect of a curious attention and magnetic. The experience of eight years convinces me that, as long as this attention plunges and deep enough to the very root of repression, it resolves and disappears by releasing energy considerable - which until then was immobilized to maintain against all odds as a whole enforcement mechanisms, and thought patterns and other that serve to maintain. But this is not vis-à-vis aspects in nature "tied" my person, this new acceptance myself first made its appearance in my life. She came without fanfare, even before the discovery of meditation, so even before the "reunion" of following closely. It was in July 1976 during a brief love affair with a young woman, G., perhaps a bit more "homasse" in his ways to be women I had loved before. By chance (?) Wanted the material circumstances that surrounded these loves were such that I could put myself in a role typically "female". I was cleaning and preparing the

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dinner, waiting for the spouse returns from a p. 485
long and tiring day of work: keeping in the hills a herd of a hundred and fifty goats, she was even more milk in the evening. It was this unusual role of wife in the house was like a glove. The thing may seem minimal - yet it has done "tilt" then. The link was made in me with some
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impulses and desires in my love life, and then speaking for the first time in some poems love, or love experienced appears unambiguously as "feminine". I realized then, without reflection or "effort" with no hint of reluctance or embarrassment, that in my body and in my desires, in my feelings and in my mind, I was a woman at the same time that I was human - and that there was no conflict of any kind between these two profound realities in my being. In those days, the dominant note was Women - and I accepted this thing thankfully, in mute astonishment. When I thought there I had a silent joy, very soft.

This joy was sufficient in itself, it did not need to be told by words, either to myself even, or others. I do not know if I talked to that which I was the lover, or perhaps lover. . . Surely in some level she knew, without my having to tell.

This joy was not stale, she remained alive until today. It stems from an acquaintance alive, like the scent accompanies a flower. In certain times or in certain periods of my life, this knowledge, and joy that is a sign, is more present than in other, more highly active.

But I do not think she ever leaves me.

When it happened to me here and there to talk about this experience and that knowledge, in the weeks and in the years that followed, it was every time as something of great value that I communicated to others, in a moment when I felt the open to receive, were it only for a few moments, something this joy in me. I never felt a discomfort that would have kept me talking about it, as something ever so little ticklish. (Maybe he would sometimes had such discomfort however, if the reality and power of "man" in me had been above suspicion!) And I also remember an occasion when I decidedly strutted, with eyeful to play and win on both fronts at once - it was missing more than having my period as everyone and given birth to a kid as dry.

My new female identity, superimposed on my masculine identity, had an immediate effect of renewal ment on my love life. It has generated an echo

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very strong with women whose lover I was subsequently
p. 486

waking up in the lover masculine impulses, who throughout his life had been carefully repressed, and had found expression previously that "on the fly" as kinds of burrs, unworthy of inclusion lived in the conscious lovers.

The unconscious lived love is rich in archetypal impulses, one of the most powerful is that of Return to the Mother, back in the original fold. Such archetype is present in the deeper layers of the experience of love in men and also in women. In women, the resistance to the satisfaction such a drive torque in the experience of love is stronger even than in humans, where it against a taboo-key, not two as at home. In one as in the other, the satisfaction of these impulses in the common experience often remains more or less symbolic and above all, hidden from consciousness.

When such an archetype and lived back deep layers to the daylight, in the field conscious look, lived immediately transforms it acquires a new dimension. At the same time release considerable energies, previously compressed by law enforcement mechanisms, or bound by repression tasks. The effect is that of a **liberation** immediate of the erotic impulse, manifested by renewed intensity and a further fulfillment in the experience of love.

By the above, there already appear, surely, that this new acceptance of my own person

been accompanied by an acceptance of others. The both are inextricably linked. It is understood that this is here of "acceptance" in the full sense of the term, that does not mean a **tolerance** (often sour) vis-à-vis such and such "through" or "defects" felt like an unfortunately unavoidable evil, for which we are well forced "to do with." In this attitude, I feel especially a resignation, if not an abdication,
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and certainly not a source of joy or an impulse of becoming aware of a worthy thing to be known: depth foreseen, unknown, behind such surface plate "defects" or "through" one wants to tolerate. . .

Whether here a joyful acceptance, creative, does not mean that this acceptance tion is complete, already yesterday I found that was not the case. A careful reader will have already noticed by himself more than once during Crops and Seeds, as it happened to me

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accountable way, p. 487

when I saw my face again to me eternal mechanism of **rejection** of all that is pre-feel under an unpleasant appearance, in others or in myself. (But when it comes to ourselves, that the mechanism-usually has the effect of not even be aware of the unpleasant thing question. . .)

The acceptance of which I speak is rooted in an **interest** for this thing "accepts" in itself or in others. While acceptance is itself an interior layout typical character "Yin", this connotation of "interest" she takes home is likely "yang" - this is the "yin yang in" in the delicate Chinese dialectic interleaving at infinity of yin and yang. . . I would venture to say, a bit in the wake there was an outright identity between acceptance (true!) and this interest, this curiosity. Yet, putting a little on the thing, I realize that there has also another how to accept, by nature, she more fully yin than that to me is mostly customary. It©like a **reception** of the accepted thing, not an impulse towards her to fathom. (This welcome shade appears to me suddenly as the " **yin** in the yin," here we go!) The momentum of interest, and welcoming attitude, can one as another form the base note of the acceptance of others or self. The thing common to both is the **sympathy** . This is also a form of love. If there is a profound identity to identify here, it would So by the finding that **acceptance is a form of love** . Love of self, love of another, one and the other inextricably linked. . .

Except in rare moments, my interest is more intensely involved when it comes to my own person, than that of others. It is this passionate interest in my person that animated the long periods of meditation, during the past eight years. It is true that it is self-knowledge that is the heart of the knowledge of others and the world, and not the other way - and I feel that it is to the heart things, to the more essential that carried me and still brings me my new passion, meditation. Interest in others has become more fragmented and more reluctant way over the years, as acceptance that results. One of the ways it manifested concretely, is a propensity less talking when I am in the company, and a listening attitude. Much of my life, this ability to listen had me almost entirely lacking. Even after the turning point of reunion, I had seen often yet

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I spoke against the time, listening and fault p. 488

discernment, before this inveterate propensity starts without. If it has become much less invasive, and has even almost disappeared, it is not as a result of some-discipline I©imposed on me (style: thou shall open beak as if...). This is simply because the urge I happened to talk in moments when I feel that it is useless, it does nothing for others or to me - nothing at least that has a value in my eyes. If now I often feel such things is perhaps I became more attentive. It also did not come as a result of a subject ("you go be careful to open large your ears when ... "), but I do not know how. In any case, I feel better, life is even more interesting (and certainly less noisy!). And others also feel in better. . .

I think I started to really talk less, from the moment disappeared (as saying) that

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strength in me that keeps me always wanting to correct what appears to me (rightly or wrongly) as "Errors" in others - as if it was not enough that I identified and rectified mine! It is the force also pushing me (and sometimes even pushes me) wanting for any purpose convince others of this or that, instead of looking just why so and so stubbornly prefers to believe this rather than that (which seems

"It", and I would like to convince him well!); or why I want so much to believe that this, rather than this. This almost universal force within us that drives us constantly to seek approval in others (and it was only one...) the confirmation of the validity of what we believe to be true - that force being deeply rooted in the ego is finished, I think, let go of me. This was a great relief, the end of an energy dispersion staggering. That when I finally realize it two years ago, the scope of this force in my life, its nature, and extraordinary dispersion of energy she represented, she found herself defused - and I found myself suddenly lightened "weighing a hundred tons." Take knowledge without reluctance that others echo returns us to our person, without being bound by a desire or "Need" (if it is hidden) Approval or confirmation - is this really be "free him". It a such a need or desire that truly is the "hook", discreet and a rock solid, where conflict can "hang" in us and where we are (whether we like it or acknowledge it, or not) under another person addiction,

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his good will - where in fact we "holds" and (not mine) us

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maneuver at will. . .

Logically, acceptance of others should involve well as the acceptance of his way of seeing things that seem wrong or not, and even when it comes to his view of our own and precious person (including our own ways of seeing...). It mainly there yet the rub - it where the focal point in the acceptance of others, and not in the acceptance of "defects" more common or less troublesome that do not directly involve our people. Often, moreover, if we reject such "defects" in others, it is mainly because through them we feel challenged directly, alone Being confronted with ways of being that we feel (rightly or wrongly again) opposite of us. In other words, it is an **insecurity** in us, manifested by the reactions (more or less apparent or hidden) of vanity, which is the biggest obstacle, opposing our acceptance of others. But this insecurity deeply rooted, offset by movements of vanity, strikes me as indissolubly related to the non-acceptance of ourselves, it is as inseparable shadow.

Thus, it is full self-acceptance which appears here as the key that opens us to the acceptance of others. And this link that just appear here, joined another deep connection that I have long known, always perhaps: that self-love is the heart, peaceful and strong, the love of the other.

18.2.3. The couple

18.2.3.1. (A) The dynamics of things (the yin-yang harmony)

Rating 111 (13 October) Yesterday I did not continue to write notes. Instead, I had fun at board reviewed a number of "couples" yin-yang. Starting with those that went through my head, a little happiness-the-lucky, I then cut to the game, and have finished in a sort of "census" all those on which I could lay hands. I started because I was told that a lot what I had written recently was likely to go completely "over the head" of a reader would ever so slightly familiar double yin-yang aspect. It might be worth take the trouble to give at least a few striking examples of such pairs, in addition to those were introduced by the band recently

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days. Then, driven by the little devil (or angel, I do not know...) Of

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the systematic in me, I ended up highlight my old reflections of five years ago on this theme. during a week or two I had fun then to "pick up" a hundred or two of these couples suggestive, which had then assembled by affinities in about twenty groups. As this reflection was made on the sidelines of the famous "poetic work" that I was writing, I could not help storing these groups as best they could in the tail-leu-leu, by affinities and filiations of meaning from one group to the next. Yesterday evening, resuming reflection with hindsight, and without poetic shackles around the neck, it is eighteen groups that I found (instead of twenty), by a grouping perhaps a little more rigorous. I suspect that he There must be many more groups, maybe even an unlimited number, corresponding to an apprehension of reality that I have not thought about in the course of my work (and perhaps never again). As for the eighteen groups that I did find, I tried to put them together in one diagram. (or "graph") according to the main links of affinities that connect them to each other. Some of these links Moreover, they only came to my attention in the course of drawing successive sketches of the diagram. The work here was very close to the familiar mathematical work, when one as strikingly as possible, a more or less complex set of relationships (data for example by "applications", represented by arrows) between a number of "sets" or tegories ", appearing as" vertices "of the" diagram "that one strives to build. of essentially aesthetic nature, of symmetry and structural transparency in particular, lead

to introduce (and if so, to discover or even to invent) "arrows" or links to which we had not thought of departure, and sometimes even new "summits". Still, after five or five six successive sketches, I ended up with a diagram, vaguely shaped like a Christmas tree, which took me Provisionally satisfied - especially since it was really starting to be prohibitively late! I went to bed happy, I felt that I had not lost my time, even though born grades had not advanced one hair ⁴² (*). But I had recovered

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contact with decidedly juicy things - each of these p. 491 groups was rich in weight and mystery, and each of the yin-yang couples who were supposed to constitute it (but rather, together, **designate** it, without in any way exhausting) .- each of these pairs has some something delicate and important to tell me the nature of this world in which I live, and often on my own nature. I found with a new strength that feeling that was present already five years ago: that the game delicate of yin and yang, of the "feminine" and of the "male" in all things, is an incomparable an understanding of the world and of oneself It leads us right to the essential questions. Often too, "yoga" even yin and yang, the only fact I hear; to pay attention to the appearance of things and events which expresses itself in terms of equilibrium and yin-yang imbalance, provides a first key to a better understanding of these issues, and towards an answer.

I apologize if for some readers I have to give the impression, for a page or two, to talk about angels sex, while they would not see too much even what are these famous "couples" yin-yang of which I speak, let alone those "groups" in which some come together, which groups ultimately would be supposed to assemble in a "diagram" (it is still useful the maths!). I should give here at least one of these groups - and I want to take one by which I spontaneously started yesterday, that also which ended by appearing during the reflection as the group "primitive" (*), which seem to come out gradually all the others, by sorts of successive "filiations" (continuing on my famous diagram on eight "Generations" ...). Here is the list of "couples" that I identified, constituting this primitive group (that we be called by the first of those couples, namely "**Action Group - inaction**").

⁴² (*) In compensation, I could file a patent on the invention of a new poetic form, namely the poem says "no linear ", or" diagrammatic "

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- Action-inaction
- activity-passivity
- sleep-watch
- subject-object
- result-design ⁴³ (*)
- execution-design ⁴³ (*)

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dynamic equilibrium

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- elan-seat
- ardor-perseverance
- passion-patience
- passion-serenity
- tenacity-detachment.

I would join again the two following couples, among a dozen "latecomers" who came to me again this morning, on the momentum of my reflection yesterday:

- know-how
- explain-understand.

Is it necessary to specify that in these couples, it is the term "yang" or "masculine" which is put first, following the use of our patriarchal society, where the man gives the name to the couple? On the other hand, while Traditional Chinese society is considerably more patriarchal than ours, when we follow the usage Chinese to talk about the relationship of yin and yang, we always put first yin ("feminine"), speaking p. ex. of "yin-yang balance" (instead of yang-yin). The meaning of this usage is surely in the intuition-archetype that yang is born from yin, which is the "most primitive" principle of both, and not the other way around. . .

This is not the place here to comment on any of these couples. For the a reader who would "feel nothing" on seeing them, would be lost in any case; and whoever feels challenged by them, who feels (was it obscurely) that each of them has something to say to him about the world and on itself - on balance and imbalance, on the internal dynamics of beings and things. . . , that one can do without detailed comments, and take this inquiry as a starting point for his own reflection.

18.2.3.2. (b) The enemy husbands (yang buries yin (3))

Note 111

There is only one point that I would like to stress here, common to all "couples" yin-yang without exception. It is also the most crucial thing of all, it seems to me, for an understanding of the nature of the relationship between yin and yang, and hence of the nature of each of these two principles (or energies, or aspects, or forces. . .) In the universe. It is this: each of the two terms of one of these couples, such action inaction **in the ab**

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science 44 (*) **of the other term**, is a serious state of imbalance, and ultimately p. 493

43 (*) (November 6) In fact, there is a more primitive group yet, we can call the group "**father - mother**". See, about This "forgetfulness", the note "Mother Death - or the Act and taboo" (No. 113 °). Couples "engender-conceive" and "performance-conception", which I have listed below in the (so-called "primitive") group action-inaction, are visibly more natural in the "mother group" formed around the "father-mother" couple.

44 (*) (October 16) In fact, this "absence" is never complete it seems to me - in anything, yin or yang is present as pure, without the simultaneous presence of its complementary, so small as it is. The "imbalance" of which I speak is therefore characterized,

not by the total absence of one of the two additional terms (something never done), but by a state of excessive **weakness** of this term. Another type of imbalance, or disease, occurs when one **and** the other term is "absent" or more precisely, are present but very weakly. Thus, in the case of the couple "action inaction", a state of **agitation**, which does "is" not strictly speaking (if not to perpetuate itself, to maintain confusion), while dispersing energy,

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(when "The absence" in question is almost complete, and prolonged) a state that leads to the destruction of the (or to be) in which this imbalance takes place, or even of him and his entourage.

Thus, **an** uninterrupted **action** state, which alternates with sufficient periods of **inactivity**, rest, leads to exhaustion, sickness and (ultimately) death - something that has been more recent lately, for me ! 45 (***) Conversely, however, an excess inaction condition leads to a weakening and fibrosis capacities and functions of the body or of the psyche (as the case may be), and at the limit, the destruction. In the case My "incident-disease" Besides, I have a simultaneous example of the **two** imbalances: excessive action the mind, inaction of the body (and a sufficient rest neither for the one nor for the other ...).

This "explanation", in this case, of the "philosophy" balance imbalance of yin and yang, remains superficial, in the sense that it does not touch an inveterate cultural bias, valuing the term yang, **tion, opposing** the term yin inaction. This is felt as a "negative" thing, not productive nor interesting in any respect, admitted at the worst as a second-best, which unfortunately imposes itself on the best will in the world, since it is necessary anyway to rest from time to time to continue to invest in the action (under pain just, as I just explained, overwork and God knows what again...). In short, inaction is seen as the humble servant of action, alas it is unworthy of attention or esteem.

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Of course, such "official" valuation action over inaction, immediately as p. 494 consequence of setting in motion in the person of the mechanisms of resistance (which often remain occult or at least very scrambled), speaking by an **opposite** value: action, suddenly appears as which is imposed by the harsh necessities of life, such as **work** in short, boring as can be, in the office or the factory or even in the fields, and grueling in any case even if it is not too annoying. The real reason for being in action is to earn a crust and a home (that is the must), and beyond and above all, to have fun fun (during his active life), and a nice retreat and nice permanent leisure later, when we will be exempt from the regrettable obligation "work". This time it is inaction (aka "leisure") which is valued in a more or less conscious way, and it is the action that is the humble servant. So there is a **role reversal**, but always with the same imbalance: one that consists **in antagonism** be made out (under the thrust of cultural conditioning) between two essential aspects or poles of his life; antagonism that is expressed and perpetuated by a state of preponderance despotic of one of its aspects, and servitude of the other.

It seems to me that, most often, the two attitudes and valuations are superimposed on the same person. rings, one dominating the pavement at the conscious level, the other at the unconscious level. From the superposition of these two opposing imbalances, obviously, does not arise the balance! This one, however, flows naturally an understanding of the true nature of action and inaction (even when such an understanding remains purely "instinctive", manifesting itself directly by a balanced behavior, and by no means by a "know" verbalised). **In action in the full sense of the term, there is also inaction - it is there in the moment even** I mean, not just "after", because you have to rest after the action! This "inaction" in the "action", the "yin in the yang" therefore, is like a deep calm that serves as a basis for a movement which would take place on the surface. It manifests itself for example by the impression of perfect relaxation that emerges

feline movement, either the first cat came gutter, or a lioness with the powerful build. . .
And even **in the best inaction**, even if the same total, **there is action**. So **sleep** is rich in
dreams that speak to us about ourselves, through which we live a

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another life more intense and delicate, p. 495

can probably be considered as such a "default" imbalance (of yin and yang).

45 (**) See in this respect the first two notes (n ° 98, 99) of the procession XI, "The deceased (still not died...)." 465

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that we are too sleepy or too cowardly to live in waking life. And just
to contemplate a sleeping baby, or only to be drawn from a deep sleep, to feel that even without dreams,
real good sleep is a **work** in its own way: something that absorbs us to scale out to "do it again
full "in amount of energy that had dispersed and we just **repuiser** to its source ... It is there,
again, the "yang in the wine", otherwise the yin itself would be destructive.
Reflections in the same direction could surely also develop for inaction **awake in**
out of sleep time. There is only to observe on pieces, attentively, this or that state that one perceives
as "inaction". It will be realized that inaction there is action, even the sterile cackling of a
thinking that keeps going around in circles when she stopped working. But to tell the truth, it is improper
to call "action" this movement, purely mechanical, which continues with the sole effect of inertia - by
the inability to stop the machine! And it is certainly not this inner turmoil that will bring to "inaction"
a yin-yang harmony that makes it beneficial. On the other hand, it may be so various activities intended
to furnish his hobbies (when these are nevertheless experienced as a state of inaction). But even in the state
complete rest of a state of convalescence say, there may be action, otherwise this rest or "inaction"
becomes **sloppiness**, certainly not conducive to a recovery (that is to say, precisely, recovery
a disturbed balance!). For example, this state of rest may attract attention to one's own body and
immediate environment (which is like a second skin ...), an acquaintance so even
a communion, which by itself has an authentic character of "action"; because no doubt **learn**
is indeed an **act** (since it has an irrefutable **fact**... the emergence of knowledge).
By examining one by one the fourteen couples I included in the action-inaction group (and surely
could find many others that are inserted naturally), we see that for all but one,
it is the first term, the term "masculine", which is invested with prestige, "value", according to reflex attitudes
conveyed by our culture and inculcated since childhood. This is the sign of always the same imbalance
inveterate in our culture,

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the imbalance marked by the exclusive valuation of yang, which has happened to me

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already alluded above 46 (*). The same observation can be made for almost all couples
yin-yang on which I fell - this is a very striking thing, that I had never taken the
leisure previously to check in such a detailed manner.

Among the writings couples sometimes, the only exception seems to me is the **couple-passion serenity**, as
in common usage, the word "passion" is often associated with the image of unleashing, violence, or
not a **carelessness**, bordering the annoyingly associations cloud surrounding a word like " **turpitude** ".
Coincidentally, carelessness and turpitude refer to states of psychic imbalance characterized by
excessive balance **yin**, feminine! And symmetrically, following the same push-button mechanisms
(which reveal our current conditionings, and by no means the nature of a thing like "serenity"), the word
"Serenity" is associated (as opposed to "passion") to the image of **self-control** - a quality so that,
as fair, is essentially **masculine**. (In fact, the yin counterpart of "control" is by no means "passion",
but "abandonment".)

What is happening here is that as a result of a general confusion in the minds about the nature of
certain things, expressing themselves by an identical confusion in the use of certain words, supposed to designate them, there
are

has a confusion of the yang-yin couple "passion-serenity" with all the two notions
relaxation - control,

whose terms are yin-yang (but not a "couple"), since the two terms

no desire to marry!). So it seems to me that the so-called "exception" to the rule (of valuation

46 (*) See note "Yang buries yin (1) - or muscle and guts", n ° 106.

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systematic yang) is on the contrary a particularly interesting confirmation And I would not be

surprised that the same is true with the other examples I have identified where in a yin yang couple this is the yin term that seems valued.

I am also not sure that this distortion in the vision of the world that I see in the civilized lisation called "Western" from this systematic bias in favor of men, opposed women - that this distortion, this imbalance are much lower in the Chinese tradition,

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or even in the p. four hundred ninety seven

Chinese world (or more generally the world "Eastern") today. No sign at life every day, could not let me assume, or through friends and oriental friends or through the echoes yes could reach me of tradition and modern life in China or other countries in extreme East - quite the contrary. It seems to me rather a fine perception of the yin-yang dynamic was restricted almost exclusively in the **practice of certain arts** - such as calligraphy, poetry, cooking and, of course, the art of medicine 47 (*).

This is the last but not least, under the name of "Chinese medicine" and through some spectacular successes Acupuncture, which ended over the past twenty years, by acquiring citizenship with us, and to be invested prestige. Yet many are still those who ignore that in Chinese medicine, the alpha and omega of apprehension of the body, the flow of energy in the body and thereof disturbances (which Consti-kill disease states we call "disease"), happens in a fine dialectical yin and yang. The fact that this dialectic "on", as the "Chinese medicine" based on it efficient (including in many cases beyond the means of the western range) can be considered a kind of "proof" of the reality of "principles" or "aspects" or "modes" (of appréhen-sion, or existence) of yin and yang - it is not mere speculation outputs of some hats philosophers and poets (if not phonies).

One wonders, indeed, what is the meaning of such evidence, and even any "proof" of any kind or the validity of a particular worldview. Even if the evidence has convinced (that is to say, that the applicant was willing to be convinced), and even on top of it, the vision in question is deep and hence beneficial - the best evidence yet of the world is powerless to **communicate**

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a vision, much less a worldview. It makes you look good to be "convinced" stubbornly p. 498 a vision which remains foreign, misunderstood. To be honest, it does not even make sense - or more accurately, the true sense of "conviction" is no more understood by the person concerned, this vision that pretends to incorporate its heavy cultural baggage.

When the vision is understood and assimilated, the same issue of "evidence" seems strangely preposterous - much like to prove that the sky is blue when it is clear that it is blue, or the scent of a flower we love is good. . .

18.2.3.3. (C) half and all - or crack

Rating 112 (October 17) My first thoughts on the double aspect "feminine" and "masculine" are from a reflection on myself. It was towards the beginning 1979, at a time when I still did not know the Chinese words 47 (*) (21 October) I forgot the number **divination**, the **Yi King**, or "Book of changes", which today has a great popularity in certain circles in Europe and America. The 64 "hexagrams" which are the "words" basic of divination language Yi King, are other than 2⁶ possible combinations of sequences of six "signs" yin and yang, since pure yin (yin six repetitions) pure yang (six replicates yang). There seems to be a sort of alchemy great finesse combinations of yin and yang, which (apparently) had fascinated Jung. The interest of this alchemy (as that "collection of archetypes" in particular) seems a priori independent of its use in divination, and credit that is willing to grant to such use.

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"Yin" and "yang", and the existence of a kind of "philosophy" of the subtle incessant game of yin and yang in the Chinese cultural tradition. I learned something by the end of that year I believe, my daughter and especially my son Ahmed, who was beginning to show interest in Chinese medicine, on which he hung strongly in the following years. Most of what he said intersected and confirmed the vision that I succeeded, something that had nothing to surprise me. If there was a surprise, it was more in the few If "couples" where the role yin-yang "natural" seemed overthrown me, in Chinese tradition. my reflex (Strongly "yang" in this case!) Was a skin-deep conviction that this "reversal" was be due to a cultural deformation without also go to look too closely 48 (*) - this was at a time where my past ranges on the female-male me appeared well distant, while I was engaged in a much more personel meditation

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the life of my parents and my childhood. It months

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or years later only, I think, as a number of cross-checking, I realized

account that in some cases my apprehension of yin and yang roles in such and such "couples" had remained a tad surface; I had put in the same bag, a little hastily, a different kind of situations the Chinese yin-yang dialectic was careful to distinguish (112 © Now I realize that the apprehension of yin and yang is still relatively crude and static here, especially if compared to the fineness required for the performance of some Chinese traditional arts such as medicine (Also intimately linked to dietary and culinary arts), where this apprehension eventually became like a second nature.

I felt more than once that among practitioners and practitioners of these arts, whether Oriental or European, that delicacy of apprehension is fragmentary, in that it remains, to a large measure carefully confined to the exercise of this art. In the life of every day, she would rather as a "knowledge" usually superimposed simply to "learn" from cultural conditioning (And other), and remaining more or less unfulfilled vis-à-vis thereof. In other words, I felt the worldview and self, and enforcement mechanisms in the perception of reality, are in nothing different in these people all that ad "warned" than the average person.

This impression overlaps with another, I had by traversing two or three texts written by European supposedly "in the know", which: are based to provide an overview of traditional philosophy Chinese yin and yang. (One of the authors is a well known French orientalist, whose name escapes me now.) The thing that struck me is that in these texts, yin and yang are presented as "principles **opposed**" (or "**otherwise**") or **antagonistic** (the latter returns repeatedly in one of these texts), rather than **complementary**. This "opposition" or "antagonism" would have its expression typical of that which would take place between the woman and the man inside of human society, and within the couple established by the company.

Antagonism in the husband-wife couple is indeed a reality, both in the East and the West.

It is deeply rooted in the culture, to the point that it can sometimes seem as an aspect (Sometimes confusing!) Of the human condition, even as the root of the conflict in man or in the human society. The reality of this antagonism is undeniable, and it certainly exceeds current clichés try to exorcise 500tant somehow. This "social" reality is the product of a packaging

48 (*) This insurance peremptory reaction vis-a-vis an ancient tradition that could make me more caution is the very one who as a child made me reject the formula (although complicated indeed!) $\pi = 3, 14 \dots$ taught by the books, for $\pi = 3$ which I had convinced on my own. (See note "Squaring the Circle", n ° 69.) It is true as the story of yin and yang, I had ample opportunity to report to me how the apprehension of nature of the "feminine" and "masculine", and their interrelationships, is skewed by cultural distortions inveterate, strength considerable. I did not go yet account, against, what also developed a precise and delicate understanding of these relationships was vital thing in the practice of some traditional Chinese arts, and pushed to a degree of finesse.

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immemorial, which early rooted in the "I" formation and structure. Yet beyond this actually there, it is a deeper reality, coming from much further, which is critical in love the drive itself. This is the reality of a **complementary** deep, fundamental equality, which there is no place for any "antagonism". This is also the reality that is evident in all species, with the exception of ours, where it is largely obscured

by cultural antagonism, so a state of **division** proper to man and human society.

Romantic common clichés like "Nous Deux", which dominate much of the literature and media, rise elsewhere hairpin a "complementarity" junk, casting a veil

The troubling aspect of antagonist gender, or (at best) by treating it as a kind of accident a little spicy, welcome to put some spice to a meal a little too syrupy or otherwise insipid.

As soon as one goes beyond this kind of reassuring clichés, see you soon faced with the reality of this antagonism gender - apparently universal reality, and moreover an unflinching tenacity, toughness

wheatgrass! But from this pervasive and undeniable reality, to institute a kind of antagonism cosmic yin and yang, the "feminine" and "masculine" is projected onto the entire universe status déchi-surely, of deep division of human society and of the person, a disease so unique to our species.

It is also perpetuate his own ignorance of a **different** reality in itself (joining this cosmic reality the additional harmony), a reality just as tenacious (or, rather, indestructible)

but hidden. This reality is contrary packaging tacitly establishing antagonism

does well between woman and man, wife and husband, between it in ourselves that is "woman" and what is "man".

Indeed, this vision **dualist** or **warrior** of the universe, where things of appearance would be in constant war with one aspect "symmetrical" as essential - that vision is by no means the result of a

reflection, which "leave" (as I wrote at the time) the reality of the conflict in the human couple and the human society, to "deduce" then (or "set", as I wrote more precisely) in the Cosmos

whole. It is neither more nor less than a faithful expression, automatic other words, packaging

cultural, and goes in the direction of an essential 501fonction this conditioning: **maintaining the conflict**,

division in the same person , obviously, maintaining antagonism established between the "woman" and "man" in me would be something impossible, or rather, this antagonism is already solved, **as soon** I take time to contemplate the universe with those eyes received at my birth, and I see that everywhere except (apparently ...) myself and from my peers, the "feminine" and "masculine" are your complementary inseparable from each other; it@their nuptials and their union is born harmony, the creative force and living beauty in all living things and "dead" of Creation. By against, if I claim to "see" across the universe of "oppositions" and "antagonism" where they are not not (and even while doing I would follow a venerable tradition, several thousand), it would not that I have made use of my eyes, but I will be rather limited myself to **repeat** (as all World) which was repeated from generation to generation since perhaps the dawn of ages; and in any case, to obey the silent and imperative injunction cultural consensus - the same one that has firmly established myself a division, a conflict that I pretend rationalize (and by that I perpétuerais) as a "Cosmic necessity."

There would certainly much to say about the antagonism between the couple, and more generally on the antagonism woman-man - and I trust my fellow that much has been written about it, including things relevant. This is not the place to dwell on this topic very interesting, especially in the form particular that takes this antagonism in our patriarchal society. It seems to me that among those who

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given the existence clearly, there are many who take the structure of the company, reflecting and embodying the dominance of men over women, as responsible for this antagonism. They surely right - and I suspect in a matriarchal society tend to pronounced, one must find an antagonism similarly, manifested in a more or less symmetrical. What I would add only is that Yet this causality seems to me **indirectly** , it seems to me to practice through a causality more hidden, touched in thinking today. This causes more hidden and more essential to division in the family, is the state of division **within the person** , as woman man, vis-à-vis its own drives (including those of sex) and its own faculties. I see the real root the antagonism between man and woman, as also their **mutual dependence** on the spiritual level, I hear the **man**

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that internal autonomy of one or the other.

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This in itself is split into the intimate and secret belief in the one as the other, of being a **half** . One sign of this belief is that diffuse and insidious feeling, never looked to **crack of mutilation** perhaps including only one sex partner could deliver us temporarily at least. Behind the tunes of circumstance "macho" or "Circe" (and many others), each man like woman, is vis-à-vis the potential or actual partner posture **beggar** , one who expects the (more or less) good will of the other an ephemeral issue, it wants full and always turns out lame of his pitiful state of cracked pot, if not broken - a **half pot** in short, who seeks another to re-stick to it somehow (and rather poorly as well, we guess...). This feeling of crack, or this **ignorance** of our true nature, our **unit** land beyond physiological specificity linked to our sex - this deep division in us seems to be the product only social conditioning. One perceives traces in any case in the early days and months of life. This reduced packaging does not also to the enhancement of "male" at the expense of the "feminine" Or vice versa. After all, if I feel, and accept myself and am accepted, as **both** and both, "man" **and** "woman" with a "base note" that can vary from one facet of my person to another, and is not limited to the dominant (admittedly very important) prevailing in the genitals - it is therefore no longer so important if around me, the "male" or the "feminine" that is valued. At my sex drive, my "recovery" personal would anyway trend then to be directed towards the opposite sex to mine (sorry, I meant complementary), without feeling for much less (not more than up) in front of this being **different** in his body, to which attracts me compelling and profound impulse. Moreover, whether the valuation related to sex or otherwise, the growing importance "value" or prestige lent by the social consensus (to oneself or others) are relatively minor, if not minimal, in a person who is not (or little) affected by this feeling of "crack" of which I speak - in a person who lives in this so **insurance** spontaneous which is presumptuousness or facade, but demonstration of an intact knowledge of his own nature.

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One sign among many that the "crack" or Division 49 (*) in the person is not only the product of a

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valuation is that this division has plagued humans as well as in women, so in that which is supposed to be the "beneficiary" of this consensus that claims the "value", while (in some sense) it breaks the kidneys to him as his partner. It is noted that this division is even more acute, especially

more violent, the repression of one sex to "profit" from the other is stronger, more ruthless. We ran that the principle followed by the "Company" (source and instrument of repression) in the establishment 49 (*) I refrain from using the term here quite fashionable "castration", a term of great violence (for superyang blow!), which has the disadvantage of more than suggest the image of irremediable mutilation, irreversible, and thereby stimulate distress reactions of revolt or own resignation to strengthen a blocking state, rather than promoting change in the sense of a progressive resolution.

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repressive mechanisms is " **divide and rule** "! But this "division" created by the Consensus and break and enslave man, and woman, is played more on **two tables** at once. The most table visible is that of the **division in the torque** , obtained 50 (**) in establishing a balance roughly The tyrannical of one sex over the other - of men over women, or vice versa. One is supposed to reign over the other - and both find themselves slaves 51 (***) . For when the wife or husband is despised, and one **and** the other that comes contempt - contempt by others sometimes, but more deeply and especially **contempt by himself** .

And here we reach the "second table" more hidden, the game division. This is the **division in person himself** , hidden spring of the division of the couple, it is enhanced by it, but without it reduce, and it is not produced by the only valuation of one sex over the other. It is the rather the product of a **constraint** silent and incessant, imposed on us by our surroundings from our more younger years. This stress causes us to deny, lest we find discarded, while a "side" of our person (the slope

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"yin" or the slope "yang" 52 (*)), dismissed as ridiculous or as unseemly, and p. 504 Anyway, as unacceptable.

18.2.3.4. (D) conditioning and Knowledge archetype

Note 112

53 (**) Thus, in pairs **matrix-embryo** and **vagina, penis** ; the distribution of roles yin-yang no doubt, and the term yin there surrounds and contains yang term. This made me hastily conclude that the couple **containment** was the "content" that was yang without being warned by couples **shape-bottom** , **outside-in** , **center-periphery** (where as I had felt good, the first term is indeed yang, while the "container"). In fact, in pairs matrix-embryo and vagina-penis, I wrongly placed emphasis on the aspect of "geometric" or configurational the relationship of the two terms involved, Yet secondary aspect to the main aspect that determines in this case the distribution of roles:

which feeds is yin in relation to **which is fed** which is yang, and **which penetrates** is yang in relation to **this which is penetrated** which is yin (and **which gives** in relation to **that which receives**).

My thoughts on the yin and yang, so limited as they are, have founded a firm conviction in me that Beyond the differences of individual apprehension about the yin-yang roles distributions (or also on the "note background "yin or yang in a given person say), apprehension highly prone to" distortion cul- Relle, "such distribution (or" base notes ") " natural "does exist. It is a reality all too irrefutable, "cosmic" and immutable (regarding the distribution of roles within couples na- Universal ture, such as those discussed so far), a physical law, or relationship mathematics, although it can be "established" neither by experience (as that term is defined in the practice of the natural sciences), or by a "proof" or a "demonstration". this reality

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the yin and p. 505

yang is apprehended by direct perception, which can develop and refine (among others) by sufficiently careful thought.

I think one of the main effects of such thinking is just to move us beyond the

50 (**) (21 October) On the surface at least. But as suggested above, by going to the bottom of things, we realize this division in the couple maintained by the dominance of men over women, has a "root" deeper on which I return a few lines later.

51 (***) Slaves, further, that for nothing in the world would separate from their chains, which are more expensive than their life. . .

52 (*) In principle, unless accidents, sense of compulsion drives man to deny his yin side, and the woman to deny his side yang. The situation is more difficult for women, meant denying the features in it precisely coated prestige by consensus social, and therefore would feel motivated to want to cultivate. It is thus subject to two pressures in opposite directions, and task for the unconscious to structure an "operational" identity is complicated accordingly.

53 (**) This note is from a footnote page to the previous note (see reference in the first paragraph thereof).

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Reflex shots, programmed into us by the surrounding culture, to regain contact with reality herself. This, it seems, is already present in the deep layers of the psyche, as a kind of knowledge-archetype, beyond the reach of cultural conditioning. The role of reflection is afford to reconnect with this knowledge already cast, and carefully decant the "know" superficial, that is to say the cultural conditioning.

The work that I started in this direction was important for my understanding of the world and myself. Similarly, and by the same token, in my "to do" daily and in the conduct of my life. This work (as well other times) seems like a **first breakthrough**, like a door that I would push and which opens onto a vast panorama, it would me to explore. I have everything in hand to do - but I know if I will do one day ⁵⁴ (*). Putting even mathematics aside, there is no shortage of ideas topics just as "juicy" and more personal and hot again, which probably will have preference on first the deepening of a more general reflection on the yin and yang. . .

18.2.4. Mother Death

18.2.4.1. (A) The Act

Rating 113 (21 October) Three days passed without writing notes. My days were absorbed by other tasks and events. One of these was the visit of Peter, with his daughter Nathalie, arrived last night. He thinks stay up tomorrow night, and by then read what is written of Burial. It may be a little short for a text that I put nearly three months to write ...

By the time I could devote to thinking, I passed it to continue

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to toy with "couples"

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yin-yang and the groups they form. The subject has something fascinating, combining good flavor to the investigation of a mathematical "structure", whose very nature is gradually precise in work, and that of a reflection on the world and on life. Each of the major pairs yin-yang represents a kind of "keyhole" (among a number of others), revealing some aspect of the world, or a corner of the world. The "groups" of couples I've seen thus far seem to correspond rather different modes possible apprehension of the things of the universe, as so many **doors** that would open him and we would show as many different angles. Each of these "doors" has a many keyholes, maybe even an unlimited number, where to look - until maybe push the door just? For now I have confined myself to detect many of these holes (I found good in the two hundred) to paste in my eye at each even what some space moments while I realized every time there would be enough to watch a good time without losing it its time, on the contrary! But my impatience is more to go first take a look at such and another hole where to look again, and also to tour all these doors and guide me so well somehow how they are arranged relative to each other, and perhaps following what "Patterns" are arranged in one or the other of these holes that had detected the existence. . . Finally, eighteen "doors" that I had found, there is a little over a week, are increased Tees three others, making it twenty-one, is with a chart (I had called "Vaguely shaped Christmas tree"), having now a "trunk" nine "peaks" (or "gates," or

⁵⁴ (*) As I do not know if the kind of work I see here open before me has already been done. (The study, in short, of a kind "Map" local and global qualities of things in the universe and their modes of apprehension, as the day of harmony yin-yang complementary.) This is also an issue any accessory, since it is not to present a thesis Doctoral this or that, but to deepen understanding of the world and oneself, which can only be the fruit of a personal work.

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"Group" or "angle"), connected by "ridges" or "links" vertical, with each side of the trunk six vertices joined thereto and to each other, so as to form "branches" (*). ⁵⁵ 0

Thing quite funny, amongst p. 507

three "new" groups that have emerged in recent days, one is the one that was the most obvious, the most primordial or primitive of all: it is that which corresponds to the first intuition of yin and yang as the "feminine" or "female" and "male" or "male". It seems to me expressed the most frap- way pante by the couple archetypal " **father-mother** " (rather than "gender", part of the same group). This group is highly charged with sexual connotations, appearing in pairs as " **Lead-design** " or " **penis-vagina** ", making themselves part of the cloud of associations around **the act** par excellence, the Act archetype: the creative embrace that transforms (at least potentially) the woman mother and father in the man by the appearance of **the child**, the outcome Work of the Act. These connotations linked to the loving instinct were constantly at the forefront in my thinking ago

Five years. They were treated in addition to an almost uninterrupted lyrical emphasis throughout the few 130 pages of the famous "poetic book" how the reflection is then condensed, producing an effect boring even the best prepared player. This is surely an annoyance vis-à-vis this double reaction "deliberately" poetic and erotic ⁵⁶ (*) in my only point of reference for my reflection days. Recently, I have simply "forgotten" among the famous groups of couples yin-yang, who course opened the procession (and rightly what is more) in this misfortune text. The title of the book in question, "In Praise of Incest" was a tad

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provocative too, and likely to p. 508
misrepresent its intentions and its "message". They have also evolved quite strongly writing - poetic shackles did not prevent a deepening work to continue, and settling happen. The first and main purpose was to sound a certain aspect (I felt deep and essential) of the romantic impulse, as it was known to me by my own experience. It was So before any of the erotic impulse in man, or more precisely: the drive " **yang** ", which corresponds to "actor" in the game and in the act of love, but occurring with a variable force ⁵⁷ (*) in the woman as in man. For a long time, maybe forever, I knew that this impulse, by its nature, is " **incestuous** ": it is also the instinct of " **return to the Mother** ," back in the original Giron. ⁵⁵ (*) (24 October) I would be embarrassed to predict whether it will eventually appear yin-yang couples who are fit naturally in any group I've seen thus far, that is to say, where to **others** even groups or "gates" yin-yang opening to the world, or even unlimited?

The fact that I can find no other does not also mean that it can not be an infinite number of others, perhaps even an infinity of others that are beyond human experience, our means of perception of the universe. this me recalls that more than once in recent years, I have been struck by this intuition that since the tiny ant or aphid to mammals already all around us, every animal species are ways of perception and apprehension of the universe that are beyond any other species, including ours of course; so that in respect of wealth sensory apprehension modes (say) that surrounds us, our species "includes" or "contains" no other, not more than any other contains us.

The "no more than" I have hazarded my momentum, I think besides hasty, even presumptuous, given that the level of richness and finesse of the purely sensory perception, the evolution of our species would tend to instead go down, **regress** . It is only in the intellect, finesse mental images, and particularly those related to language, we excel over other species, it seems. It is no coincidence that most of the yin-yang couples who spontaneously presented to my attention within this register there, specifically "human", while a handful have (among others) an obvious sensory connotation, like shadow-light, cold-warm, down-up, and some others. ⁵⁶ (*) (24 October) it deliberately in the form reflected an inner attitude, choosing a role - a role of **apostle** a message. On this subject the end of the "Guru-Guru-not - or The three-legged horse" (n ° 45) and footnote ° 43 that related to it.

⁵⁷ (*) (24 October) This presence is often more or less completely retracted by repressive mechanisms of great strength. I feel that in humans, this yang impulse tends to be predominant on the supplementary drive there in, and the reverse occurs in women. But the cultural conditioning and the various modes of internalization of these as "positive" as "negative", interfere so drastically (and often complex) with the set of the original impulses, he is sometimes difficult to detect them, behind sporadic outbreaks, furtive and often degraded.

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This comeback is "staged" and relived in the love game, to culminate and be fulfilled in a **destruction** , an **extinction** of being, a **death** . Living in fullness the act of love, it is also live **his own death** , as a "birth Countdown" making us return to the maternal womb. ⁵⁸ (**)
But it is also violate both **two taboos** of considerable power: the taboo of **incest** , which excludes "Mother" as the object of amorous desire, and he also that (in our culture at least) divides and opposes such irreconcilable enemies, the **life** and

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death , **birth** and **death** . Yet I knew already,
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that the act of love is **both a death** , is performing in the orgasmic spasm, and a **birth** , a renewal of being, **after** this death. . . as a new shoot will gently soars out of the Foodland, itself formed of creative decomposition of beings who have damaged in it. . .
It is in this reflection on the meaning of the act of love, it was five years ago, I finally understood that "death" and "life" were the wife and the husband of one pair closely snared ⁵⁹ (*), that life eternally LEMENT born of death to eternally perish in it. Or rather, that life forever sinks into Death, to eternally reborn of it, Mother, fertile and nurturing - she even fed and constantly renewed by the eternal return to it countless bodies of His children.
And the human couple of the wife and the husband, the lover and the lover when he saw the full drive that draws one into the other, is like a **parable** of the nuptials endless life and death: the end

each night of love the lover is damaged and dies in the lover, to be reborn with it this death in their common embrace. . .

In the early days of that reflection, I visualized an essential aspect of the division in person, as a sort of "cut", a "cut **horizontal**": that introduced by the taboo of incest "Cup" the child@mother, as he cut the life of his mother@death, and as he also cut a generation of the one before.

When I first saw this cut there, it@probably because it is precisely that which I was free.

Yet my life, like that of everyone, was deeply marked by that other great failure, that I later seen in reflection and I called the "cut **vertical**": that which separates, for opposed to each other, the two "halves" of the feminine and masculine in every being, not tolerant to everyone one to the exclusion of the other. It is precisely that which was discussed during this long digression the yin and yang, in which I was engaged for a week or two.

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It now seems to me that this division one ("vertical") is even more crucial than the other ("horizontal p. 510

tale"), that in some sense it implies or "contains". After all, **separating** the child from the mother, and life and death; associate with death, as the drive that connects the child to the mother, a sense of **defilement**, of **repulsion** or **shame** it is also **cut** one another, to oppose one to the other spouse and wife in both insoluble and primordial cosmic couple: the mother - the child death - life 60 (*).

58 (**) I am convinced, moreover, that the contents of the drive yang love is present in all living species and even beyond; it corresponds to the same underlying dynamic of all things in the universe: that any process (or "act") creator is an embrace of yin and yang of "Mother" and Eros Child, returning and spoiling her. This "dead" (or "Birth down") the child back to the mother, emerges as a feeder matrix, the **result of the act**, "the work". It is the appearance of the "child" of the thing **new**, by the act of death and renewal of the "old" that gives it birth. In this cosmic dimension, the original impulse of sex has been present at all times, long before the appearance of the species and even human even before the appearance of life (in the biological sense) on our planet.

59 (*) (24 October) It is strange therefore that of the yin-yang pairs that I had recorded a few weeks after the couple "the death - life" does not appear Perhaps is it because of confusion with the parent couple." death - birth "(or better, "Die-born") on it, so the first might seem to duplicate it.

60 (*) I wrote here about couples in "natural" yin-yang, beginning with the term yin, the "original" term.

About torque "mother - child", note that the term "mother" is also included in a second archetype torque important mentioned above, the original torque between all "mother - father", naming the group he describes. (The 474

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Interestingly, these two couples are not among those I had noted in "the praise."

The couple "birth-death" against per 61 (**)

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more directly related to my experience-lovers, there figure. Couples p. 511

"Mother-Child" and "death-life" appeared only in my thinking in recent days, among NOM fibrous others who had previously escaped my attention, one of the most interesting among them is "bad-good." This is one of the pairs (like "life-death") may be called "difficult", in meaning that the packaging of a great power make us understand the two terms as "Opposites" antagonistic rather than as inseparable complementary. Obviously, these conditional events were stronger in me it was five years writing the Eulogy, today. Yet there was in the praise of many already "difficult couples," including couples@chaos-order "and" destruction-creation "...

In retrospect, understanding any depth 62 (*) the nature of the different couples yin-yang, as forming a harmonious entity inseparable complementary appears to me now like so many "thresholds" to cross in our journey to discover the world and ourselves. Such "Threshold" is particularly noteworthy that the couple in question is more "difficult"; that is, too, that his apprehension as "couple" faces of the strongest inner resistance, expression of the packaging cultural.

18.2.4.2. the beloved

Rating 114 (26 October) reflection yesterday 63 (**) was a bit much to start. This is probably due to many interruptions in recent days. Yet there was a whole since the day hot thing still in me that I could not wait to commit to paper, if only by a few lines. I was crestfallen afterwards noting she was lost on the way, ousted by the all comers! I could not myself today resolve to part with so prematurely, such as misunderstanding, even before having really knowledge, as saying.

I laminated in the recent reissue of "Zupfgeigenhans!" 64 (***), this classic old song group couple "mother-child" is also different is the one I call the name of the couple "cause-effect".) Moreover,

the term yang "child" of this same couple "mother-child", is also part of another archetypal couple "old man-child" neighbor interesting couple "maturity-innocence." These two couples are part of the group I call "high-low" which is the richest (not least numerically) of all those I have detected so far. It contains many other remarkable couples as **decline-development, die-born, destruction-creation, forget-learning, end-beginning ...** In listing these few couples, I have to force myself almost, to name them in the yin-yang order, against ingrained habits. At first glance the new order was a little wacky aspect, see absurd - the world reversed in all! Looking more closely, we realize yet realize that this unusual order reveals a **different** aspect of the relationship of the two terms, an additional aspect to the usual appearance or (for example) "born" before "dying" - as we have seen indeed that "die" in a deeper sense, precedes "born".

It is the same for the name of all of my thinking, "Crops and Seeds" which is a yin-yang couple No doubt (as I discovered at once!). It is still named in a reverse of the usual order yang-yin, crops being intended to **follow** the sowing, and not vice versa. Yet the name came to me unambiguously and without at any time not even appear the idea that picking his name could be the opposite, "Sowing and Harvest." It was to be faced with unwelcome crops, which each time had come to draw my attention to the sowing which they originate; as if the deeper meaning and function of the crop was to me **back** stubbornly to this sowing of my hand, since long forgotten. . .

61 (**) We will be careful in this couple "birth-death", the term "death" does not have the same meaning as in the couple "death-life": in the first it means an **act** (synonymous with "death") in a second **state** . In German, there are two different words "Sterben" (without the connotation somewhat cavalier of "death") and "Todt". In French, it seems best to designate the couple with "die-born", that eliminates the ambiguity about the meaning of "death".

62 (*) I mean, an understanding that is purely intellectual, which is manifested concretely by a relationship changed to others, the world and ourselves as ways to be changed.

63 (**) This is the reflection in the note of the day before (n ° 116) I placed **after** that of today.

64 (***) In the Wilhelm Goldmann Verlag (1981).

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popular German, compiled and edited to the beginning of the century. It had become untraceable it seems, but German friends

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at my home had brought me a copy. That day (the day before yesterday so) I had

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took a quick look before I go to work, just like you shake hands passing the one old friend. I came across the song "Wohl heute noch und morgen" I have traveled without really dwell on it, I was pressed at the same time to finally return to work waiting for me. it has not yet prevented that something was "tilt". I felt that these words so simple and appearance naive gently touched something deep in me - something more, close to I had tried somehow to evoke three days before. I was just getting ready to rewrite the net my notes about it. Maybe I vaguely felt that the verses I had to travel were more faithful messengers and convincing that I would have liked to communicate, my notes of a shortness *préemptoire* written in stride yet toward something else, as if in passing, while emotion immediate lived remained absent.

This morning at dawn I tried to translate into French the stanzas, which I knew the air and yet continued for two days to sing in me. Surely this was a better way to find them, better to let me enter their flavor and melody. To my surprise, I did not have too much trouble finding in another language, which initially seemed reluctant, a little rhythm and music of the German text, while remaining very close to the literal sense. Here are the seven stanzas, restored as best as I could 65 (*).

"Today and tomorrow again
with thee will

but as soon as the point on the third day
soon I will leave. "

"But when will you come again

Love me, my sweet love? "

"When neigeront red roses
and when rain cool wine! "

"Do neigent dot roses
and point raining wine
well, love my sweet love
either you do not come back! "

In my father@garden
went to bed, and sleeping there
came to me a pretty *rêvelet*

white snow snowing on me.

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And sometimes when awake, here

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pure nothing empty pure -

65 (*) (29 October) The following version is a revised version during the next three days. In the evening we sang and I could learn the tune of the song. Most changes to the initial version has been made to reflect the requirements rhythm and accent in the sung text. Exits necessary to properly distribute the syllables between notes air, it can be sung with the French text, without at any time having to do violence to the stress (as unfortunately common in some French consonants of recent vintage).

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it was the pretty red roses

above me blooming. . .

Returns boy and going, soft

in the beautiful garden

carries a crown of roses

a goblet of wine.

Foot he stumbled, soft

the pretty monticulet

fell - and neigent roses

as rains cool wine. . .

There was a joy, a joy in me, while at groping I was trying to restore what I was reading, which over moments became like a part of me. There was this bare and gentle beauty, at once calm and poignant beauty made no serious joy and intimately entwined sadness. I think few people are affected more or less by a song like this, even as they defend in - as if often denies an emotion that occurs unexpectedly, when something deep in us and we were unaware suddenly resonates, and speaks quietly of what we would prefer to ignore. This is the dream, before anything else, that has power to make it resonate within us that should remain hidden, ignored, it must remain silent. Only the language of the dream, perhaps, has the power to touch these secret strings in us and make them sing despite us. And when, just for a moment, you allowed they sing, even a song of pain or heavy sentence, you feel light and suddenly you like new - **washed** with plenty of water, as If abundant water was passed through your being and was dissolved and washed away all this faith that is established and hard and old. . .

When the poet is about to resonate one of those strings whose song triggers internal waters, Instinctively he borrows the language of dreams, both clear and loaded with mystery - a language with images parables that baffles the reason for its apparent absurdity, and his secret evidence goes right where wants to touch!

There is no need here that the word "death" is uttered, or some other reason that to waking it reports. **It** is yet present, and face mist is that of the beloved. The sleepy beloved and distant as long you left, and very close together - both snow and pink falls born in snow and snow. . . The force that draws you in

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It is like a wave very deep and very powerful, p. 514

a wave from one who calls and returning to it. And the call is poignant sadness and joy is back singing very softly and joy and sorrow are **one** and **are** the wave that carries you into the beloved, with force without a replica of childbirth.

And the point was needed to evoke, if only as a word, the suspense and momentum of desire for you, **the child** - the "boy" that the beloved calls it. All it took was a dream speaks of one who sleeps in his garden father, dreaming and waking snow roses that also awakens in you this wave long forgotten, answering the yearning of her who dream and wakes up, calls and waits. . .

18.2.4.3. The messenger

Note 114

This old song is a Silesian among many other old songs of love and less old, singing that mysterious and poignant amalgam of the **beloved** and **death** . The one I

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just transcribed may be exceptional by the profusion of sense of loaded images, and wealth associations it arouses. It is not my purpose here to pursue them one by one, after having discussed

one or two that have me most strongly affected. When yesterday and before yesterday, my thoughts returned to those verses read in haste, it was not then in the direction of deepening of emotion, remained first epidermal. It rather reminded my attention how the themes of love and death, or the beloved and death, appear to be linked, for some mysterious curse! And beyond the theme Death in the face of the beloved, they join that of the birth - the awakening roses out of sleep-Snow, one and the other mysteriously united in the poignant image of the roses falling snow, one that together dream and waking, sleeping in the garden of his father.

The taboo has beautiful instill repulsion of death, its incompatibility with life as with love! he must believe that he is against a deeply rooted knowledge, or a powerful drive it is secret, for with such tenacity that must be separated at all costs seems to want to join, borrowing for that the back door of the symbol and dream, through songs and transmitted myths generation to generation, from century to century.

No doubt many scholars and volumes have been written about these disturbing amalgam history The exorcising of so-so. Nobostant such efforts surely too, "somewhere" in everyone We, meaning the pro

0 background of these associations is perceived stubborn indeed - in moments, at least, where p. 515

we do not deliberately shut us emotion in us hosting these messengers, telling us about ourselves in the elusive and powerful dream language.

This "deep meaning" is revealed again, directly and with an elemental force, through experience love, if only we dare to live fully and to listen to his clear message. She tells us so the mystery of death and birth, indissolubly linked in the act which transmits life and renews the lovers.

No doubt I am not the first in which this "deeply rooted knowledge" either rise dark depths where it was long exiled to become fully conscious and pervade all stronger my relationship with death and life, the world and myself. I feel however that written and published testimonies, reflecting such knowledge to the conscious level, must be rare. The only I have learned so far are three or four verses of the Tao Te Ching of Lao Tseu 66 (*).

On the other hand (and somewhat paradoxically), I also feel like amalgamation "love-death" had, at one time, end up becoming a kind of romantic cliché, a "cream pie" very safe for withdrawing a tear

0 complacent eyes even the most reluctant. It is a fact that the method, to force, p. 516

66 (*) (30 October) I came across these passages of the Tao Te Ching in late 1978. It was a striking confirmation, fully Unexpectedly, things I felt strongly (some long, others recently...), and I seemed to be alone feel well. This "meeting" was experienced as a large goose, mute exultation. This joy, the elation wore gestation and writing the Eulogy of Incest within les six or seven months. The design was done in the days or weeks following the meeting. On a more modest or humble tune, I felt a similar joy these days last, "recognizing" The emotion that animated an anonymous poet (died for centuries) when he sang these roses falling snow, absurdly born miraculously of "lauter Nichts" - the "empty pure, pure nothingness"; or rather, by recovering from my own personal experience, this **same** emotion, a sign of the same knowledge. It is the same one that also found in the Tao Te Ching, beyond more than four millennia - with the difference that in the Chinese text, this knowledge is expressed in the imagery, but not symbolic of a highly conscious awareness, and not in the dream language (which is also the language code of the deep layers of the psyche).

The content that I recognized in these few verses of the Tao Te Ching has also apparently escaped the translators five or six different versions (French, German and English) that I had hands. I do not wonder.

Such messages, expressions of understanding going against millenia of packaging, do not communicate their real sense (beyond words and images used to express it) that only those who already know by this they were able to assimilate their own experiences, or those in which an assimilation work continues and that are close already. . .

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eventually discredited hit - so much even, alas, even among people equipped with a sensitivity delicate, sometimes there is a tendency to confuse pure gold with its coarse counterfeit tin. It that see is outmoded even ridiculous airs, even where there is a lively and keen perception of reality hidden, and a delicate expression, foreign to all "fashion". A consensus of "good taste" helps here internal resistance in all directions, which automatically display the emergence of any strong emotion and authentic, whether joy or sorrow, pleasure or torment, from the familiar hustle grind. This is the same mechanism as so often dam to the original force of the love game and its orgasmic culmination. Fortunately, the fact remain hidden, banished from the field of consciousness,

does not prevent it; archetypes that inspire the romantic impulse of being yet present - to vanish and disappear which must disappear, so that the sense of the game of love is expressed and fulfilled, and the final act is a creative act, a renewal. But often a **fear** secret fact dam

"Pleasure" even believed to look, afraid that is by the nearby presence of an unknown force and fearful that risk (if one is not before...) to sweep like straw in the One in which we hold at any cost keep "control". Such fear can not tolerate that pleasure never approach this intensity threshold poignant where it is both **and** pleasure **and** torment, united to each other in a long embrace that and intolerable seeks deliverance to finally solve and sink into the orgasmic nothingness. . . 67 (*)

(27 October) I understood the secret message of songs and dreams as "that day again and tomorrow. . . "In **the essence** is common to them which then remains the question. What is this force that

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grows with such insistence to give voice to this "knowledge deeply rooted" oldest p. 517 probably our species; to speak against all odds, nobostant the vigilance of the **Censor** surly and limited, taking the key of the fields and giving free rein in the symbolic language of the dream, the unlimited resources?

If the myths, songs and dreams blow us tirelessly same message to the countless faces, it is also true that the prisoner to whom they cater never tires of hearing them! It@a Although voluntary prisoner, and he was careful **to listen** . He is frustrated air, space and light, and reassured Yet by the four walls surrounding an existence without major surprises or mysteries, if not perhaps be death is the end, infinitely distant. . . Prison protects it from **the Unknown** which is beyond these walls and he is ignoring. Both she frightens and fascinates. This is because the Beyond its walls frightens, that his prison-shelter is dearer to him than life. Yet it fascinates and attracts his body defending, as attract and fascinate the messengers who come from time to tell him. And sometimes yields to this unusual attraction, provided it is secretly the Censor - Supervisor General while paying ear casually, it is "thumb" yet - he has not heard anything and especially not listened!

The question I asked myself at the moment seems to have disappeared, retracted by a compelling image. She reappears as soon as I remember **the effect** of the message - the **emotion** that comes with the lead of the message, and **benefit** of that emotion.

But in truth, **any** emotion that touches a deep chord, is the messenger of the Beyond the four walls, messenger of the sea. While we would strive moment later to smudge, it is beneficial, it has already left its mark, like a delicate perfume - as if these gloomy walls

67 (*) (October 28) This same fear, manifested as a kind of **denial** of pleasure, which grows together to **isolate** the enjoyment of all the experience of love, to reduce it and make the purpose (sometimes tacit, sometimes clearly expressed). "Love" is then reduced to a "pleasure-seeking" - a fair exchange, in short, between two partners, as we invite each other to dinner at the four-star restaurants, when this is the Folies Bergere. This "fun" fearfully leash is just as foreign to the original drive, as dry paint chips scraped painted a picture of the Master@hand, it would be on the board; or hairdryer is foreign to the great sea wind, responsible for scents of the sea and land. . .

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had deviated so little that it is; or as if by some unexpected opening reached us in a Air sanitized, some puff, so small it is, the woods and fields scents.

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(October 28) It@a little against my will that for a fortnight, the reflection in-

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pawn in a direction not expected, without much apparent link with the theme of the Funeral, nor (Could it seem) with my own person. I know basically that it is not so, I continue to be involved in these notes and much more than ever. This prevents that I am torn between the desire "to end "and that to search what is glimpsed from day to day, to follow the most compelling associations - desire which joined the concern, also, to let nothing escape which is likely to inform my "investigation" on the Burial. What seems most distant is sometimes the more intimately close. . .

Still, that last fortnight, if not already since the resumption of notes after the incident Medicare, I feel (a little painful sometimes) to do things "in stride", hastily; as if each new note was a parenthesis more I opened (before an imaginary reader who cry through) and I had to close as soon as possible! It is these provisions certainly, even perhaps the passage unusual enough many friends back home in recent weeks, which are responsible for writing it too hasty, a bit messy at times. I had to resume progressively, by retyping in the net, most recently written notes. This has further contributed to slow progression and to keep breath in my impatience to see progress Work!

It is also true that these themes I sometimes pretend to want to deal with in the aftermath, as the "good known "I would take the trouble to explain for conscience only and for the benefit of a

reader "would land" just - these themes are both too delicate, and too much scope for support provisions so casual. I could not help but notice it in the pages, and "Rectify" I mean to readjust my inner attitude, under the pressure of the weight, so to speak, of this I pretended to be able to tackle in a hurry!

This brings to my memory that this long reflection on in there and yang, in which I am engaged for nearly four weeks and which is not finished yet, does in fact that e **xpliciter** a instant intuition, which seemed everything was simple, if not obvious; an intuition coming "flash" after May 12, when I had just written the first note on a "Eulogy Funeral." "When I took over the rest of this note, a month ago ⁶⁸ (*), with me to follow this association ideas there, in preference to others who seemed less interesting,

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I anticipated that it was going to hire me

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in five or six additional pages to break everything. There I passed the sixty. . .

Yesterday I stopped on the question of the meaning of the symbolic evocation of the relationship between love and death, or between death and birth, or life and death - and meaning, also, the emotion that such evocation inspires. What is the force at work in the myth, or singing or dream, that pushes us "blow tirelessly same message to the countless faces" - and what is the strength in **us**, prison-Niers volunteers reassuring prisons, which so often answers them with this emotion, from the fronts evocation and showing that it has "fly", she touched where she wanted to touch? And also : where does this strange power of the dream language, language that evokes not name that communicates what no other language knows communicate?

Pursue these questions, it is also probing further the role of the loving instinct as that of dream and deep links connecting them; feeding each other and fed by it, each speaking, and communicating with each other, by a language which is common and which escapes the Censor. It©also ⁶⁸ (*) In the note "The muscle and tripe (yang buried there in (1))", n ° 106.

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probing further the role of archetypes and symbols in the romantic impulse, and the satisfactions "Symbolic" of the drive.

Clearly, all this leads me far beyond the limits of what I can reasonably hope to "cram" in this "digression" on the yin and yang, continuing (it is time that I remember) the beautiful among some Funeral Ceremony! It seems time to let out the new "thread", and return to another "thread" in abeyance there three days ⁶⁹ (*), which then brought me back to my own person.

18.2.4.4. (D) Angela - or farewell and goodbye

Note 115

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(October 30) Since a day or two to a few myself stuck in your head, a poem written there p. 520 Three years. I had written first in German, and had resumed the following day in French. They were the two first stanzas that had risen - the third and last appeared as erased from the memory, apart the first to "Ein Kreis schliesst sich" - "A circle is perfect." (And aside as the last line, which incorporated one of the first stanza.) When I awoke that night my thoughts are still returned, I finally am up to rummage through my papers. I found the poem without evil - something storage is good!

Here it is.

dense fruit

ripe and heavy

my life looks

for the return

in her

The soft and thick juices

I have permeated

flourished

fragile flowers of milk

become fruit and wine

A perfect circle -

my lap

goes smoothly

described his orbs

and muted looks

To flip

in her. . .

This, I believe, the only poem I wrote, which the thought of death ⁷⁰ (*) is clearly present. here it

appears as "It". In the original version of the day before she was referred to by the German word "Erde" grounded. The "translation" of the three stanzas in German is also far from being literal; the first came along:

Voll und schwer

69 (*) In the note "Paradise Lost" (n ° 116) placed after this note (n ° 114).

70 (*) I should rather write: the thought of my death. Two poems (from a few to each) written in 1957, the year of death my mother, are impregnated presentiment of his death.

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rei fe Frucht

neigt me in sich Leben

gen Ende

Der Erde zu

Die sussen Säfte

die mich durchtränken

haben geblüht

weiche Blilten wurden und Frucht und Wein

Ein Kreis schliesst sich

aus meinem Schoss

steigt Süsse

kreist

und sich neigt

gen Ende

der Erde zu. . .

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Finally, rewriting at the time the original German version, I could not help but write JUS

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at the end, so the following two stanzas seemed to arise spontaneously from the first! These three stanzas are court me a love poem (I have also not written other poems as poems of love). If it is for someone other than myself, this is **it** - to one who waits in silence, ready to welcome me. . .

The same day, I wrote two poems, one before and one after. They addressed themselves to a "Beloved" in the flesh, Angela, "the Angel" - a tall blonde and slender girl, all he was of alive, met the week before on the road vibrant summer heat, where she was hitchhiking. in a hour or so we had time to say a lot, and we had left on it. I would have liked to give him these poems she inspired, including another written the same evening of the day I met her, and then another still (still in German, our common language), which came the day after the "three (almost) of a sudden. "And I would have also liked that we love... But I lost him, as she had to lose mine.

A common point of poems aroused by this meeting is that everyone is either strongly "yang" is very strongly "yin". They are among the most intense that I have written, and came all of a jet, almost untouched - as if they had been there all ready and already had waited for the signal from this meeting to take shape in concrete words.

At first glance it may seem strange to find among these poems loaded with intense erotic tension, this Another poem with autumn tones, about to enter the long sleep of winter. But the thing can surprising that one who does not feel the deep connection between erotic impulse and feeling of death. there was in these lonely days, an intense perception of life amplified because the erotic emotion and the profusion archetypal images that underlie it - and **at the same -time** , the serene detachment of a life fully lived up to his word, ready to "go back to it."

Such provisions communion with death, our silent Mother, and all felt as friend close, are surely favored by a state of exhaustion of the body, bringing us back to the simple things and essential: our bodies, love, death. . . There I was coming out of a "long period of mathematical frenzy"

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I have already mentioned in the introduction to crops and Semail

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the 71 (*). I was just starting to go up one percent. 522

state of physical exhaustion left me this time a little insane. She had just ended (also

suddenly she came) under the impact of a dream-a parable lapidary strength, which I liked then listen to the message 72 (**). They were days of availability, listening - a "sensitive period" of a Between the waves: behind me a long, loose wave "mathematics" and to me no less large wave "meditation" that already promised. . . She would gain momentum about ten days later, with this other dream whose narrative opens with the introduction Crops and Seeds, this vision of myself "as that I am".

They were weeks of intense inner work, of silent gestation change. And these poems love, in a different tone of all those I had written previously, is a fruit and a witness this intensity, this fullness.

They are also the last poems of love that I have written. Maybe was there in me that foreknowledge it was the last time I be in love, and that is the great déployerait fireworks songs for beloved! A foreknowledge that these poems addressed to an unknown girl, I deeply felt the beauty without having known, were also a farewell to love songs and women I had loved - a farewell to my passion of love that ended being consumed in this sparkling bouquet, and that suited me to leave. And, secretly and deeper still, it was a goodbye (or goodbye, perhaps) to all women, merging and becoming **One** with a new face. A more distant face perhaps drowned in mist, at the other end of the road - but at the same time very close, and very sweet. . .

18.2.5. Denial and Acceptance

18.2.5.1. (A) Paradise Lost

Note 116

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(October 25) 73 (*) Again three days passed without I find the time to continue on p. 523 my momentum. The first day, Monday, was taken mostly by Peter's visit with his daughter (two years) Nathalie, I escorted back later in the evening to take the night train to Orange. There will be time again in a few days to review what brought me this visit - a visit which I was counting more. . . For the moment I prefer to continue my train of thought rambling on the yin and yang. This thinking may seem like a philosophical digression, bursting suddenly into a certain **enquêt**e where it would have nothing to do - if only it came out unannounced a few waves association of ideas around a praise Funèbre. . . Yet I feel that it is with this "digression" just as I start to exceed the stage of the discovery of all the **hard facts** "that is The Burial 74 (**), to approach me at last, ever so slightly, the **force** at work behind the 71 (*) See "Dream and fulfillment," including page (iii). The "frenzy period" in question extends from February to June 1981. It is also one of the "long march through Galois theory" (see "The legacy of Galois" n° 7). it leads over a long period of meditation on my relationship to mathematics (see Sections "The killjoy boss - or pot Pressure "and" The Guru-Guru-not - or three-legged horse "n° . s 43 and 45) This is 19 July until December 1981. The poems Angela (and the poem "She") are 8 and 9 July (except the first, dated July 1).

72 (***) See the beginning of Note n° 45, cited in footnote previous page.

73 (*) (November 1) This rating is prior to the previous two, written between 26 and October 30, which form a continuation direct and deepening of the immediately preceding them, "The Act" (n° 113 of 21 October). This note rather attached to the end of the note of October 17 (n° 112) preceding it, namely "Half and whole - or the crack." From this, the reflection was therefore split into two parallel paths: one (in the sense of death and its link to love drive) continuing into the three notes (presented as consecutive) 113, 114, 115, and that began with this note n° 116.

74 (***) (14 November) This assertion "in stride" is not carefully considered, and is only partially valid. For a outline more detailed and nuanced, see note "Retrospective of a meditation - or threefold," a table ", n° 483

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actions and behaviors that seem strangely aberrant. . . It is surely no coincidence whatsoever by this "digression" just as I was led too, without having planned to involve myself so deeper than at any time of Crops and Seeds. This is one of the unexpected benefits of the recent Medicare episode, which occurred at a time when I was preparing to lead nimbly to its conclusion nearby the investigation continued for the seven preceding weeks. . .

This "digression" So, in which some people see a kind of intimate confession, and others a specular lative metaphysics is for me (more than any other part of Crops and Seeds) in the heart the Burial, the **heart** of the conflict. It is the only optics has changed the "view" where the thing is watched - but suddenly, changed so drastically that the thing that had just seems to consider suddenly disappeared!. We

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will not delay, I think, to find the contact that might seem lost

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road, with the "news item" the Burial.

But we can also mention the fact different, then the chief merit has been to create the "digression". . .

A part of the day yesterday was spent retyping the draft of the previous note written there are four days, I finally named "Mother Death - or the Act." Much of this draft was quite heavily crossed out, a sign that the formulation was still a little confused, while some themes important and delicate broke into thinking a bit "by the band" in the wake to another thing. In fact, starting this note I prepared especially to pick up the thread of the previous note, called "Half and whole - or the crack" written there just a week. But ultimately that thread remains still outstanding, and it is time that I finally resumed.

To that note then also, I had to retype a lot of text, essentially for the same reasons LEMENT, correcting blunders along the way and obscurities. This is the beginning of a reflection on the **division the couple**, intimately linked to the **division in person**, and pi us precisely what I called (in note "the Act" of there four days) the "vertical cut": she who "cut", or subtracted, one of the "halves" yin and yang "all" original in us.

At a level that now remains that of an intuitive understanding, unspoken, I "understand" it is "Clear" to me, that is the division in the person itself (division created from scratch, it seems, by conditioning) which is the root-cause of conflict ubiquitous in human society; whether the conflict within the couple or family, or conflict within larger groups or the between such groups to each other, to the armed confrontation of peoples and nations against each Others. The conflict between the couple, who opposed one to the other two competing standard, distinct and easily recognizable as such, may not unreasonably appear as **the** fundamental parable, as **the** case elemental, irreducible conflict in human society. The "point" of reflection "The crack" was especially to bring the case of the conflict in the couple to this more fundamental, more "basic" yet: the conflict in

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each person himself, who opposes a "part" of herself to another party.

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In view of this reflection to be seven days, it was natural to think first of the conflict between The "parts" yin and yang in us one of the two being accepted and duly emphasized and swollen, the other rejected and suppressed more or less completely. I was present at yet there was spirit in person other antagonisms still linked to other taboo than **sex uniqueness**. It is true that this last taboo, just as strong as that of incest, is even more insidious because the appearance of evidence which it is coated, which seems to provide the same care to formulate the name or, so it seems self-evident! Without even taking the care to not make me not, I have the impression (from the reflection of Praise) this taboo is the most crucial of all; the division or "cut" it establishes the person is

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ultimate root of the multiple dimensions of the division ingrained in the human person. Shoot at Carefully clear to what extent this is so, would be a starting point more attractive, surely, for a "journey to discover the conflict." This is not yet the place to start me - besides regarding trips that are before me, for me, I see hottest starting points one. . .

Retyping net the text of this note "Half and whole - or the crack," I realized also that I did not think by writing to explain so little, **why** I saw in the conflict in the person the root cause of the conflict in the couple, and conflict in society. This is something that is part I I said earlier, things that I "understood" (without ever having had so far in my "explain"), which I was taught and confirmed by the mute and eloquent language of a thousand little everyday occurrences, over the days and years ⁷⁵ (*). I do not saying either irrelevant to explain or to "explain" here "why" and "how", be it in a few pages, or in large volumes, perhaps. And no doubt some pages about that here would be neither more nor less "displaced" any other page on the yin and yang on and the conflict, which has already found its place in these notes. Surely I would learn many things, like I also would learn by pursuing this other theme for reflection on the conflict we established between yin and yang as the ultimate cause of division in us.

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One of these themes also visibly extends p. 526

the other, which makes them even more attractive to both! Yet it is not in that direction that I want to continue now, if little else. This is not the "cord" for a week already, I especially want to take, and which is still pending.

In closing the discussion in this note ⁷⁶ (*), there is a week I felt suddenly all happy and everything exhilarated: reflection unexpectedly had reconnecting with something important, I had a little lost sight of the previous day: **acceptance**. It is through this contact that negative was recovering, by virtue of the word that ends this reflection as an unexpected highlight - The word "**unacceptable**". This is because any one "side" of our person is rejected as "unacceptable" by our surroundings, and

First of all, by our parents who set the tone (or those who take their place, when parents are Failed) - this is the **non-acceptance** as the conflict moved to us. The conflict, division in us is not something that our **abdication** of a part of ourselves, repudiated - the abdication of our nature undivided. This abdication is the price we pay, we **have to** pay to be "accepted" as well fashion by the entourage. This "acceptance" - There is also not an acceptance in the full sense, a acceptance of it so that we actually are. It is rather,

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the **reward** for our submission to p. 527

certain **standards** to be shaped and molded following us these - the reward amount for a **deformation**, a **dismemberment** of our being, in the image of that experienced from an early age by those we surround.

In the reflection of the previous notes, discussed acceptance games occasions and both times the ac-75 (*) This "understanding" or belief is not really contradicted me does it seem, by this finding that I could do number of times that the division in the couple formed of mother and father, and the antagonistic attitudes that express, let a deep mark on the child, and often dominate attitudes and behaviors of adults. It is certainly fair to say that to a large extent at least, the division within us is the brand and the legacy of division, which in the days of our Children have opposed our mother to our father. Also, the question of whether the division in the person most fundamental or "elementary" as the couple, or vice versa, may sound a bit like whether the chicken out of the egg egg or the chicken?

I believe, however, that in a couple where one spouse would be "a" not in conflict with itself, and even that her husband would maintain towards her antagonistic attitude, the conflict would be transmitted **not** the children of the couple. The

I think because of this belief is that the child in this case would be **accepted** fully by a parent. The appearance Division in young children seems to be nothing less than the effect of **rejection** of part of his being by his entourage, and first and foremost by his **two** parents.

76 (*) The note "Half and whole or the crack", n ° 112.

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ceptance seemed a crucial thing, the first time was in the note "Innocence (The espousal of yin and yang)" (n ° 107), where I take a finding that goes back to a meditation ago four years: the outbreak and the full development of an undivided strength in me has been possible in the context a family torn apart by the conflict and the latent hatred, **simply because I was fully accepted by my parents** and my surroundings, the conflict moved into my being only later, after the age of five years, in a much more "quiet" around my birth family. The conflict between close was certainly far reaching there (in my time, at least) such heightened intensity (albeit veiled) as my family of origin. Yet in it my own person had stayed **out of the conflict**. Even if I happened to take part, it was not a tear, it was the spontaneous expression of a being undivided, who had never known the sting of rejection by his own people, and fear of rejection. I realize now, with half a century of decline, that in my new environment again, this innocence strength in me exercised radiation, a sort of fascination I would say; like a **Paradise lost**, infinitely remote, which might have a nostalgia for life and who suddenly calls us by the voice and the eyes of a child. She attracted me strong and lasting affections, who followed me up in my adult life and to the death of those who have loved me and 77 (*). But **at the same time**, he was going to Naturally, that strength **could not be tolerated** - any more than we tolerate it in a flower garden fired chalk line, in such a tree or bush vigorous and exuberant, believed love while cutting the stubbornly cube, a cone or a sphere. . .

According to my reconstruction of events 78 (**), that strength held out for maybe two years, two and a half years before plunging deep relegated

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in underground, after I decided to be my last

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and do like everyone else: all brain muscle while one suspects and damn tripe - and to have the peace ! I eventually follow suit, I **rejected** and denied (ignoring) all that had to be dismissed and ignored, by consensus without fault all the adults around me. And also by the consensus of my parents themselves, who had ended up almost quit show signs of life, living the great love farthest possible to their children. . .

18.2.5.2. (B) Cycle

Note 116

(1 November), I resume the interrupted thread there is exactly one week when I was introduced to me unexpectedly (October 26) in a kind of "poetic digression" on the feeling of death in love and the love song.

I just re-read the previous pages of October 25 and the net-d@n retype the last. I seem to see

closing a circle, whose course he had begun two weeks ago, with the note "Hatching of force - or nuptials" (n ° 107). This line ends with the preceding pages, which pick up and amplify the final "high point" of the note of October 17, "Half and whole - or the crack" (n ° 112). The high point, or "final word" that ends the discussion that day, is summed up in the categorical imperative of the final word, the word "**Unacceptable**".

This last word seems to understand perfectly, from the bewildering multitude of all packaging kinds that have shaped our lives, **the** determining cause of division in us: it is the **non-acceptance**, **the rejection** of our person, in the first years of our lives 79 (*). It will result in the non-acceptance by the rejection of certain forces and impulses in us, who are an essential part of our being, our power 77 (*). I see seven people who thus gave me their affection, which only one is still alive today.

78 (**) I made this reconstruction of the highlights of my childhood in March 1980.

79 (*) My own case was exceptional in this regard, given that I have been exposed to such attitudes on the part of my entourage. Now that from the age of six.

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to know and create. Their repression, recovery on our own account within the care of a Censor restless and relentless, is a mutilation of this power within us. Often his-effect is that of a true paralysis of our creative faculties 80 (**).

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This unacceptable power or these "faculties" are others also that the humble ability to be ourselves. p. 529 This also means, living our own lives, by the humble and full use of our own faculties, rather than life stereotype, programmed, driven primarily (and often exclusively) by reflex **repetition**, **of imitation**. They lock us isolate us as would a heavy shell, stiff and waterproof, which we would separate us at any time 81 (*).

The shell is made from our younger years, from thickening over the years. Its initial function was probably especially that protect us from aggression (often well-intentioned) by our loved ones, we make them more or less benevolent tolerance. But this shell protects us yet not only from the outside world - it also, and more deeply and essentially perhaps the function to isolate us, to protect us from **ourselves**: this knowledge and this strength in us, declared "unacceptable", having no place to be, by the silent consensus that law are around us. It was in our childhood, and became more and more over the years, a shell at **two sides**, the "outside" the other "inside". They protect the "me", the "Boss" on the one hand he fears attacks from the outside world (and it tends to become more fearful from year to year!), and secondly and **above all**, the disturbing and unacceptable fantasies and incongruities of "worker"; dirty **kid** rather, unpredictable or possible, even disturbing even though it is held off by a triple layer of horn thick, resistant guarantee fire and water. . .

(2 November) Following the note "Innocence" (n ° 107), highlighting the role had played my acceptance tation by my immediate surroundings during my early years, there was still a second time where "acceptance" and the non-acceptance "were at the center of reflection. It was in" Acceptance yang the yin "(note ° 110), where I make a partial assessment of the changes that are made in me since the day the "reunion" with the child king. They are in line with a gradual "return" to a "state of childhood."

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This return is not a "regression" to a previous state, which would erase the traces under me, p. 530 the traveler, the path that was mine. It is through the **ripening** only, the result of an inside job, we can find the contact with an innocence that seemed missing, with one child in us that seemed long dead and buried. And there is ripening that is not also so little return - return to the child, and simplicity, the innocence of the child. Thus a fully lived life is like a circle again that "perfect"; is rediscovering old childhood is a maturity finding of innocence - and ending in a death, perhaps, that prepares a new birth, as a winter preparing a new spring. . .

In this kind of "balance" a way back which is not completed, it appeared that the "end word "was **accepted**, as the word end of my path breaking, the starting way, was that of **non-acceptance**, rejection, rejection. My cure was not anything other than the process, work Inside, through which I gradually accepted and welcomed, things in me that I had for a long time denied, eliminated the best I could, ignored.

It is not there a "cusp" a long way once I reparcourrais again opposite ; a "regression" So, in the words of earlier. It©more like the upper arch a cycle, prolonging and continuing the already plotted bottom line **emerging** from it, become like his 80 (**) (2 November) and ostentativement Often, it is manifested by the effects of "blocking" - the inability of both "Run" in such a situation where we are engaged, and we pull out of this hopeless situation. . .

81 (*) Except for the hours of sleep and dream, where the shell becomes lighter: it sometimes disappears. . .

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feeder base, and a springboard for a new start. . .

(November 3) The notes were completed yesterday on an unexpected picture emerged of reflection without I@ called. I met with some reluctance at first, out of concern that the vision of reality the image in turn once suggested, is artificial; that the image me "hand strength" and make me say things that would be "fetched". But once the last lines were written and I me have stopped a moment, I knew that I had to pinpoint an unexpected and important aspect a certain reality; an aspect that may be known to me, but to be fully assimilated, something that I tend to overlook, or forget.

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I tended for many years (118) value that goes in the direction of "acceptance"

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and on the contrary even in a light mostly negative which goes in the direction of a "refusal". Without the thing always clearly expressed, perhaps, I felt these two types of attitudes, acceptance and rejection, as "contrary", the "opposites", one of which would be "good" for myself and for all, and the other "bad".

In this way unformulated to understand things, I remained a prisoner without realizing it well course) of the eternal "dual use" of things, the one I had previously also named Vision "Warrior" who opposes as antagonists of the things that a deeper vision reveals as **Additional aspects** and inseparable of the same reality. At the time of start (October 25, he is thus ten days) this reflection on the acceptance and refusal, I had to realize that these are indeed wife and husband of one of those famous "couples" yin-yang pairs or "cosmic", which he discussed last month - since the beginning of this "digression" on the yin and yang. So I planned that reflection would be focused on that aspect of things. It might appear for two days in it away. But now the lines that terminate reflection yesterday, with the image of the two arcs of the same cycle that extend one another, come to take me unexpectedly this initial intuition was remained unexpressed.

I tended to see the **refusal** that dominated my life, my eighth to my forty-eighth year, under one day mainly (if not exclusively) **negative** : as a **weight** sometimes overwhelming that I have dragged on for QUARANTEEN years of my life, which I eventually get rid (or rather, by **starting** to rid) during eight years. This "day" -There began to reveal to me after discovering meditation and after the "reunion" with the "child" in me. So it was precisely the moment when I started to dis-vir the process of rejection in my life, speaking in a kind of "superyang conformism". This aspect of things is not imaginary. To perceive where before it was like a "white", a void Overall, was a fruit maturation which continued for eight years. This does not prevent it Another aspect of the same reality, no less real and important, the "positive" aspect of " **powerful principle of action** ". This aspect appears for the first time (and discreetly) in the meditation of October 5" Yang bury yin - or Superpère "(n ° 108), when I write:

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"The" I@ like them "(not" like me ") also meant I" bet "on the" head ", not

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worse at home than anyone after all, and "" fight with their own weapons! "

It is this motivation then was as the driving force of my inordinate investment in mathematics, from 1945 to 1969 - the force that fueled a burst of discovery for a quarter of century ⁸² (*). One chooses to see such investment in a light "positive" or "negative", what is clear is that there has indeed been **momentum** , **Action** intense. Learning the side of life, there was that "sometimes crushing weight", never examined, to ⁸² (*) It was, rather, the ego part of this momentum, the "factor" **ego** of this "vital force".

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not mean complete stagnation - even "weight" yet at the same time fueling a surge of knowledge, gave it its momentum.

Since my "start" in 1970, I had a tendency to minimize and sometimes to deny the "value" that there should be to grant such a momentum in the direction of discovery and understanding of so-called "scientific" of outside world. I tried several times during Crops and Seeds, identify areas common between such a discovery, and self-discovery, as well as by how they differ against ⁸³ (**). It is certainly based to say that the momentum of discovery in a scientific direction (it was biology, or "psychology" ...) distances us from ourselves and from an understanding of ourselves. When the role of such an understanding is fully understood, one could be tempted to see the momentum of

scientific discovery (and any other that we "move away from ourselves") a "wrong" or at least an "obstacle" to a maturation, and thus, to a full development of ourselves. (At least in the case that has been mine for a long time, where this momentum mobilizes most, if not all of psychic energy.) Yet it is also true that **while** we live is a feedstock for our learning about life and ourselves. It is a **material** that is up to us to let into knowledge, allowing maturation of work to initiate and continue in we. This is also why I do not regret anything I've experienced, finally seeing that "everything is good, and there is nothing to throw "; also including deserts long periods of spiritual stagnation, which were the price I was paying without skimping (and eyes closed...) for my excessive investment in a passion

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consuming. Now I see that even these deserts had something to teach me, only they may p. 533
could be taught. I could not do without it - at most perhaps could I after
few years begin this "second arc" of the cycle, which I have extended the deadline for several
decades.

It was in that day, also, it appears that acceptance of myself and others, who was born and developed in the years of my maturity, was "nourished" refusals that had marked the longest part of my life - the "lower arch" of the cycle mentioned yesterday, and his "Mother sitting." Certainly, within les six first years of my life, there were many in my total acceptance of myself, who had no needed "refusal" to be earlier, and to deploy and assertive. Instead, his épanouis-ment was made possible, **because** precisely it was not countered, not cut by scissors of a certain refusal. But this "acceptance" that was in me in my childhood is not " **the same** " as that of my manhood. He Himself was missing a dimension that only acceptance of me by those who surrounded my childhood, could have given him. It was a **knowledge of the denial** , rejection of myself (or a share of myself) by others or by myself. This knowledge came to me through the experience of the refusal, and through it also contempt, which is one of its many faces.

Maybe some are born they with knowledge, understanding of refusal, which allows them to stay **an** innocent and knowledgeable, despite the refusal which their children are exposed. I know that this has not was my case. I could do without the experience of rejection and contempt by others and by myself, as ground for the blossoming of understanding (if imperfect it) refusal and contempt.

18.2.5.3. (C) Spouses - or the enigma of "Evil"

Score 117 I just probing an unexpected aspect of the relationship between denial and acceptance in my own life, who had appeared unexpectedly in the reflection of yesterday. The "refusal" in question here is not, however a refusal fullest sense; I mean, a fully assumed refusal - far from it. This refusal was also a
83 (**) See in particular the sections "Desire and meditation," "Forbidden fruit", "The solitary adventure", n ° s 36, 46, 47.
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long **flight** before the denied thing. It was to **not see** , to **ignore it** , and thus, to some measure to eliminate the scope of my conscious apprehension and also field

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visible to others. he
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was cause and clear a state of disharmony, imbalance - in this case, an imbalance "superyang" that marked my adulthood, and some crucial mechanisms are in action today. This "Refusal" so do not appear here in the role of symmetry or yang-yin complementarity, opposite "Acceptance" (myself and others) which was discussed earlier. It rather is part of a Working becoming aware of myself, and goes towards the restoration of disturbed harmony. It is therefore an acceptance Here "in full knowledge" of accepting the full sense of term - and not another flight in opposite direction to escape sometimes called "denial".

There is a clear relationship between yet "refusal" and "acceptance" that sometimes probed. She appears when both are taken "in the full sense of the term." These are then aspects **simultaneous** and complementary tary of the same harmony, the same attitude fully assumed. (While sometimes there were two aspects **consecutive** a traverse or progression passing through a state of imbalance, dishar-ceremony, to move towards a renewed balance.) In this context, there is no "real" acceptance, which would exclude the refusal, which would close to it. And there is no "real" refusal, which is born of acceptance, which do not be a tangible manifestation; which is one of the two "sides" - face "yang" - the same thing which comprises two indivisible, and whose face "yin" or "mother" is the acceptance 84 (*).

A "acceptance" that excludes the refusal is not an acceptance but complacency (or others to oneself, or both), or complicity or collusion (when it comes to the "acceptance" of au trui). Accept a totally be, whether self or others, does not mean approval

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unconditional of his actions, habits and inclinations. Such unconditional approval
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tional is itself a **leak** , a refusal to take cognizance of reality (often eloquent), and no acceptance. Far from creating a "force field" conducive to a renewal, a recovery contact a forgotten unit, it reinforces inertia, and helps maintain in a rut.

A refusal which is simultaneously an opening, which is like a hand (or a "boom") stretched to others, or as a start marking a breaking point and renewal in his relationship to oneself - such a "refusal" is actually a cut, which "cut" and isolates both and he who refuses, and he who is denied. It's still a leak before a reality experienced as unpleasant or disturbing, heavy threats to our life well established, our amenities - a reality that we believe in escape a stroke of ax "this does not happen to be" ... And yet, **it is** ! And our "refusal" requirement prevents not that things are what they are, even at the risk of displeasing us. On the contrary, all as complacency automatic approval, such a refusal reinforces the inertia against change creator, he is like a **verdict** : unacceptable you are, and you will remain such. . .

I do not claim to perform in me the harmony of acceptance and refusal fully accepted.

On the contrary, I know there is nothing - and I'm not sure I met a being who realize this harmony. The carry is also having resolved in his own person, the great enigma of the "evil": from lawlessness, lies, malice, spinelessness, contempt - and suffering of those who are

84 (*) It is interesting to note that this "natural" distribution of roles in the couple yinyang acceptance-rejection (distribution expressed in French by the feminine and masculine of either term of the couple) is **inverted** in the image had spontaneously presented to me at the end of the discussion yesterday. There may be such reversals has no surprising - as a lover-lover couple whose relationship is not fixed, it can not fail to be be times when the game lover roles are reversed, giving free rein to the erotic impulses "yang" which live in lover, and erotic impulses "yin" living in the lover. I speak also of the importance of such reversals occasional roles in the note "Acceptance (yang in yin)" (n ° 110, last paragraph of the first part of this note).

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beaten and who have no voice. It is also, surely, have fully understood the "good" which in this one Inside start so often refers to us as "evil."

Refusing War, while seeing and accepting that it is everywhere and in all; that even those I love the bear within themselves and spread, as I myself recovery, reach, spread and transmitted. Refuse war, while accepting that it is, while loving and countless soldiers blind. It is this and nothing else, surely, that also means to be out of the war, getting out of the conflict - have stopped the spread war.

18.2.5.4. Yang plays the yin - or the role of the Master

Note 118

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(4 November) ⁸⁵ (*) The appearance of this "trend" ⁸⁶ (**) is in the early 70s, p. 536

So in the years that followed my "departure" of mathematical scene. Under the influence of an environment and of very different friends of those before, so there was a drastic shift in the set of "values"

which I claimed myself. Looking back, I can describe this shift as a shift from a system of values "Superyang" or "patriarchal" to another almost opposite, high dominant "yin" - a "matriarcal" system.

Among the influences that have played in this reversal, there are also some sporadic readings

Krishnamurti - see the note about "Krishnamurti - or release become hindrance" (n ° 41).

If I play then let those influences that would lead me to such a shift "ideological" is without

doubt (without realizing it then) there was in me a deep and urgent need of renewal and

First and foremost, the need for a release of attitudes weight inveterate "superyang". This same need surely had played in 1969, when in the middle of intense and fruitful mathematical activity, I suddenly

"hook" math to get interested in biology ⁸⁷ (***) ; then the year after that, leaving (without spirit return) mathematical scene and even scientific research. There was then a change of environment and sudden and drastic activities, which I have had occasion to refer several times over "and Fatuité

Renewal "(the first part and Crops Seeds).

Yet it would be inaccurate, or only partially true, considering the dramatic changes

environment, activities and finally to "values" as a "renewal", a "liberation". I already expressed quite clear about this in the section "Meeting with Claude Chevalley - or freedom and good feelings"

(n ° 11). In most penetrating light of this reflection on the yin and yang, I can say that Chan

ment that appears as probably the most significant of all, the yang evacuated values (before have been identified in myself, let alone examined) in favor of yin values - change

Yet in any way change the structure (superyang) the "me", and tempered at best somewhat attitudes and behaviors that entailed. It is true that my understanding of the outside world

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had considerable p. 537

ably transformed in the sense of a sudden enlargement, but this transformation remained fragmented, limited almost exclusively to the intellectual level, that of "options". It could not be otherwise, as long precisely this transformation was confined to my vision of the "outside world", in which my own person did not appear, or appeared only incidentally or superficially, through my "role social" and above all its ambiguities and contradictions. No more than in the past, I then had the slightest suspicion in **my own person**, there may be ambiguities and contradictions! Instead, I was animated by an unshakable conviction that **my person**, she was free of contradiction (although I Yet beginning to discern contradictions in others, everywhere around me); and especially, 85 (*) This note is from a footnote page to note "the cycle" (n ° 116). See footnote at the beginning notes of 3 November. 86 (**) The tendency to develop "acceptance" by opposing the "refusal". 87 (***) I myself am interested in the first end "molecular biology", under the influence of my biologist friend Mircea Dumitrescu, who introduced me to this fascinating world. 491

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there was a perfect match between my conscious desires and my conscious knowledge of things of hand and my subconscious (if indeed there was one in my case, if only a single copy of my conscious. . .).

The first crack in this belief appears only in spring 1974, when I finally understood something had good bell **in me** too, and not only in others, as a cause of this inexorable deterioration of my relationship with my relatives (what then my life seemed to have reduced, throughout my adult life). The effects of this salutary crack then remain limited in the absence of a genuine **curiosity** towards myself, would have had a party to go shove it, watch it was behind, and see what making collapse a heavy building, made of preposterous delusions and never examined. . .

This tenacious blocking a natural curiosity came above all, surely, because I had never even met another such curiosity that could make me suspect that in life as in math, every time he has a problem, it is enough to look and thereby learn many unexpected and useful things - in other words, that there was such a thing as **self-discovery**. I had read of Krishnamurti then, and had been able to realize some of the things he said were true, profound and important. So I tended to take for granted on the line.

A little closer, I tacitly adopted the vision of the world Krishnamurtian (*). 88 0

At that

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I mean, this luggage then has indeed acted as a "hindrance" to a true liberation, a renewal full sense. I explained elsewhere on this in the note cited above (which I just read in the moment) I'm trying to understand what was the role of "Lessons" (Krishnamurti) in my own route. The first "awakening" in the full sense takes place two and a half years later only with the discovery meditation. This was also the discovery of self-discovery; there is an **unknown thing** that is "me," and I have power to enter into this thing, to know. This crucial discovery was made at a time when all education (with or without capitalization) was forgotten. It was also the time for the first, collapsed "building", built preconceived ideas and "teachings" of all kinds, maintained by a huge inertia - and now also emerged where an active curiosity, often playful, and always benevolent.

It was after this turning point, with the birth in me a curiosity with respect to my own person first, and "life" in addition and as a natural result, I was able to see with new eyes the both Krishnamurti and his message. I knew, in retrospect, to appreciate the richness of the message, and at the same time discern its limitations and shortcomings, as well as some land contradictions in the Master ("the Teacher" for his disciples and followers). The heaviest of these shortcomings and contradictions seems to me that I just graze again now: it is the absence of curiosity in the Master himself. Nothing in his writings to suspect that remote day, that vision is **born in a person** - a person taking, as you and I, in the net made ideas and never identified contradictions; that the vision is **decanted from the error** during a **labor** intense, sometimes painful, countercurrent of immense inertia forces; the stages of this work, or "thresholds" crossed during these labors were many **discoveries** unexpected upsetting each a range of inveterate ideas

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perpetuated by

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88 (*) (5 November) The effect of this in my life "adoption" of a vision, becoming a kind of cultural baggage, remained more limited. My attention has been drawn to certain aspects of reality that had previously escaped me completely, but without thereby snaps in-depth work of sorting and assimilation, having power renewal. If between 1970 and 1976 (between my "start" of the mathematical scene, and the discovery of meditation) Krishnamurti was important in my route, it is less because of the "baggage" I borrowed him, because he had become (to my knowledge, of course) a

model implied that I conformed myself not wanting to seem - the model sum of "Guru-Guru-not" Master who defends to be.

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universal mechanisms of imitation, repetition ⁸⁹ (*).

All these things, the child sues them one day, and even known to be intensely lived. But Master has forgotten them, and care not to remember. Rather than being a child, who passionately discovers and **learning** and discovering changes he wanted to be the **master** immutable who **knows** of rocket science unchangeable, and who devotes his life to spreading his **teachings** for the benefit of ordinary mortals. He made one his followers and disciples, those who believe in him, wanted him to be: the incarnation a static message repetitive and thereby reassuring the apostle of a new ideology. A **Guru-Guru-not** in sum, like myself (emulating his example, may ⁹⁰ (**)) was the past. . .

(15 November) I named the preceding note (November 4) "Yang plays the yin - or the Master." As it should be in a meditation on myself, the main name of the note regarding my own person, in Referring to a "game" I have however played a few years after I left the scientific world, 1970 ⁹¹ (***) . The second name "The Master", it can be interpreted either as relating to my person, for a designation of the role or the pose I wanted in this game of "yin yang playing" or that of Krishnamurti, who served as my tacit model.

In fact, the values that emerge from Krishnamurti books are almost exclusively yin values.

Upon my first reading Krishnamurti (1970 or 1971), it was the first time I see highlighted such values, and identified with penetration limits and the flaws that vision yang the world was mine (and that of "everyone" to close variations). This is probably due to the very strong impression that reading a few chapters had made on me. Six or seven years later I also had the opportunity to read the fine biography of Krishnamurti by Ms. Lutyens. This confirmed a certain impression of person who already emerges from his books (nobostant that there ever face no one). Today I would express by saying that the basic tone in his temperament

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strongly yin. p. 540

It adds to it only through his writings, we see, as a constant leitmotif, highlighting qualities, attitudes and values yin coloring, and devaluation (explicitly or by omission) qualities, attitudes and tone values yang.

The life and teachings of Krishnamurti thus realize the quite exceptional attitude of "**yin buried yang**", which goes in the opposite direction from that of the far more common, that of "yin yang buries" including my own life (until my forty eighth year at least) also offers an extreme example. The options "superyin" Krishnamurti ⁹² (*) have the great merit of going against the current basic values of culture surrounding. This prevents them seem equally repressive (part of his person by another party) that were mine.

Yet there is one aspect of "yang" very pronounced and striking Krishnamurti©life was without him probably first imposed by the role of figurehead of (future) "spiritual master", decided by its prestigious Theosophical tutors while still a child. Subsequently, after the great turning point in his life marked by discoveries that have shaken thoroughly his vision (by discoveries become

⁸⁹ (*) (5 November) These mechanisms then obviously part of the basic mechanisms of the psyche, in both men the animal. They pre-exist any conditioning at all learning (like the language by young children, and of almost all of the activities of daily living), which could not be established and take place without them. They were no less present and less effective in the future young Master, that whoever.

⁹⁰ (**) (5 November) Decidedly, the doubtful tone of this "maybe" is not in order! On this subject the penultimate note bottom of page written today.

⁹¹ (***) The time of the discovery of meditation, in October 1976, also marks a sharp decline in this game, which continues somehow, a more discreet registry until 1981, where it is finally discovered and defused. On this subject the section already cited "The Guru-not-Guru - or horse three leg", n ° 45.

⁹² (*) These "options" probably date back to his childhood, and more specifically, his first contact with his theosophical guardians.

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Following "The Teachings"), the role of "master" or "guide" was (apparently) fully internalized taken over with the propagation of a doctrine that was personal to him, and not resume his masters Theosophists. This spread is an intense activity, even exhausting. It hardly seems to go in the sense of a **balance** of yin and yang, but rather appears to me as a **constraint** imposed on a eminently contemplative temperament, a "self" as strong and pervasive in the master, than anyone. Viewed in that light, this note "Yang plays yin", where it is mainly a question of Krishnamurti

could also be called " **yin yang plays** ."

Thus, on two occasions and in two different ways, I played in my life "games" that are being as a **reversal** of attitudes that dominated the life of one who, in a certain period of my Chemi ment, was to become the tacit model of my image (just as implied), and certain attitudes and poses in me. But through inverse of expression styles to each other, I now recognize a obvious relationship. One is in the presence of **repression** (unconsciously, it goes without saying), genera

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trice a

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Out of the natural balance of yin and yang ⁹³ (*). The other is in choosing a **role** , and the **weight** **This role** , its braking effect, or even blocking, in a development, in a maturation in the progression of understanding or knowledge. This role (or this pose) was the same for me in those who became my model, to which I may merely borrow it as it is. It is the **role of Master** .

18.2.6. The mathematical yin and yang

18.2.6.1. (A) The more "macho" arts

Rating 119 (5 November) This is a moment that I wanted to talk about the yin and yang in the mathematical tick. Both yin and yang aspects of mathematical work, or an approach to mathematics, only appeared to me during the discussion in recent weeks about the yin and yang. I planned that to sound so slightly in those notes this double aspect would be the most natural way to "return to my sheep "in these notes that are supposed to be a retrospective on" a history of mathematician. "

What was clear to me from my initial thoughts on the yin and yang (there are five) is that "do math" is perhaps **the most yang** , the more "masculine" from all known human activities nowadays. Actually, all entirely intellectual activity, such as scientific research and in particular, more generally, any commonly referred to as "research" activity is a very strong activity predominant nance yang. I was about to write: "marked by a strong yang imbalance," and this is the case indeed when this activity is to absorb almost all the energy of a person. This predominance (or imbalance)

Yang appears in the remembrance of many of yin-yang pairs, for which it is clear that it is the term

yang mainly, if not exclusively, that is "present" in intellectual work. I merely

to address some, all part of the same "group" (or even "door to the world"), which

I called the group "the wave - the precise". (NB in the latter couple and those that follow, the term yin presented first.)

- Sensitivity - reason (or intellect)

- instinct - reflection

- intuition - Logic

- Inspiration - method

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vision - consistency

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93 (*) In this relationship then we are certainly very large company!

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- concrete - abstract

- the complex - simple

- the wave - the precise

- dream - reality

- the indefinite - the defined

- the unexpressed - the expressed

- informs - trained

- infinity - finished

- unlimited - limited

- the whole (entire) - Part

- global - local (or fragmented).

I just go my yin-yang directory, and even raise a bunch of other couples who

superyang feel the character of pure intellectual activity. I only raise it even the first of all

those I had thought earlier: the couple **body-mind** .

This view, I think that among the various types of intellectual activity is the mathematical work represents the ultimate extreme yang. This is probably due primarily to the extreme nature of abstraction, the fact that it is, to a large extent, independent of any "support" by sensory experience and

a reasoned observation of the outside world, the one where we live and where I hear our bodies move.

The extreme nature into abstraction distinguishes mathematical any other science, and work ma-

theme of any intellectual work into a science or work "of pure reason." AT

Unlike the experimental sciences and the sciences of observation, it is also the only science whose resulting States are established by **demonstrations** in the strictest sense, proceeding as a **method** rigorously codified and infallible principle, the so-called " **logic** " to arrive at **certainties** which leave no room for doubt or reservation, or the possibility of exceptions which have escaped the case observed until now. These are all extreme yang traits combined in mathematical work, and In this work only.

While these traits then had enough to get me from childhood, I who had opted to cross for "head" and extreme yang! ⁹⁴ (*) Especially after the experience of war and concentration camp, exposed to discrimination and prejudice that seemed to defy reason even the most rudimentary, what fascinated me most in mathematical activity (the little I was able to learn

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in my high school years), it was this **Pou** p. 543

see she was giving, by virtue of a simple demonstration, to take the same membership the most reluctant, to **force** the consent of others in short, whether willing or not - for some only accept with me the "rules of the game" mathematical. These rules, from my first contact with the mathematical school- lar, in 1940 the school of Mende (where I could go, while being interned in Rieucros camp five or six kilometers away), it would have seemed that I knew, felt the instinct, as if I still had known ⁹⁵ (*). Surely, I felt better than the teacher himself, reciting we lamely places common then use the difference between a "postulate" (in this case, that of Euclid, the only one he and we had the good fortune to hear. . .) And an "axiom", or " **the** demonstration" of the three "if equal triangles ", following the textbook as a student first communion would follow his breviary.

Five years later, attracted by the sudden prestige of atomic physics is yet to studies

⁹⁴ (*) Except when even the military and warlike variant, parades, uniforms, attention in you chest out, and massacres and impeccably organized graves. . .

⁹⁵ (*) These initial contacts are placed soon after my childish thoughts on squaring the circle, referred in note ° 69.

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physical that I first enrolled at the University of Montpellier, with the idea to initiate me into the mysteries of the structure of matter and the nature of energy. But I soon realized that if I wanted to initiate me mysteries, it was not by following the course of college that I could do it, but working on my own means alone, with or without books. As I did not have the flair or the equipment to learn physics in that way; I sent the thing more propitious time, I then started doing math, all following "by far" a few courses, none of which could satisfy me or bring me nothing beyond what I could find in current textbooks. But he still had to pass my exams. . .

18.2.6.2. (B) The beautiful stranger

Rating 120 (6 November) In retracing the moment the notes of yesterday, I could make sure I had attention not to fall back into some confusion between the **work** mathematical, very high activity dominant yang, and " **the** math". It is surely no coincidence that in French and German, word that means is feminine, as " **the**

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science ", which includes, or even broader term

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" **Knowledge** " ⁹⁶ (*), or as " **the substance** ". For the mathematician in the proper sense, I hear for the one who "makes mathematics" (as he "would love"), there is indeed no ambiguity about the distribution of roles in his relationship to mathematics, to the unknown substance so that he connais- ciency, he knows the penetrating. Mathematics is then also "woman" no woman he known or only desired - he has felt the mysterious power, drawing in it, with this force to both very sweet, and unanswerable.

I realized for the first time to the profound identity between the impulse that drew me to "the woman" and that which attracted me to "mathematical", months before the meeting with the verses of the Tao Te King that would cause me to the praise of the Incest (and on the way, my first thought routine on the "feminine" and "masculine", which I still did not know the Chinese names "yin" and "yang").

That was six years ago, writing a text two pages, entitled "As a program," implying:

for the course (4 C) of "Introduction to Research", which this text was an introduction, or more just a statement of intent about the spirit of this "course". After writing this text came

under my pen spontaneously most of the world, I was struck by the abundance of nascent images one others, charged with erotic connotations. I was well aware that it was there neither a chance nor the result of a simple literary deliberately - it was an unmistakable sign of a deep kinship between the two passions that dominated my adult life. No wonder then deepen thing by systematic reflection (appeared a few months later, on the occasion of the writing of Praise), nor

even (I think) to make clear to me what was suddenly seen, I think I can say that right now I learned, without fanfare, something important - I had "discovered" something 97 (**) something that had completely escaped me before.
Of course, like everyone, I had heard of Freud and sublimation of libido and all that, but it has nothing to do. Even tons of psychoanalysis books and anything you like may not be Such moments make the economy where any theory, any "baggage" are forgotten and where suddenly what

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that thing

p. 545

"Penny dropped". It is in these moments that renews our knowledge of things. It has nothing to do with 96 (*) For cons, "the knowledge" is masculine, and it©husband" in effect in the couple yin-yang "knowledge - knowledge". German is less pronounced here, since the two terms "Kennen", "Wissen" are **neutral** (as substantivised verbs).

97 (**) It was then a "discovery" of the "yin" mode, "female" - which is done by the reception in us a new acquaintance, in silent opening provisions to that just in us. Such moments were rare in my life, I think. In all case, the moments of discovery in which I keep memories are almost all yang tone, "masculine".

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read books, listen to presentations, that is to say, increase knowledge 98 (*).

When I think of "mathematical" is certainly not the entire **knowledge** that can be described "Mathematical", recorded from antiquity to the present, in publications, preprints or manuscripts matches. Even eliminating repetitions, it must probably a few million page compact text; ten tons of books, perhaps, or a few thousand thick volumes, enough to fill a large library: no anything to thrill for sure, on the contrary! Talk about "mathematical" makes little sense in the context of a **vision**, an **understanding** - and these are there essentially personal things, not collective. There are as many "mathematics" he y mathematicians, each of it has some personal experience, more or less extensive or limited, including a fruit is his own understanding, his own vision of "mathematics" (the one he knew) always more or less fragmented. It©like "the woman", which may appear to some as a mere abstraction, or as an empty formula and yet has a "reality" deep, powerful, incontestable (for me at least), with each woman he met

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or known is an embodiment and is p. 546

an aspect ; and the **same** woman in the experience of another is probably still another embodiment, yet another aspect.

My purpose here is not to compare myself to the difficulty to "integrate" the vast multiplicity of ex-ences, understandings, visions of "mathematics" in a totality, a unity - and this, again, in a time when we are seeing (I think) to a kind of "divergence" frenzied mathematical production and where not a mathematician can probably boast of knowing, if only in outline, all or most of what has been achieved substantial in our science. My point was rather examine so little play of yin and yang in the **work** mathematical, ie also in the relationship mathematician (or such mathematician, starting with myself) to "mathematical". The thing considered is "the mathematician" or "as a mathematician" (in its relation to mathematics) rather than "mathematical" itself.

18.2.6.3. (C) Desire and rigor

Rating 121 (7 November) At our intellectual faculties of reason, "know" anything, it is before anything else, the " **understanding** ." And in a work of discovery that is placed in this register then our faculties, the momentum of knowledge that drives the child in us (regardless of own motives the "I", the "Boss") is the **desire to understand** . This is perhaps the main difference that distinguishes intellectual knowledge instinct of her older sister, loving impulse. This desire to understand pre-exists any "method", scientific or otherwise. It is a tool, shaped by the desire to serve 98 (*) This finding is not contradicted by the fact that it is quite possible, even probable, that this "awareness" (the So pass the conscious level of anything seen in the unconscious) was facilitated by the existence of the Freudian consensus I had not heard that it really makes me neither hot nor cold. A knowledge can foster the emergence of a connais- ciency, but it is much more common, it seems to me, he chokes in the bud any attempt outbreak - like the "Answers" ready to choke in egg hatching of a (good) question. . .

It©a remarkable thing, while "everyone has heard" so little of the role of erotic drive in creativity (artistic or scientific work, say), he shone in track in the consensus that prevailed in circles which I belonged at one time or another. Yet it was not without striking facts, which could have put me long the flea in the ear. Thus, until three years ago, periods of intense creativity in my life, and especially interior renewal periods, were also marked by a strong influx of erotic energy. Nevertheless, my mathematical activity has not been accompanied by images or conscious erotic associations. But I remember was a little disconcerted, in the 60s, during a working session of the Bourbaki group, a colleague and friend who

evoked before me, as the most common thing in the world, a peculiarity in his mathematical work: when he was arrived after a difficult job, he felt a compelling urge to make love (with or without partner) - and this all more strongly that he was more pleased with what he had done.
four hundred ninety seven

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its purpose: to penetrate the unknown accessible to reason, in order to understand. The knowledge born of desire know, so the desire to understand when it is the reason that wants to know. The **method**, the instrument desire, is itself powerless to bring forth knowledge - nor the doctor's forceps or even the expert hands of a midwife, will give birth. But sometimes they usefully attend the birth of newborn, when the time is ripe and that they know come in handy. . .

Many high school and university students, if not all, must feel **rigueur** mathematical tick, which was drilled into them by gloomy masters, as a kind of entirely outside their prior humble person, incomprehensible and arbitrary, dictated by God and peremptory

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a ruthless Euclid
p. 547

Grand Chief Censor promoted with Mission to rival the countless generations of schoolchildren task chowing somehow Culture with a capital C. I had to be one of the few that has not happened since that point in my relationship with school mathematics - to have felt instinctively at the first meeting and in the narrow framework of a book of sixth grade math, function, and the original sense of rigor: that this was a flexible instrument and amazing efficiency in the service of understanding these things called "mathematics" - things that reason alone can fully know. This "discipline" is also the soul and nerve of what I called, in reflection before yesterday, "the mathematical rules tick", and that sometimes I called "the method". From having only interviews, it was as if I had always known - as if it was my **own** desire that had shaped them gently, lovingly, Such a key that was able to open up to me a world unknown, mysterious, whose wealth approached would be endless ... And it is my own desire that continued to refine this tool Throughout my years of high school and college, before any meeting can still make me suspect it existed somewhere **congeners** - people who, like me, found their delight in probing the Unknown that this key then, apparently unknown to all (including my teachers), has sole power to ajar to 99 (*).

18.2.6.4. (D) the rising sea. . .

Rating 122 (8 November) For three days my thinking brought in principle "on the yin and yang mathematics, "and I feel like she does not finish to start, then I am partially absorbed in other occupations and tasks. A preliminary force, I still not come to the fact to which I was getting from the start: that in my own work

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Mathematics is the note **yin**,
p. 548

" **Feminine** ", which dominates!

I noticed it a few weeks ago, on the sidelines of this reflection on the yin and yang, and in relation to this "association of ideas prompted by the Funeral Eulogy in three parts", which was the point of starting this long digression, (see the beginning of the note "Yang buries yin (1) - or muscle and guts.") In short, this association of ideas (about which I will have the opportunity to return) based more or less on intuition that my approach to mathematics was strong dominant yang. This intuition was enough natural, since it was my superyang options that had motivated my long-term investment in mathematics. It remains that this intuition, or more precisely that idea was wrong - it was enough 99 (*) Yet the little math I learned in high school and college would still have been enough to make me understand that in the past at least, there must have been people like me, who actually called the "mathematicians". Mr. Soula (one of my professors in college) I had also spoken Lebesgue, which would have solved the last open issues in mathematics, including the theory of measure (on which I worked since I left the school in 1945). But in those years (1945-1948) my desire to clarify by means my questions **myself** asked myself was so exclusive, it excluded any kind of curiosity about the existence of the work or the person mathematicians past or present.

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I take the time to examine so slightly to realize that the opposite is true.
For a surprise, it was: a surprise! I have not spoken "hot" in my notes, not cut then the thread of reflection, when I tried to understand how I perceived the yin and yang and the

philosophy that emanated for me. But here we are finally!

This misconception about the nature of my approach to mathematics must have crept into me, without examination and as a matter of course, from the time I started to pay attention to the yin-yang appearance of things, there are five or six years. It must be a residue of my brand yang, masculine - residue that continued to hanging there by pure inertia, blame me for having bothered to pass a clean sweep in that area. . .

Perhaps the reader will he feel like I@ carrying the boat, as not later

that three days ago, I explained in great length the mathematical work was the surperyang

superyang activities - in relation to mathematics it was a figure of "woman" and

the enterprising mathematician lover - and now suddenly I raise if in case

my modest person, my job or my "approach" is yin or yang to conclude (as the thing

most natural in the world) it is yin, who had grown! If there is an apparent confusion, it comes from a

incomprehension of this universal fact: in all, it was the more yin or more yang of the world,

plays the dynamics of yin and yang, for the nuptials of the two original forces. Thus fire, more

yang of all things and the very symbol of yang, yin is in some aspects (the "yin

in yang ");

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and conversely water, which is the symbol of yin, yang is in some aspects and p. 549

functions (the "yang in yin"). Needless to develop here these two examples, particularly instructive

- surely, the reader intrigued by these findings (as considered perhaps preemptory or cryptic)

will only have to follow by itself associations of ideas that relate to fire, and water, to discover

himself in both cases the reality of yin in yang and yang in yin. And if he is a mathematician, or

if only familiar intellectual work (even though it would not be a mathematician or even a

scientific), it will have no trouble discerning the existence of complementary approach modes yin and yang

with respect to any kind of intellectual work, if "yang" as it is in comparison with other types of activity

less fragmented.

A possible starting point would be to take the fifteen yin-yang couples reported at the beginning of the

thinking of it three days ago 100 (*), when I found that for each of these pairs was the predominance

the term yang, which took place in the intellectual work (and this especially in the case of work

mathematics), when comparing such work to other types of activity, like making love, sing,

paint (a table or a wall that does not matter) to his garden, etc. This does not prevent that if we stay

within a particular activity such as doing math say (all that is yang is

heard a thing), we can distinguish a balance (or sometimes an imbalance) features either yin or yang,

varying from one mathematician to another and sometimes, in the same mathematician, work to another.

For example, some work is the structure **logic** of the theory developed that is set

before, in others it will be the aspects **intuitive**, there is an imbalance, manifest in the reader or

the listener with a sense of **unease** many familiar (and sometimes also from the author), when one of its aspects

essential is grossly neglected in the "profit" on the other. (When the two are grossly neglected,

they throw the book in the trash, or you leave the room, slamming the door!) When each of the two aspects

is strongly present, either explicitly or between the lines, this is manifested by a feeling well

also familiar harmony, beauty, balance, satisfaction. This is so regardless of

"your

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basic "dominates the approach taken, this tone is in the direction" logic "or" intuition "(or p. 550

100 (*) See "The most macho of the arts," said n ° 119.

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as "structure") or "substance"). Needless likely to develop this instructive example to describe by

example of the rub (i.e., identify the "malaise" recalled earlier), when one or the other of the two

aspect is neglected; the reader already knows well from his own experience! Findings in

same direction can not fail to emerge for most yin-yang pairs considered there are three

days. Perhaps for all, even if some are more delicate and probably require a review

further to be fully understood, the couple intuition logic.

It faudait me now try to explain this fact so little, or rather "the pass" - that in my

how to do math, they are my yin lines, "female", more than my "male" traits that lead the

dance. If it was here to go through with this impression, by testing in as many aspects

possible, the natural idea (which had indeed touched me yesterday) is to review, among couples

yin-yang known to me, who can represent (among others) an appearance or way of understanding

an intellectual work (there must have fifty I guess), and see for each of them which

two "spouses" of the couple is dominant at home. I predict that in all cases there will be a well of

two which, under consideration, will prove predominant.

Thus, in the torque-logical intuition, I see at first glance that the two aspects are strongly

present in my mathematical work. This is therefore a sign of balance, harmony, among others

signs pointing in the same direction. As it should be for a couple yin-yang, for me (in my work I hear), both spouses are really inseparable - the logical structure of a theory is not developed step and together with the deepening of **understanding** of things it treats, ie also jointly developing a **intuition** increasingly thin and full of it. Can-be in my published works, according to the canons of the mathematician by trade, it is the aspect yang, the aspect of "structure" or "logic" or "method", which is the most obvious, the most obvious to the reader. Yet I know it leads and dominates in my work, which is the soul and the reason, it is mental images that form during labor to understand the reality of mathematical things.

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Certainly I never scrimp to get to understand so as meticulous as possible, using the language. p. 551

pledge mathematical, these images and apprehension that they give. It is in this continual effort to formulate the unformulated, to clarify what is still vague, that is perhaps the particular dynamics at work mathematics (and perhaps in all creative intellectual work) - in constant dialectic between **the image** more or less informed, and the **language** that gives it form and on the way raises new image more or less blurred that deepen the previous one, and they also require a formulation to shape them in turn. . . This is what constantly work to identify the language, so as precise, as perfect as possible, which appears first as a "presentiment" indefinable in-shaped like a "feeling" unformulated, as a picture drowned in mist. . . it is this work that since then my childhood and even today is what fascinates me most about the work of mathematical discovery. But if "effort" here always seems to carry the side "language", so the formulation side, structure, logic, which form the key ingredients of the **method** mathematical; and if (by necessity) is **there** mainly that is also the visible aspect of a **text** mathematical supposed to render a mathematical work (or less fruit), all this does not mean that (at least in me) it is not in this aspect that is the soul of a mathematical understanding things, nor the momentum or motivation out in mathematical work. I think from my work, very rare to be those where the relationship would have been reversed, I would have developed a "formality" as my inspiration only, or primarily, by his own internal logic, by the desiderata of consistency, or other aspects of the formalism itself, rather than by content, by a substance, manifesting images, nature of intuitions "geo-500

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cudgel. "In any case, all my life I was unable to read a mathematical text, if trivial or simplistic as it is, when I can not give the text a "sense" in terms of my experience of mathematical things, that is to say when the text does not arouse in me mental images and intuitions that would give him the life, like living flesh of muscles and organs gives life to a body, which without it would be reduced to a skeleton. This failure also distinguishes me from most of my fellow mathematicians, and (as I had the opportunity to discuss) it is she who has often made it difficult to insert myself in the collective work the group Bourbaki during public readings particular where I would often be dropped to length of hours while all the others followed at ease.

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I just follow a few associations of ideas on my mathematical work, related to the couple "intuition- p. 552 logic" and a few neighbors couples who are introduced to them even in the wake of that; informs - trained the indefinite - the set, the unformulated - the formulated vague - the precise inspiration - method, vision - consistency ... It would surely be instructive to review one by one (as I had thought) all "Couples" imaginable in relation to intellectual work, and for each probe how and the extent to which either of the spouses is present in my mathematical work, and if so or not one of them seems to "set the tone" and which one. Beyond even more delicate apprehension of special nature of **my** mathematical work as a "work room" will not fail, surely, for me to also deepen my understanding of the nature of mathematical work in general, and also My understanding of each of the past couple well reviewed. But such systematic work would lead me obviously too far and come out reasonable limits of this reflection. It seems more natural to me try to find here, and "pass" if possible, associations of ideas and images that have me convinced (without going further) than my mathematical work, those are the "feminine" traits of my being that surreptitiously tend to set the tone, and thus find a kind of "revenge" unexpected (where we would have expected the least!) to the repression they suffer in other spheres of my life.

Take for example the task of proving a theorem which remains hypothetical (to what, for some, would seem to reduce the mathematical work). I see two extreme approaches to go about it. One is that of the **hammer and chisel** when the problem posed is seen as a large walnut, hard and smooth, he

is within reach, the nourishing flesh protected by the shell. The principle is simple: we put sharp chisel against the hull, and it hits hard. If necessary, again in several different places, until the shell breaks - and we're happy. This approach is especially tempting when the shell has asperities or protrusions, where "take". In some cases, such "tips" where to take the nuts obvious, in other cases, it must be carefully go in all directions, with the prospect carefully before finding a point of attack. The most difficult case is where the shell is a roundness and perfect and uniform hardness. It was nice hit hard, the edge of the chisel and patina barely scratches the surface - we got tired to work. Sometimes even when you eventually get there, to muscle strength and endurance.

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I could illustrate the second approach, keeping the image of the nuts that it is open. The first p. 553 parable that came to mind now is that plunges the nuts in a liquid softener, water why not just, occasionally rubbed so that it penetrates better, the rest is left to do the weather. The shell softens the weeks and months - when the time is ripe, the pressure 501

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Simply hand, the shell opens like a ripe avocado point! Or, is left to mature in the nuts the sun and rain and perhaps also in the winter frosts. When the time is ripe it is a push delicate leaving the pith flesh that pierced the hull, as if in play - or rather, the hull will open itself, to let him pass.

The image that came to me a few weeks ago was different again, the unknown thing that comes to to know seemed like a tract of land or compact marl, reluctant to let enter. You would put with picks or crowbars or even jackhammers: it is the first approach, that of "chisel" (with or without hammer). The other is that of the **sea**. The sea advances insensibly and without noise, nothing seems to break nothing moves the water is so far barely hear ... Yet she eventually surround the stubborn substance, it gradually became a peninsula and an island, then an island, which ends up being overwhelmed in turn, as if it was finally dissolved in the ocean extending loss of sight. . .

The reader would be so little familiar with some of my work will have no difficulty in recognizing which of these two modes of approach is "mine" - and I had occasion already in the first part of Crops Seeds and explain to me about it in a somewhat different context 101 (*). This is the "approach Sea, "by flooding, absorption, dissolution - one where, if one is very attentive, nothing seems to happen no time: everything in every moment is so obvious, and above all, so natural, that would almost often qualms of note in black and white, for fear of seeming to combine, instead of typing on a chisel like everyone else ... Yet this is the approach I practice instinctively from my young age, without have really had to learn ever.

It was also, fundamentally, the approach of Bourbaki, and my meeting with the Bourbaki group was in this regard providential, confirming me, I encour

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giant in this "style" which was spontaneously mine, and p. 554

which otherwise I might find myself more or less one of my kind 102 (*). It is true that this was a status (single person like me) who was familiar to me for a long time, and that does not bother me so much. As to whether my instinctive approach of the mathematical work was to be "effective", that is to say before all (according to the criteria in force, and especially to judge a novice mathematician) if I would be able resolve "open questions" to which no one had yet been able to meet, I could not know in advance, and I did not care me unduly. My natural approach rather carried me to ask me my own questions, rather than trying to solve those others had asked. And it is indeed especially by the discovery of new questions, and the **notions** news also, or by **perspectives** new or even "**worlds**" new, my mathematical work proved fruitful, even more than the "solutions" that I knew to bring questions asked. This strong impulse that leads me to discover the right questions rather than the answers, and to the discovery of good knowledge and good statements, much more than to the demonstrations, are also much traits "yin" heavily influenced in my approach to mathematical 103 (**). Wherefore, without doubt, I am particularly sensitive when I see what I have been able to bring the best in mathematics, treated casually or with disdain by some of those who were my students, that is to say by those themselves who were the very first beneficiaries.

Anyway, it is only a posteriori that I was able to realize that my natural approach

101 (*) See the "Dream and demonstration" on n ° 8.

102 (*) In this extreme yin approach, I tended to go further even than most of my friends were in Bourbaki willing to go. This is probably one of the reasons I ended up leaving the band in the late 50s.

103 (**) I also feel that it does not apply differently to any other research work at home, and especially for

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mathematical "walking" when I also felt drawn, inspired by a question that other had asked when, in fact, it had "tilt" and that the issue at the same time had become "mine". If I tried to make a more or less exhaustive list of such cases, I suspect that this would be enough long. At first glance, there are four such situations that seem "out of the job" in their scope 104 (***)
In the

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four cases, the hypothetical theorem was finally proved, essentially, by the approach "from p. 555 rising sea overwhelmed and dissolved by a more or less comprehensive theory, going well beyond the results it was first established issue. I also noticed that the ideas, concepts, formulas, methods I had developed in these situations (or others as well), have long entries the field of "well known" mathematical, that "everyone" knows and uses galore, without worrying their origin 105 (*).

18.2.6.5. (E) The nine months and rising sea

Rating 123 (November 9) There is another point common to the four cases mentioned yesterday, open questions who found themselves resolved (or rather, "dissolved") by "the approach of the rising sea." This is the role played by **JP Serre** in each of these four cases. This was primarily a role of "detonator" for me "Start" on these issues, to use the expressions of a footnote on page in the Introduction mentioning that role (see "End of a secret", Section 8 of the Introduction). In fact (as I see it then) it appears that Greenhouse has played such a role in the genesis of the major key ideas and major tasks I have developed between 1955 and 1970, ie between when I left the functional analysis for geometry, and my departure from the mathematical world.

I could say, exaggerating only, between the early fifties until about 1966, so for fifteen years, everything I learned in "geometry" (in a very broad sense, including the algebraic or analytic geometry, topology and arithmetic), I learned by Greenhouse,

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when I did not p. 556

learned by myself in my mathematical work. It was in 1952 I think, when Serre came in Nancy (where I stayed until 1953), he started to become for me a privileged interlocutor - and for years, it was even my **sole** contact for placing themes outside of the functional analysis. The first thing I think he spoke to me was the Tor and Ext, which I was doing a world yet looks so simple. . . And the magic of injective and projective resolutions and functors derivatives and satellites at a time when the "diplodocus" Cartan-Eilenberg was not published. What I was attracted to the cohomology from that moment it was the "theorems A and B" that he had to develop with Cartan, on analytic spaces Stein - I had already heard about I think, but by a 104 (***) The questions that I think are here, in chronological order of their solution, as follows:

1. Scope of the formula Riemann-Roch-Hirzebruch in any characteristic.
 2. Structure of the fundamental group "first characteristic" of an algebraic curve over an algebraically closed body any characteristic.
 3. Rationality functions L type schemes over a finite field (which is part of the "Weil conjectures", and an important step towards the demonstration of these conjectures, completed by Deligne).
 4. semistable reduction of Abelian varieties defined on the fraction of a discrete valuation ring.
- 105 (*) I have myself often practiced this carelessness about the origin of "well known" that I used, except in cases however where I know first hand that origin, for more or less present at the birth, or when I myself was the father. As I have seen many times in past years and especially during my reflection on the Burial, this elementary delicacy was often lacking in some who were my students or close friends in the world mathematics, even when it came to things they have learned from none other than me, and they know the origin without possibility of doubt. On this subject reflection in the note "The Gravedigger - or the whole Congregation", n ° 97.

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or two alone with Serre I felt the power, the geometric richness that concealed these statements so simple cohomological. They first had me completely passed over the head before he speaks to me, at a time when I "felt" no substance in the geometric cohomology sheaf space. I was delighted to the point that for years I intend to work on analytic spaces, as soon as I carried to completion the work that I had to train functional analysis, which decidedly I was not going to belabour! If I have not really followed those intentions, it is because Serre meantime turned to algebraic geometry and wrote his famous article

foundations "FAC", which made understandable and highly seductive what previously appeared to me forbidding to be - so seductive that even I have not resisted the charms, and headed toward the then algebraic geometry, rather than the analytical areas.

If I restrain myself, I would have gone there, leading to another, to the story of my relationship in Serre, which would hardly something else too that the story of my mathematical interests, from 1952 to 1970. It is not the place. I would only add that, just as is Serre I have been "in the bath" of

four issues mentioned above. He was not there, of course, to point out the precise wording of the question, and that all. The essential thing was that every time Serre smelled strongly rich substance behind a statement that, point blank, I would probably neither hot nor cold - and he came to "make pass" the perception of a substance rich, tangible, mysterious - this perception that is both **desire** to know this substance from entering. This is perhaps the most crucial time of all in work of discovery, when

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"It tilt" when one has no idea yet still vague

p. 557

it is, where to take the unknown, where to enter. This is truly the time of "design" - the moment from which a work of pregnancy can be done, and is done if the circumstances are right. . .

If Serre played an important role in my work and in my mathematical work, it still there I think, in the appearance of those crucial moments when the spark happens and obscure to snap and invisible labors by technical means unknown to me he sometimes provide me good time or the ideas I borrowed him in the later stages of my work.

One reason, no doubt, to the particular role played by Serre, it my little taste to inform me Mathematical news reading, or even to learn the ABC of such a theory "well known" reading in books or memoirs that deal. Whenever possible, I like to inform me by the word living people who are "in the know". I was lucky, since my first contact with media Mathematics (1948) and until I left in 1970, never miss a competent partner and willing, to make me aware of things that could interest me. Perhaps this created an dependence vis-à-vis these interlocutors, but I never felt so 106 (*). Actually, the question an "addiction" could hardly ask, as my partner and I were animated with interest Unison, about what he taught me. Teach him who is eager to know is beneficial for one and for the other, and is used for "teacher" to learn, at the same time as the one he teaches.

The "reason" given sometimes explains the importance of contacts in my past mathematician, but not exceptional role Greenhouse, which seems far exceed that of all my other "interlocuteurs" together! What is certain is that we complete Serre and me wonderfully. We had interest 106 (*) The first and only exception up in 1981, so long after my "start" of the mathematical world. It was when I spoke to Deligne, like any designated focal point for my reflections anabéliennes after my "Long March through Galois theory." I felt so clearly intended to take advantage of this situation of single contact to me "go crazy" - and then I stopped dealing mathematically until today. See, the about this episode, the note "Two turns" n ° 66.

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strong and many common, and I felt in him the same demands, the same rigor as I put in my job. Otherwise, our work was following the "style" very different. I feel that our approaches of the

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mathematical and our work is completed, without really ever encroach on each other. The kind p. 558 of work I was doing (and how I did it) was very different from the kind of work Serre. He him came to lay the first foundations of a theory in a text of about fifty pages or even spend a year writing a book exposing medium size elegantly and concisely any topic inspired it - but surely not to spend most of the five years of his life, or even ten or more years to develop in length and breadth and length volumes whole new language (which we had previously spent well there), to found a new and fruitful approach to algebraic geometry, say. He introduced many ideas and new and fruitful ideas without being drawn to the "carry" to run through. More once, by against these ideas and concepts have been my starting point for work of large dimensions which suited me perfectly, and for which there could be no question Serre himself it launches. An association comes irresistibly here. In light of the reflection of the last days, I see my the mathematical relationship work and my "works" more like " **mother** " and as "father." The moment of conception, so crucial as it is, represents to me a tiny portion of the "work" in which grows and develops the thing in gestation, the "child" to come. This work is like pregnancy a pregnant woman, work that engages in the design of the Child, to continue on nine long month. . . The time it takes to carry forward what was a fetus and **birth** - that is to say, to put

birth to a **child** , a living child and **complete** , not just a head or torso or a baby skeleton or do I know. This role of mother, obviously, is very different from the father (albeit the best father in the world...) in which pretty much just throws away a seed, then leaves to attend to other occupations. Obviously, the mathematical work of Serre, his approach to mathematics, is strong dominant yang "male". His approach to a problem is rather that the chisel and hammer, rarely that of the sea that rises and submerges, or that of water that soaks and dissolves. And it seems happy to throw a seed without worrying unduly where it will fall, or if it will trigger design and labors, nor if the child might be born in his likeness or bear his name.

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A picture can help us understand an important aspect of a certain reality, but it does not exhaust p. 559 reality. It is always more complex, richer than any image that would express, it is and images that came to me, without having sought to express two different approaches Forums - that of Serre, and mine. He arrived in Serre to complete the work which required breath, as happened to sow ideas, some have sprouted, and were completed by other than me. Nor in my approach to mathematics, I shall not want "manhood" (although The base note is "feminine"), nor does Serre lack of "femininity" in his, making balance the base note "manly".

It can not be otherwise in a creative approach of an unknown substance, whether mathematic or other: there are discovery or knowledge or renewal, if not by the joint action and inseparable energies and impulses original yin and yang in the same being. It is in the intimate merging the two lies the **beauty** of a person, or a work of this delicate quality, elusive, which informs us that special feeling of harmony, satisfaction. This quality is present in all Serre work I have known, either orally or by the texts he wrote. I knew little Mathematicians where it is present as consistently and with this force.

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18.2.6.6. (F) Obsèques yin (yin yang buried (4))

Rating 124 (November 10) The reflection of yesterday and before yesterday is far from exhausting all the characters strongly marked in my mathematical work, which are yin in nature. To probe further on the launched this reflection on the yin and yang in mathematics, would also be an excellent opportunity for me to deepen an understanding of the nature of mathematical work in general. This theme of yin and yang in mathematics, which I thought to tour in a day of reflection, and on which I have already spent five consecutive days with the impression of having barely begun only just be like a these many seemingly innocuous topics, which are larger and deeper as and as we approach and that between them. It does not matter, really, I wear out this juicy sly theme (or even that I "do the trick" only at a run) in the middle of a Funeral Ceremony I would not want to drag on beyond measure!

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I would just also mention (without comments, I promise!) Two of these "characters strongly p. 560

marked "in my mathematical work which are consistent" yin "feminine. One is a predilection for the **general** , rather than for the individual (which is "pair" or "couple" with him). The other line seems to me stronger, or rather, more important, most sensitive, and also larger (in that it **contains** the first). If there is a "quest" that crossed my mathematician of life, since the age of seventeen (fresh recently graduated from high school) until today, a relentless quest that has marked all my work (published or unpublished) since its inception, is to that **unity** , through the infinite multiplicity of mathematical things and possible approaches to these things. Detect, discover this unity beyond diversity, richness often confusing (without amputating anything of that wealth), recognize the common traits beyond differences and dissimilarities, and go to the roots of analogies and similarities to discover kinship deep - that was my passion, my life. The same differences, expression of an unlimited variety and elusive, eventually appear as Branches and Twigs, branching at infinity, the same tree with large branches, where each and every branch and twig, show me the way to the trunk which is common. By instinct and by nature, my journey was that of **water**, which always tends to **go down** the path to the trunk, to these roots. And if I liked to dwell on the way it was rarely the summit there to explore delicate leaves and twigs, but especially in the larger branches, trunk and mistresses roots, to know their texture and feel through the bark flow amount of sap nurturer. 107 (*)

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Actually, I do not know yet what to do with this new fact discovered recently how situate -

that in my approach to mathematics, in my way of "doing math", the base of your home is strongly yin, "feminine". This is in line with some insight to which I have already mentioned - that the 107 (*) I think I see in this quest for unity through diversity, a common distinctive feature three passions that have marked my life, including therefore the passion of love and meditation. Perhaps, out of all passion, is this a home **fashion apprehension** of reality, where I tend to see most of all, and to tie my attention and give weight to common features and relatives, rather than differences (without being tempted to evade them). I noticed that the trend far the most common was the opposite trend, the trend yang so she often goes to the point of ignoring or denying deep kinship. (Trend superyang characteristic of our culture. It is often accompanied reflex of wanting level differences, all aligned on the same model assumed "perfect" or "superior" to the benefit of a "unit" dummy, which is an excessive impoverishment along with a violence.) These differences of emphasis between a caller and I were often the cause of dialogues of the deaf, where they have developed two parallel monologues that never meet. . . 506

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your base my inner being, I hear the "child" in me or "the worker," that is to say what is creator and beyond the package (that is to say, beyond the "me", the "Boss") - it is basic tone too "feminine" than manly. Maybe I while hands now to clarify what in actually, by carefully examining all the signs that go in one direction or the other 108 (*), for recognize the significance of each, and what emerges from them together. And if such work I get to tangible result of a "yes" or "no", surely it will not have been useless so far, to achieve better identify my ignorance, which at the moment remains unclear still not located, for want of having meditated. Maybe ferai- I this work, once completed work on Crops and Seeds, and the momentum of it yet. But the yet, this is not the place.

But if I was led to this reflection on the yin and yang, it is during a discussion where I especially endeavored to understand some relationships between me and others (among those who were my students, especially). It is the possible impact of the "new fact" that just appeared on my relationship to others and that of others to me, I'm mainly interested here. And this is also where is my embarrassment to "place" to exploit this fact. Perhaps due to this, that person probably besides me did never seen such a thing - not on a conscious level, formulated a level at least. I do not have all If ever received any echo that I could interpret in this sense, provided he can remember - no more Besides one exception) that I echo remember who send me on my own image "Yin", while the character I camped since my childr

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this (if not infancy) was heavily p. 562

yang; even to the point that even now, this "manly" character seems like a second (?) nature, which continues to dominate my life in many ways.

It is true that the mere fact that a trait in someone (me in this case) is not perceived at conscious, does not necessarily prevent it from acting on the relationship with others, and that this trait is actually well regarded in the mathematical world, among mathematicians more or less familiar with my work, and that that perception has made "oil stain" from a mathematical audience much wider than this - it makes me doubt. When I wrote, in "The Funeral Eulogy (1) - or compliments" that "anonymous pen here took care of my eulogy me abundantly gratified to what today comes to disdain, "I could not have even on the field, understand in a concise formula what exactly was "Today delivered to disdain" by the mathematical mode, among the things to which I attach the price. But the next day by the "association of ideas" on which I will have to return 109 (*), I felt (without maybe me being formulated, and without this still appears as clearly as at present), "it some thing "was none other than whatever was recognized (a level often unformulated) as a way "Yin", "women" do math - so tacitly equated with "bombinage", the "nonsense" (To use the compliment of my student and friend Pierre Deligne, in respect of the text at the base of all its work), the "crank", "ease" etc.

Certainly, in the Funeral Eulogy (pronounced by the same friend Pierre), including in the passage where I am quoted in a breath with him 110 (**), the compliment was a must! There was no nonsense or 108 (*) Several of my yang features strongly marked traits seem to be **acquired**, from the packaging, and more Specifically, the image superyang back to my childhood. Among these features, there is a disproportionate investment in action; the strong projection into the future that is to say towards the fulfillment of my duties; the preference for a Working primarily intellectual discovery and pervasive role of thought; Closing provisions vis-à-vis this that does not appear directly related to my work at the time, and especially my inattention to landscapes, seasons etc. There is Yet a yang trait that seems innate and not acquired, it is the very strong affinity relationship that binds me to the **fire**, unlike my relationship to water, which is decidedly not "my element." It seems also that my astrological chart is marked by a strong yang imbalance, all the signs are that come to be "fire signs" to the exclusion of any water sign.

109 (*) See the beginning of the note "The muscle and guts" (n ° 106), where the association is mentioned for the first time.

110 (**) See Note "In Praise of Death (2) - or force and halo", n ° 105.

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of bombinage, but to "look **titanic** " to "twenty volumes," "clear **core issues** ," "more great **natural generality** "(sic) school" **nourished** by the **generosity** with which he communicated his ideas " "theories of **legendary depth** ", "renewed **foundations** ", " **open** new applications," concepts "so **natural** that it is difficult to imagine the effort they cost" (not to say that they were "easy" - but that I took care of myself quite clear the 111 (***))

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"Attention to the terminology"

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(not to say "bombinage"), " **ancestors** of Algebraic K-theory", "topos introduced on a body ... basic **general** , "" **analogy suggested** by Grothendieck, "" **conjecture** . . . still unaffordable. . . " "as Grothendieck had **dreamed** ." . .

I stressed in these quotations the key words - these are all words that denote a yin approach things. The "perfect tact" in the funeral by the "well balanced compliment" consisted in the use systematic hyperbole with respect to these qualities, on the one hand are "delivered disdain," and secondly are real and for me of great price; and this **while** passing a stroke of full and radical gum on complementary aspects, which now have the exclusive honors, "manly" aspects as strongly yet present in my work than in that of anyone, with very few exceptions.

Moreover, it is these aspects and values "manly", excluding any notes so slightly "féminine ", which are featured by cons in the text of Pierre Deligne, both by the choice of some epithets (" **difficulty** proverbial", " **surprising result** ", "Because of the l-adic cohomology a tool **powerful** " " **First step** ", " **amazingly helpful** ", " **speed** ", " **penetration** ", " **enlightening and constructive reactions** to each question ", " **brilliant discoveries** "), by the detailed listing of tangible results (then that not a single result is evoked in me my portrait-minute, no more than is suggested that these results have been a factor for those Deligne).

I do not regret taking the time to do this fast compilation of epithets - the effect is truly striking! If the level of a structured knowledge, fewer still are those who have some concept of yin and yang, we must believe that in the unconscious My friend Peter as the one used in his scribe, there is a perception of security without flaws. It is put here to serve a certain cause: to deliver the vile person to be delivered in disdain, and designate a hero to the admiration of the crowd.

I doubt also that these three short texts just to retrace have had very many readers.

But that there has been more or less seems incidental issue. For me, these texts were addressed, not not to hypothetical potential sponsors (after all, this is not the concern of my friend Peter, find sponsors to fund his institution), but the "entire congregation

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whole ", appeared in the reflection

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During the notes of the same name (aka "The Gravedigger" n ° 97). The message they carry is like a shortcut striking and masterful countless messages in the same direction, from my friend Peter and others of those who were my friends or my students, and others perhaps captured messages and approved by the same congregation. If there is a collective unconscious (and I would be quite inclined to believe now), no doubt that one of the Congregation (aka "mathematical community"), as in the Grand Officiant my solemn Funerals, there is this very perception flawless what is yin (ras-le-bol!) and what is yang (hat!).

And these Funeral suddenly appear to me in a new light, unexpected, where my person itself even became accessory, it becomes **a symbol** of what has to be "delivered to disdain." These are not over the funeral of a person, nor those of a work, or even those of unacceptable dissent, but the funeral of "math women" - and even more deeply, perhaps, in each of the many Participants applauding the Eulogy Funeral, **funeral disowned the woman who lives in himself** .

111 (***) See footnote "The trap - or ease exhaustion and" n ° 99.

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18.2.6.7. (G) Supermom or Superpapa

Rating 125 (November 11) Exceptionally (once will not hurt...) I woke up in good

Early this morning, after sleeping only four or five hours. The unexpected outcome of reflection yesterday set in motion immediately intense work to "place" and assimilate this new fact that had apparent Raitre, time to get warm hearty soup and have a snack before going to bed at three hours past morning. And early already, that same work pulled me sleep and the bed . .

If I speak of outcome "unexpected" and is "new", it must however add that since the very de- purposes of this interminable "digression" on the yin and yang, there was in me like a contained awaiting "Denouement", or at least the expectation of a "connection" that was to do with some procession la- which had gathered in a Funeral Ceremony. It might seem that I walked away more and more of Funeral places or even that they were definitely forgotten - yet no, they were still there, as muted or watermark. I had never really left them. Their silent presence manifested by this discreet waiting and con

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stant, this feeling of tension, suspense, which bore me to p. 565 this point still unclear where the "junction" was finally done. I could sense the approximate location of this juncture - it was around a certain "association of ideas" (mentioned more than once, but still not formulated) which had been the starting point, the initial motivation for this unexpected journey through the yin and yang through my life. This trip was going to be basically like a big cycle again, returning (More or less...) To its starting point; or rather as a ride in a downward spiral, leading me a deep notch in the survey thing, "at the heart" (if my hunch did not abuse me) these Funeral.

But then I just started to get ready to "land" and the turning of a final paragraph of a "note" still what a "digression" or "ressassage", here I suddenly landed in full ceremony funereal and indeed at the heart of it, a bit like an alien would have catapulted there right in front of the priest and to the congregation of the faithful; or worse, as a deceased died and rose (Already almost) buried suddenly lifts the lid (and valdinguent crowns and touching epitaphs!) and here in person, white shroud and sparkling eye, like a devil everything is coming out alive of the box when you least expect it!

Thus, the outcome of the discussion yesterday was also the outcome of this thriller which I spoke very special and suspense that is familiar to me in the work "the way of the sea that spreads" whether mathematical or other work. But in the same vein of this relaxation of a long suspense is immediately appeared a **puzzlement** . It is this above all that absorbed me since, I believe, and who, odd hours, attracted me from the bed to the typewriter. That there is confusion has also nothing to surprise - it is so, more or less, whenever a sudden situation arises in light news, which at first sight seem therefore contradict an old vision. The first job then that is necessary, is to search carefully these contradictions, to examine to what extent they are real or apparent only, that is to say expressions of inertia of the mind that is reluctant to recognize the "same" thing in two different lights. This essential work is completed, when all the dissonances are resolved in a new harmony (even she herself still provisional) in a vision that encompasses so and combines the earlier partial visions, correcting or adjusting them as needed, and eliminating those would prove fundamentally false. In this new vision, the "old"

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that gave it birth, p. 566

ie the most fragmentary visions unite in it acquires itself a new meaning 112 (*).

Going back to my "perplexity", here. The "outcome" or "new day" consisted of an image

112 (*) compare with the reflection in the two sections "The Child and God" and "error and discovery", n ° 1 and 2. 509

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suddenly appeared - that of the Burial in style the "symbol" of "mathematical female" in- meat in my person, and at the same time screening of "women disowned" by each of the participants funeral; or to put it differently, this is the image of the symbolic Burial of a kind of **super-Mere** , sin offering in short and instead of women-but-rarely-mother floundering in underground obscure each participant came applaud Funerals. This image seems to contradict the **other** , **opposite** , blurred again, which had gradually formed in the reflection before June (culminating in the note "The Gravedigger - or the whole congregation"): that of a **Great Father** at once admired and feared, both attracting and hated, "slain" by his children, whose mutilated remains were delivered to the derision over the "same" funeral. Placed side by side (if it was even necessary), these images violent colors seem curling the wacky and delirium, and I can imagine my scalp dance that are sure to create these fantasies on the psychoanalytic method, assuming it is readers who have had the breath to follow me so far!

I leave happy with their dance, which will add an exotic look the best in this little burial ordinary, and meanwhile follow rather an association that was presented at the last night of Nature I believe in reconciliation, even to love and marry these two images or facets, so-called antagonists, even irreconcilable.

18.2.7. The reversal of yin and yang

18.2.7.1. (A) The reversal (1) - or the vehement wife

Rating 126 (12 November) I thought in my notes continue this association was discussed at the

end notes yesterday, likely to "reconcile" and to "make love" the two images, apparently antagonistic, who had emerged from my funeral. While I was preparing to begin the notes in this sense, I felt a reluctance, which I would not want to ignore.

The association concerned the mother of my relationship to my father, and the sense of the destruction of the family that had place in 1933 by the will of my mother taking acquiescence (reluctant and embarrassed at first, then rushed and total) of my father. This crucial episode marked a kind of reversal in the pair

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formed by my
p. 567

parents, where my father had been one of heroic incarnation ostentativeness idolized, manly values, my mother (voluntary and overbearing if ever there was) pavoisait the colors of the subjugated woman happy to be, above a daily life marked by continual clashes. acquiescence the sacrifice of children marks the time of **the collapse** of the God and Heroes, followed by a veritable orgy of "triumphant contempt in which the day before, was playing the adulatory swooning, and now took the instead of the fallen heroes, emasculated and happy of being reduced to the role of scorned "wife", which in itself same time saw himself raised. . .

The little I have said is so schematic, if quintessence I fear that rather likely generate innu-
brables misunderstandings, rather than helping to understand the hidden springs of a funeral. However, I feel that this is not the place to develop so little that I have outlined briefly.

To return with minimum fineness a complex reality, scrambled pleased by the two protagonists, ask another long digression, to an extent that the context does not justify. I do not feel no incentive to plunge now, and this especially as it is a situation that involves more than me and where my responsibility (in time co-actor) does not seem very engaged. Myself, and sister, there figurons not as actors but as **instruments** in the hands of my mother shoot Hero ardently admired and envied, to replace him, and make him an object of derision.

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If this scenario patiently updated five years ago ¹¹³ (*), is the most extreme and most violent of its kind I have known, I nevertheless had ample opportunity to detect since other couples scenarios all similar. The work done on the life of my parents helped me to open my eyes to things before that escaped me completely. At the time however I was speechless, and it was enough! Today I would think that, apart from the particular violence of the colors, the kind of relationship antagonism I have updated the couple formed by my parents, is more or less typical of the relationship torque, or at least extremely common. So the reader who, like me, eventually make use of his powers to probe the hidden springs torque antagonisms, or antagonism woman man will not otherwise be surprised (or shocked) by the little I have said here.

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If I try to ignore what is especially a case to case, and identify commonalities p. 568

the woman-man antagonisms that I could see a little closer and I realized something, he comes this.

1. In women, the provisions of admiration and envy with respect to humans, due to prestige (often overrated) which he is invested, due to its location (male, particularly) and qualities (real or imagined) justifying it.

2. Often it mingles a grudge element, even hatred, due to amalgam (unconscious, as just) between man (lover or husband, for example) and father. The antagonistic relationship of mother father resumed at its behalf by the girl, identified (in a more or less complete) to the mother. There it often added grudge patterns (father of opposite) more direct (tyrannical attitudes of it, lack of affection, attention or care etc.). Subsequently, these antagonistic feelings (and others), "ready to use", are projected as is the partner (or potential), the latter whether or not "the head of the employment."

So when sometimes (in 1 °) I wrote that the provisions of the woman (with admiration and envy no-
MENT) in respect of the man were "due to a prestige etc.", this is only partially true. He is seems that most often the **driving force** in these provisions **comes from the relationship with the father** (even if it is long since dead and buried), and that its action input depends only way limited to the particular personality of the partner.

3. compensation for his feelings of inferiority (completely subjective, is it necessary to say) and an-
tagonisme veiled or animosity or hatred, there is a fear of exercising power over the partner (While it is he who, by general consensus more or less tacit, is supposed to hold the authority). The exercise of power by the woman is by all means at its disposal (the most powerful are his body, and especially children, ¹¹⁴ (*)), and it is almost always hidden. The gratification that accompanied loincloth is usually unconscious, but it is nonetheless real and important. often power game becomes devouring, it becomes the main content of the life of the woman, the one who absorbs almost all of its energy, and to which everything else (including the romantic impulse and children)

is subordinated or sacrificed without hesitation.

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The most extreme case, the torn, is where the admiration and envy vis-à-vis the male, it is p. 569

dominate while appearing to submit to him, accompanied contempt or disgust and

hatred for what is feminine - to its own women. Yet it was not until playing

on her "femininity", precisely, it is hoped to submit the man, or at least maneuver it to its

113 (*) See about the two notes "The surface and depth" and "Eulogy Writing", n ° s 101 and 102.

114 (*) The main "means" common yet here is ignored, being more subtle nature, difficult to say a few

words. There is a certain "tactical" boilerplate, discussed in the later section "The claw in the velvet" (Notes n ° s 137-140) reflection on the yin and yang.

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will! Thus, to satisfy its strongest ego drive, that of "walk" the partner (or

Also, submit it, had break. . .), It is forced to enter completely into a role hated, felt

as despicable as unworthy of her. It is in this extreme case of rejection of his own condition and

Nature, that of a superyang option and anti-yin, it will seek an illusory escape the conflict

it carries with it, using all these forces to achieve a **reversal of roles** : it

even substituting for man, the hero and master, once admired and envied and now fallen, reduced

himself to the role it had long worn as abject delivered, the despised role which

she would finally be issued. . .

The sketch I have to do is too schematic, fit at most to **evoke** a certain reality

for the one who has already seen his side here and there, without perhaps even tried to identify as

although ill with a summary like this, if I wanted to give him some relief I should

at least try to clarify the various **levels** (almost all unconscious) on which this play is

set of feelings and mutually antagonistic wills. Moreover, in this tangle of inexo-

rable egotistical mechanisms, hence the love impulse seems absolutely absent, also try if-

kill thereof; see to what extent and how it helps the perennial turns-en-round (as

the wind perhaps picked up by the wings of an ingenious mill to turn a heavy boonies

millstone. . .), And to what extent it also happens that the wheels sometimes stop and make silence, to let

vent to **something else** .

Finally, I completely failed to mention what is playing in it, "partner" or protagonist, as if

existed only in relation to it, as **object** of attraction and repulsion, admiration and envy

of the one facing him. One reason probably for this omission: this is **it** , this carousel

couple, who plays the active role, investing it thoroughly, often finding its true purpose (failing

better), while **it** sees as the fire, he is busy elsewhere and

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Moreover naive as not a 115 (*)

p. 570

reacts after another without trying to understand, and (what is more) without understanding, in fact, not even

(I think) at the unconscious level. This is at least the impression that I always had in since I

begins to pay attention to the carousel couple! But it is also true that I know a lot less

role of man, since I was able to observe really close as in the case of my humble person,

when I had occasion more than once, by cons, know of the earliest lodges the role of side

wife.

Anyway, even though I would take great care in ten pages or an entire volume to expand

my description some very schematic, it would be yet a lost cause for a reader who has not

yet, in this matter, "made use of his faculties" and never have seen anything felt nothing of the sort. As

the reader so slightly "in the know", surely the little I have said, and nobostant blunders and obscurities,

enough to put it back in the swing of things he had seen for himself, and to arouse in him

pictures and not less rich associations as those present in the background at the time of writing

my pithy description.

It does not need more, I think, to appear the "missing link" between antagonism "Su-

Perpère "(found its expression in the said symbolic burial), and neglecting the refusal" fémi-

nin ", and more deeply, the denial of" the woman "in itself (which may find speech

in "burial" a symbolic "Supermère" under a plethora of rave adjectives double

115 (*) (November 23) Of course, if the carousel rotates, is that (any "naive" it is) **it** is benefiting as it - and

she does its job to ensure this! It seemed to me that the two main "hook" by which she "holds" (and by whom

also held. . .) Are vanity, and a need for love and emotional security, guaranteed by a stable partner. And he

there are the children. . .

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use. . .) 116 (**).

18.2.7.2. Retrospective (1) or the three components a table

Note 127

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(November 13) Time now ripe seems to me to try to trace in some large p. 571 lines a vision has both sharper and more nuanced than the Burial, which (as I wrote before yesterday) "Embraces and meet previous partial visions, correcting or adjusting needed...." I see at first glance like three previous visions, it is recognized as so many partial aspects of a **everything** .

The first aspect that has appeared, the most obvious and most simplistic, too, is the aspect of " **reprisals dissent** ", which was set the aspect especially in the note "The Gravedigger - or any Congregation whole "(see note 97 p.) - the last note before the episode disease It is that also among those processions. I to X (those before the incident), which seems to me understand more deeply the **collective motivations** , those the "Deadman" aka "The Congregation (almost) entirely."

I just retrace this note to instant. Le second aspect, which I can call " **Massacre** (more than only symbolic) and **burial** (symbolic) of **Superpère** "does not appear there. Maybe it@because this component in the motivations of a burial is not really about "The whole congregation whole ", then the focus of my attention, but mainly (if not exclusively)" those were my students. "These, indeed, even putting aside their undisputed leader, my friend Peter, played a role the forefront in the implementation of the Burial, which would have been possible without the contribution activates one, and without the acquiescence of all. (See the note about "Silence" (see note ° 84 p.).) It is So through them, especially that the aspect "Superpère" appears crucial for understanding me the Burial.

The first aspect, the aspect of "retaliation", won to my attention from the setbacks of Yves Lade-gaillerie in 1976 117 (*); I tended to forget for that, but periodically he remembered my good memories over the years. He eventually exceed the formless stage of what is "felt" not more, and become the substance of a clear and nuanced understanding, in the note cited the "Gravedigger." The second aspect,

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or appearance "Superpère" has started to appear in the course of reflection in Re- p. 572 Sowing and harvests 118 (*), and first 119 (**) unrelated to the burial as such that I had to find out that in the following months. This aspect is gradually emerging from the mists throughout the debate on the Burial, to finally take shape with striking notes "The Massacre," "The body...", "... And body." (87, 88, 89) These notes are 12, 16 and 17 May, that of the "Gravedigger" is May 24; episode disease appeared on June 10 and ends for more than three months in pursuit of ratings, which take 22 September. It is somewhat likely that if this episode (more than unwelcome!) Had appeared at a time where I prepared to continue with a review of all and draw a final line, my vision of the burial is would be arrested to that had emerged in the two weeks between 12 and 24 May - a vision therefore "Twofold", each remaining in his corner, without the idea comes to me to try to assemble.

Yet there was a widespread feeling like a barely perceptible haze, the last word was still 116 (**) (November 23) This should not more proved somewhat hasty, to the point that a week later, this conclusion and "Missing link" were completely forgotten! For the "not missing" to reach a "missing link" more convincing, see note yesterday, "The reversal of yin and yang (2) - or revolt" (n ° 132).

117 (*) see the two notes "You can not stop progress!" and "Coffin 2: sectioned blanks", n ° s 50 and 94.

118 (*) (November 29) Indeed, this aspect was already present in the form of epidermal intuition for many years in Deligne my relationships, but I myself never stops before thinking Crops and Seeds.

119 (**) In the two sections "The enemy Father (1) (2)", n ° s 29, 30.

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not really understand; the feeling of one who "groping in the dark" (the phrase has had to appear one or twice during my notes on the Burial). The final note of the Deadman had a bit having the effect of a Light breezed into the mists, which can give the illusion that they have dissipated, as they have only displaced a tad. Or to put it differently: the aspect included in this note are apparent raissait in such clarity and with such terrain, the printing (no illusory) an understanding tangible, piercing of this aspect, and the feeling of satisfaction that accompanied it (feeling, surely conspicuous at the end of the note) - that this impression and this feeling created as a euphoria, it who feels ready to reach the goal, and made me forget more or less the other part, though size, appearance "Superpère" which remained "to account"!

The third appeared there three days (five months to the day after the appearance of

unfortunate episode insurance). It is

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appearance " **Funerals** (symbolic) **and burial** (real) of

p. 573

" **Feminine** ", which "feminine" is displayed in a kind of " **Supermère** " She herself played by my modest no one ! This aspect appeared after a long "digression" entirely unexpected on the yin and yang, what had finally materialized an effort to get to speak intelligibly some "Association of ideas" after a "Eulogy of Death", which was supposed to close the Funeral ceremony. This famous "association" or "intuition" (to which I am referring to the first beginnings of the note "Muscle and tripe "(yin yang bury (1))") has still not been explained - but everything is ready, and it@ now I promise I@ come!

Still, that along the way appeared a quantity of facts and insights, some new and unexpected for me, and all that made me reconnect meaningfully with important aspects of my life, like life in general. One of these facts - that the "basic tone" of my mathematical work is "feminine" - also seems to contradict one of the basic intuitions of this association still biding his time: the intuition that as a mathematician (like that), I was a character everything has **yang** ; So intuition which relates to the aspect of "Superpère" the Burial. And this same fact, which seems to contradict this association (including any reflection on the yin and yang comes!) that also arise in a jiffy this third component that had escaped me until then, the aspect "Supermère". Of same time is also (in the late purposes) junction with a "burial" that seemed forgotten for nearly hundred pages!

For the "rising sea" is to rising sea - hopefully the end result, I hear this

"Vision" Promised I@ about to get out of limbo, will live up to the means, ie any

a Freudian philosophical digressions sea yin and yang. . . The tide is triggered (with the

Note Send-jerk "The muscle and guts") on 2 October, the "new fact" crucial emerged from the days 120 (*), then

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I@ about a day now to finally put this famous black and white

p. 574

"Association" (appeared five months before, on 12 or 13 May, soon after the reflection of the note "The Eulogy Funeral (1) - or compliments, "the same day that the crucial notes" The massacre unveiled "in") But this fact is not. "

notes that five days ago, on 8 November, after three preliminary notes on the yin and yang in math

(Written over the previous three days). This is the note "The sea comes up..." (122). Two days later,

November 10 with the note "The funeral of yin (yin yang bury (4)" (124)), the "Supermère" made its appearance (but the word is stated in the note the next day, "Supermom or Superpapa?" (125)).

And here the "third part" of the Funeral!

It is not deliberate that I committed, under the spur of the moment, this retrospective

120 (*) I seem to remember that two days later in the note "Innocence (nuptials of yin and yang)" (n ° 107), the fact

in question had appeared, and was part of "other signs" which was at issue in this note (no further details on their subject), who "makes me suspect more than once... these are the qualities" feminine "that dominate my being...."

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18.2. THE KEY OF YIN AND YANG

thinking about the burial, in view of the successive appearance of the three main aspects of

it (as I see it now). Such occasional retrospectives during a Me-

lengthy ditation, themselves each time proved more useful, giving an overview of

the process of reflection, and simultaneously a new perspective of some of the main "resulting

States " 121 (*). Maybe that especially hit the hypothetical reader of this retrospective is that I have

made a detour to a long digression rather than come straight to the famous "association"

(Still to come) and we will talk more, to finally arrive at the famous "feature

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final "under the Burial; p 575.

line I was so eager to take in the note "The Eulogy Funeral (2)" of 29 September, where I regained all just harness the thinking left open in June! It was also good in those provisions where

I started the next note three days later, "The muscle and guts", which begins with an allusion to

this association, without giving any details about it.

If I have not given then, and have pushed back day by day and week by week during an already

months and ten days, it is not a deliberate, which would have appeared at one time or another. Yes

I try to probe the cause, I would say that I have felt instinctively, without even telling me, at the point

where I was then writing bluntly the association in question would have had no meaning; it would have

been as a mere "statement" purely formal or verbal, while the rich substance covered by

words that would come to me with a pure memory effect, remain ignored, not seen. The reader, if

mathematician (or scientific, if not a mathematician), has surely seen many times this situation and

the discomfort it causes, when one is thus confronted with a statement that one can easily see that it is perfectly accurate when more we know somehow the meaning of each of the terms used, which we feel nevertheless that "senses" the substance and escape us completely. The situation is perhaps much more common with texts that are **not** technical in nature and yet express a tangible substance, strongly perceived by the author; with this difference however is that in-law suddenly rarer than the reader realizes so little clear that the meaning of what he reads escapes. In this case, there was more - is that for **myself** also, who for months was not more "in the bath" of the Funeral Eulogy and associations that were attached to it which for years had not really "lost" in the reality of yin and yang (while brushing the passage at every step...) - even for **me**, that I could have written so to "tell" this association was verbal thing, right really felt or perceived. From myself to, or rather, to force me, was a way purely formal, for conscience, to discharge a sort of obligation, "looping" in short a chore, taking care to "give good weight," not to lose in such a way "association" which (I remembered it well!) was juicy and steaming, which long ago had had time to cool and rot in a corner of memory!

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If I remembered was indeed serve to deepen an understanding remained p. 576 plot, it is clear to me that I could then do without these hundred pages of "digressions." They are the deepest part of the whole discussion continued throughout Crops and 121 (*) This kind of retrospective seems very unusual to me in a mathematical work, and I do from my own practice that Writing "Pursuing Stacks" (begun in the spring of last year). A common practice by working against, and has a similar effect, from the standpoint of "new perspective" of ideas and results of mathematical work in progress, is resume "ab ovo" all concepts and statements of the theory that develops in the order which presents itself as the most natural, to the point where is the understanding that time. Often such work may seem purely routine, leads to a substantial deepening of understanding, for example by showing, for the internal consistency requirements new scheduling, notions, properties, relationships etc. also "natural", that had not been seen before. Sometimes, by showing fortuitous or artificial nature of certain assumptions, or the narrow character of a whole starting context, the work of "restatement" leads to an unexpected widening of the initial remarks, which gives the theory originally developed a new dimension and scope.

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Sowing. I can not yet predict whether the vision of the Burial I[Ⓢ] about to release their wake, leave me with a feeling of complete satisfaction, or if it will remain obscure corners or dissonances, I may give up light or resolve, at least for the moment, or Re-Sowing and harvests. But anyway, as my mathematical work, I know that each these hundred pages, as each of the six hundred (to pretty much) Crops and Seeds of text written now has its unique place and its message and its function, and that I could not do without au CUNE of them (it is or not readers to follow me so far!). While the aim was far (if not completely forgotten...), each of these pages brought me his own harvest, she alone could give me.

18.2.7.3. Retrospective (2) or the node

Note 127

(November 17) I just spent four very painful days, with much ado around me. It could not be matter of keep going, my work on the notes is bounded a little housekeeping: Replay the part of text that should be entrusted to the strikes at the net, correction one that is made. Between the "first draft" of the text of each note, reread before going to the next note, and the final text to the net, ready for duplication, so I[Ⓢ] at least three readings, attentive all three, making adjustments expression during the first two at least. I[Ⓢ] end up well know the Crops and Seeds text! But above all, I needed to be sure that the text that will be entrusted to the duplication is what I really have better to offer, including its shape. EXCEPT for notes of the Funeral, for all sections and notes Crops and Seeds I wrote and reread, I had final reading a feeling of complete satisfaction. I felt I was every time got to say what I had to say as clearly and as nuanced that I was able to do nothing hide what was clear, understood, known to me as I write, nor what remained obscure, blur, misunderstood or even completely mysterious, unknown. . .

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The only exception is the note "Half and whole - or the crack" of October 17, from which the "cord" p. 577

meditation split into two, the two themes I named (in subtitles in the latter notes "the key to the yin and yang") "Mother Death" and "Denial and Acceptance" 122 (*). This is the last part of this note, namely two, three pages where I talk about the division in the person as the ultimate root of division and conflict in the couple, in the family and in human society. It[Ⓢ]here

an intuition that struck me first in the first years after my "departure" from science, and that developed, confirmed and deepened over the years until today. She is become for me so "obvious" (without yet I have never bothered to examine it carefully and under all sides), it is inserted into thinking a bit like something for granted, without any effort to introduce such a "tip" that makes this show so little "evidence". But if reading these pages leaves me an impression of vagueness, dissatisfaction is certainly not a simple matter "presentation" that would be awkward. Rather, I feel that I wanted there to jump in with both feet over a substantial reflection on this complex subject, thinking why I have the feeling of having all elements in hand to do, but that is not made for that! In the note of October 25 ("Heaven lost "(116)) that is directly related to Note 17 (to develop, from this, the theme" Refusal and Agreement "), I first tries somehow to" catch "the gaps that I had noticed in the 122 (*) The need to group by subtitle notes that form the "digression" on the yin and yang, was felt there few days. This also led me to readjust the names I had given to these notes, which are therefore cited some places under slightly different names of their chosen names (but with the right number, anyway). The same time has also introduced the all designated name of this set of notes, ie "The key to the yin and yang."

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previous note - but finally say much more than simply this: that in terms of a possible "journey to discover the conflict", "it is not in that direction that I want to continue Now, "too bad, it will be for another time!

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In the previous note of it four days ago, I toured three aspects, or "strands" of the table of p. 578 Burial, which have emerged so far. Afterwards, I remembered that two times already during the debate on the Funeral, I had felt, and wrote, I hit the "knot" of the conflict. It was in the papers "The node" and "praise Funèbre (2) - or force, and the halo" (,). These notes joined reflections (seemingly "general good") in the first sections of Crops and Seeds, "Infallibility (other) and disregard (self)" (section n ° 4). This is the **self-contempt** , ignorance of the force based in us and gives us power to know and to create, which is also the source of **contempt for others** , the perennial reflex compensation to "prove" its value by putting himself above others in making use (for example) the derisory power to lower or crush, or simply to suffer or harm.

In writing this note, the examples certainly do not fail me. The then most present in Pierre Deligne my mind was that I had seen many times to use its power to deter, see humiliate, so that was often seemed to me inexplicable. Only two months after writing this note that I begin to discover "the Burial in all its splendor," as evidenced by the Notes of April 19 ("Souvenir of a dream - or the birth of reasons", and "The Burial - or New father "(51) (52)). Gradually as I discovered the role of my friend Peter as my Grand Officiant funeral and my funeral. The majority of notes before June on the Burial (Processions I to X) focus on his person. It is also one on which I have an incomparably material rich and more personal than any of the other many participants. Also, both times I had this sense of "touch the heart of the conflict", he was still, as the only regular contact with who is maintained until today, which was the center of my attention.

18.2.7.4. (D) Parents - or the heart of the conflict

Rating 128 (November 18) Twelve hours of sleep last night - I had needed after several rather shortened nights! I feel I have pumped an energy that was beginning to fray a tad - me Here more attack than yesterday, to use the famous "wire" where I had left.

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In the two times I mentioned yesterday there was a kind of "flash" in me so clear and strong that the idea p. 579 not occur to me to doubt - I mean, to doubt that he showed me something real, outside my person in the circumstances; it was not something purely subjective, product (Say) a simple deliberate see apply such psychological "theory" that would take me to heart - be it in short the "butterfly" providentially carried into his net by hunter Butterfly 123 (*)! Put in doubt such signs, whether in meditation or math or elsewhere, that would simply abdicate my power to know and discover. I am fortunate to know this power, and if there is one thing in which I have confidence is in him.

I could think of to do in this "flash" in what he taught me, a fourth "branch" of table 123 (*) See the image to the note "The child and the sea - or faith and doubt" n ° 103.

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the Burial, which surrajouterait other three (reviewed in the note of 13 November). But immediately I see it as intimately connected to the two aspects "Superpère" and "Supermère" - and obvious link far beyond the person of my friend. This lack of "power to know and create" in us, I révoquais yesterday, is not anything other than ignorance of our fundamental unity, the fruit of nuptials in our being qualities, energies and forces, "yin" and "yang", "feminine" and "masculine". Because this that is "man" in us, by itself, does not make us capable of knowing or create any more than what is "woman" in us alone gives us that power. This is not a **half** fictitious and ridiculous of our being that has power to know and to create, but it is the **whole**, the **totality** of our being, that this power. He has not as the culmination of a quest, a long journey, of a becoming, we parcouririons in Interim helplessness that gradually amass the "power" on the way; but this power is ours by our nature, we received a free gift from the day of our birth ¹²⁴ (**).

And "self-contempt," or "self-ignorance" is nothing else as the **refusal** opposed to donation denial of this fundamental unity, and the power which is its inseparable companion. Or rather, it is like inseparable shadow of that refusal, it is the **knowledge of a**

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impotence ¹²⁵ (*), introduced by the refusal; a

p. 580

timid knowledge certainly blurred, not assumed, which takes care of stopping the known (badly known ...), she is scared to dive deeper, to learn about the unknown power hidden, and blocked by this deliberate impotence, cultivated.

The most common form in which this refusal of our unity in the superyang society of ours is burial day after day, hour after hour of "yin", the "female" in us. This was precisely the "pane supermère", aka "Funeral and burial of the "feminine" "especially and **above all**, the women in **yourself**.

But I feel that there is a direct and deep connection also between self-contempt, and the "Superpère shutter" aka "killing and burial of the father". This is strongly tipped link I would like to try identify. To say otherwise that "tipped", this intuition: there must be a direct and deep connection between division into us and antagonism father.

It is understood that this "antagonism" is opportunity to speak both with respect to the father biologic, as the one who would have taken the place in childhood, or against any other person who at time or another and for one reason or another, acts as a "spare father" more or less symbolized lic, which are projected to the original antagonists impulses. My purpose is to identify the root cause of these conflicting impulses and attitudes so common we might sometimes be tempted to considered universal; a cause that goes deeper than a simple set of specific complaints, often all that is tangible yes, we may have against the author of his days. More than once, I found that those complaints are often more in the nature of a

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rationalization plausible and welcome to

p. 581

antagonism whose real root cause of his vehemence and tenacity, lies elsewhere.

I could say otherwise even this intuition that I try to identify the form in which it presents to me spontaneously is that I am convinced that this is "a", undivided, in which the to accept the totality of his being - in him, the conflict with the father, or mother, is resolved. It is **autonomous**, "Free" of one and the other of its two parents. The umbilical cord continues to connect us to our parents,

¹²⁴ (**). And probably even from long before our birth. . .

¹²⁵ (*) As specified in the line below, this knowledge is "blurred" in its essence it remains unconscious.

Often we see yet emerge a little bit (like the tip of an iceberg whose base would thoroughly immersing Gee. . .), By a kind of **profession of faith helplessness**, which more than once left me speechless. They are made on the tone of a **finding** conclusive and unanswerable, behind which one feels a so vehemently closure fierce - as if this impotence which is thus claimed as a "fact" inviolable and sacred, was the most valuable asset, which is not cancel their participation at any price. . .

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long after childhood and adolescence (and often, throughout adulthood until the death) - in him this link is broken. The moorings are broken, who once again held us to leave indeed, for **our own journey** to discover the World of Mother ¹²⁶ (*).

This inner conviction is not confined to the "wishful thinking" this is not the projection of a wish (Renamed "conviction" for the occasion). Its origin is in my experience certainly, and first place in

what I have seen in my relationship with my own parents. I am thinking of the transformation p. 582 deep that occurred in my relationship with my parents in the years that followed there of turning Eight years marked by this "awakening of yin" in me, and by the discovery of meditation in the months followed, and finally by the "reunion" with my child two days after 127 (*). I realize that turning point was marked by a **self** immediate, in contrast with a prior dependency in particular received and adopted ideas. The deepest of all these dependencies was addiction compared to my parents, whose values and options had modeled my own and my own vision world, and I had also taken "en bloc" and as such, without changing other words, the image of Epinal they had of themselves, they formed the couple and their relationship to their children. I "functioned" since my childhood on this set of values, options, pictures, which were by no means the fruits of experience of my own life and work of assimilation of it, but a simple "baggage". this baggage was made for a good part of clichés and complacent illusions that I had taken "trusted" to my parents, and that often in my life have replaced direct and lively perception, a perception creative things around me.

It is true that this "autonomy" of which I speak is immediately apparent with the discovery of power meditation. She was full (I think) in all I was careful to examine This prevents many ideas, including and especially those from my parents, are initially remained up by pure inertia effect, not having been examined. There was so much to look at, it could be no question of any watch both! Not to mention that after a few months of hard work, I am distracted by "life was going" - love affairs especially, one suspects 128 (**). during 126 (*) It is a strange thing in French, notes "the world", "the universe" and "cosmos" All three are male. The words equivalent in German. "diewelt", "das Garlic", "der Kosmos", are three female gender neutral (which often is a kind of "Super women" in German), and masculine. That seems more consistent with the nature of things designated by these terms. When talking about the "cosmos", the connotation (outside the cells and space aliens, a recent invention) is that an **order**, governed by laws - ideas that correspond to the male (in which the two languages are consistent). By cons, "the world "and" universe "suggests the idea of **all** that we and everything else are a **part**; something, again, it behooves us to **discover**, to **penetrate**, to **know**. For these aspects that I consider essential, both terms refer to things that are kind of "yin", "women", particularly in relation to us. I would be in barely discern why the French language still assigns the male gender.

I note in this regard another "anomaly" (?) Strange, this time it appears in German, where "the sun" and "moon" is say "die Sonne", "der Mond". They genres reversed relative to those in French, which would seem the most "Natural". So the sun is associated immediately to the idea of heat, fire, which are typically yang in nature. Perhaps this "anomaly" it is common in the Nordic languages, because in cold countries, where the sun☉heat is never felt as hot, burning, but where it is expected as a boon for Life, the sun is felt (with earth) as a kind of foster mother, who gives the creatures the heat which they "feed" as well as food that comes from the earth. . .

127 (*) I speak these crucial episodes in my life in the notes "The reunion (the awakening of yin (1))" and "Acceptance (waking yin (2))" n ° s 109 and 110, and in "Desire and meditation" n ° 36.

128 (**) My love life in the years following the discovery of meditation in 1976, was more intense and also more eventful than any other time of my life. She probably represented a dispersion, a diversion from the momentum Initial meditation, which would not be taken (with the scale rightful) in August 1979, with the long meditation breath of life from my parents. (See about it notes "The surface and depth" and "Praise the writing" n ° s 101 and 102.) Yet, in retrospect, I realize that I could not make even "the economy" of this dispersion - it had a certain passion, a certain hunger in me is burning, and that along the way, I continue to learn through those of which I was the lover that I had learned imperfectly in my past life. At the point where I was, I doubt 519

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nearly two years that followed, my meditations were confined to a few appropriate reflection very limited scope, when I saw myself confronted with a situation of acute conflict, and I felt urgently need to see clearly. It is after the month of August 1979 only (almost three years after the discovery of meditation) began the "great cleansing" made ideas on my parents and on myself in particular, which continued to burden myself and hold my vision of this fascinating world I live. The work on the life of my parents absorbed me for seven months, until March of the following year. I was then on the eve of my fifty-two years. It is with this work that autonomy which I have spoken, that in a sense remained only "potential" for three years, became fully current, complete, irreversible. It is through this work, too, and by him alone, I was able **to love** my parents full sense, ie also: **to accept** what they were, or had been, with all that that had involved (and then I began to perceive), in particular, involved for me, son. If I felt the need to make this work (128 1) and if I was able to do, it is because three years before I knew accept this gift of life received at my birth, and refused for forty years - the gift my unit. Or to put it differently, it is because I was able **to accept my own nature**. It is by

acceptance, love myself, I was able to accept, to love my parents 129 (*).

I can also say that it is through this work that just has "resolved the **conflict to my parents**" - a conflict I did not know existed a few years before that, when my parents were

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one dead

p. 584

and the other for over twenty years. It is true that the base note in my attitude vis-a-vis my parents, since my childhood, was an attitude of admiring respect, recovery, identification without reserve, and after death, a kind of tacit worship of their person and their memory. This is not the kind of relationship we are accustomed to designate by the term "conflict", suggesting a base note of antagonism, enmity. In this valuation, which came to them from my person, my parents found their course of account, they found that it was very good and the order of things - and there must be some parents who do not would be in their place, or that do welcome this as they are! It was after this work on my parents only, and even more after work on my childhood that followed, I was able to realize fully and knowingly, how this idyllic relationship had been mine my parents had was **false**, fictitious, not "**real**". She could not survive in **erasing** stubbornly touching picture of a amount of things that "were consistent" not including painful periods (acute antagonism precisely often felt like a **tear**), or "smearing" chronic, returning in the relationship between my mother and me with the same relentless regularity (even if the frequency was less) that it had been if once between her and my father. Without even counting things that had completely escaped my knowledge at the conscious level, as this "great cross" that I had marked on my parents at the age of eight, after two years in a foreign environment, with a hasty letter from my mother three or four times year as any sign of life from one or the other. . .

But the real reason, the **real** reason that makes me call "conflict" the relationship between my parents summer 1933 (at age five) and winter 1979-1980 (when I was fifty-one), it is not that there was these forty-six years of conflict that have opposed me at either or both together - these conflicts were common or rare, violent or latent, conscious or unconscious. Rather than this relationship was not **assumed and could not** be (as it was, I hear, without turning deeply). She could not be lived and seen as I lived it and as I saw her, than because a **crackdown** constant, tenacious, my faculties of knowledge and understanding; a **refusal** that alone, meditation on the past could teach me.

129 (*) This echoes the thoughts of the end of the note "Acceptance (the awakening of yin (2))", n ° 110.

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obstinate a decision

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knowledge of the true nature of this relationship, or at least some aspects p. 585

Essential in this relationship, involving essential way each of my parents like myself, and the picture I was talking to us. In other words, the form that had taken this relationship was perpetuated by a **leak** stubborn, relentless, before a reality all that was tangible; reality equally obstinate make themselves known to me again and again, without ever alive my parents I do not really take of seed. The episodes, sometimes heartbreaking, the clear and undeniable conflict between me one or the other, were that some of the more or less eloquent signs of nature "conflict" the relationship with my parents, ie this repression and the leak that took place **in my own person**.

In other words, a "confrontational" to others, the deep sense, is the relationship is "divided", that which is perpetuated equal to itself by a process of repression, of escape from reality, and conversely that helps perpetuate the process itself. The signs of "conflict", the "division" in relationship can be both in the nature of antagonism, as in that of allegiance; it can be a deliberately critical and even esteem or disdain, as a deliberate approval or admiration.

And now back to me, without having sought nor expected, to what one might call my "hobby" philosophical: that the conflict between people is only the "sign" of the conflict in each of the protagonists, or: the "Source" of the conflict in society is the conflict, the division in person. (Parents in all this ended disappear without a trace!).

This view seems to completely overlook the most simplistic and far the most common: that the conflict between two people is the result of "interest" or desires in one and the other, which are "Objectively" antagonists ie, such as the satisfaction one can get as detriments that of the other. This is the way to see universally received, whether the conflict between the two per-distinct Counting or internal conflict in one person. So (in the first case) these "desires" incompatible may be, at one and the other, the desire to dominate, to set the tone to call the shots - If indeed more

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currents, including parent-child (and equally between husband and wife, or between lover and lover). I do not also deny all reality, any utility that view) in some cases at least. But I see that it concerns a superficial reality, while a deeper reality it entirely escapes. To suggest an example in this regard, I note that the desire to dominate (or shine, or in general, to get on top of others) at its root precisely in this "self-loathing" in This "self-ignorance" which was discussed earlier, what we try to escape by attitudes and behavior likely to **blur** and **compensate** this secret self-esteem. Thus, beyond the conflict "objective" antagonists desires, we see in this case the profile conflict in the person, as creator of such nature desires, they can not but arouse antagonism and feed others. True, these few comments I will not exhaust the delicate and important issue of relations between the two aspects of the conflict, I would like to describe as "superficial" look and appearance "deep" - and it probably is not the place. Rather, I feel the need to return to the theme of the conflict to the father or that of the conflict with parents, I was trying to get away. I was able to time give the impression (even me carried away with it for a while!) that conflict with a parent, or Peter or Paula was just more of the same. I know though that this is nothing! I know that the **conflict with the father, the conflict in the mother, are at the heart of the conflict within ourselves** . I spoke earlier in this sense, my "intimate conviction" (I would call both a **knowledge** in me, something well understood), that one that is not divided in itself, conflict is resolved to parents. This knowledge, I said, comes above all (I think) the experience of conflict resolution in my 521

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relationship with my parents 130 (*). Another way of saying this is that **the acceptance of our parents** (ie the cessation of conflict to our parents) **is part of the acceptance of ourselves** . They are (compared to us) and our **origins** ,

0 and our **conditionings** (or most of them, at least). The first of p. 587

these things (our origins) is inseparable from our person, whatever our path and our destiny; the other (our conditioning) is deeply rooted in us, and as part of our person as our origins. Rejecting the true reality of our mother or our father, that the refusal is expressed by antagonism or allegiance, it also reject an essential part of ourselves and of what was our life, as far as we can we remember. . .

There more. This is our mother and our father, before all others, that the conflict was one and the other is transmitted to us. (This is what was expressed just a few moments by the lapidary term "Our packaging"!) Thus, they are related to the conflict in ourselves, closer than any other person in the world. And the first external projection of this conflict within us, and the oldest and most crucial of all, the conflict is our mother and our father. So it seems to me that the conflict in ourselves, and conflict with both of our parents, are inextricably linked - they are like a single conflict. Sometimes I expressed "deeply convinced" that when the conflict is resolved we (or at least, when solved at its root, in the division "yin yang against"), then our conflict is resolved also to parents; or, to put it differently, the resolution of the conflict in us through that conflict with our parents. But I am convinced that the reverse is also true: that once the conflict is resolved to our parents, the conflict is resolved we at the same time 131 (*). It is here that I see in the relationship to our parents **key role** in our spiritual adventure, a unique role that comes with any other members of our families, that either the spouse or child, or friend, teacher, or student.

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Rating 128 1

0 (December 1) 132 (*) The importance for me to "get to know my parents" I was re- p. 588

calved by a dream that came on October 28, 1978. This is a dream about the agony of my father. this agony stretches for days and nights of painful struggle, surrounded by the bustling indifference of his entourage, while by the tacit consensus of all it is considered "dead" - "it was like a verdict, which would have made his actual death, cutting short any doubt. "I did wake up the dream narrative, but during 130 (*) See in this regard the footnote following page.

131 (*) I can give the impression here to ask "who solved the conflict itself." It is true that it is wholeheartedly no I say that the conflict is resolved to my parents, totally. It is also true that the conflict in me continues to be felt in many ways, it has not disappeared. This is surely a good thing apparent in every page of crops and Seeds, and this is something also that I had more than once occasion to emphasize it in such a case of cash or another. it would therefore seem to contradict the assertion commented in this footnote page, "that once is solved

conflict with our parents, the conflict is resolved we at the same time. "Yet, in a sense (the one I had in view I write this), it is true that "the conflict is resolved in me." At least, something essential in this conflict to its root, is indeed solved by this knowledge in my unit, for this acceptance of myself. If the conflict is likened to a tree with strong and deep roots, we can say that when the root is cut or dried up, the tree is already dead, while the inertia acquired, trunk and limbs remain in place again, time to dry out and disintegrate gradually. I feel this "drying out" of the conflict gradually over the years, as a grip once strong and vivacious, which gradually relaxes. Writing Crops and Seeds strikes me as one of the steps in this process, among many others over the past eight years. Another image in an attempt to describe the same reality is that of a deep calm that stretches gradually as the calm of a deep sea, which is not affected by the turmoil that agitate the surface. I express myself more detailed manner on this in the two notes "reunion (the awakening of yin (1)) "and" Acceptance (the awakening of yin (2)) ", n ° s 109, 110.

132 (*) This note is from a note b. p. in the previous footnote n ° 128 "Parents - or the core of the conflict."
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three months since I evaded any discussion about it, to the point of sinking in the dark half-forgotten. In short, I then "buried" there my father©death, including that dream spoke to me, all borders in this dream (which evoked a crucial aspect of my waking life) j "bury" my father still alive. There have been resistances of considerable force against the penetrating yet clear message of this dream, a beauty overwhelming. They are resolved after a first night of stubborn meditation on the meaning of dreams, on 31 January, followed by four other meditations in the three weeks that followed. This dream made me realize that my relationship with my father and my mother was a fixed relationship, "dead" cut a living reality whose perception was repressed - as (in the dream) was the repressed perception of agony declared null and void, and the spontaneous action that flowed in: assist to that painfully and abandoned by all, fight to live.

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The first thing to end this isolation in me was getting to know my parents. I p. 589 does not doubt me then the size of the task, I imagined "within hours" power get "the core issue"! The idea to get to know myself, through my childhood in particular, do I was not touched then. This need was felt later, he would arise spontaneously travel I was about to undertake. It began only six months later, in August 1979, because the long digression (not yet useless in many ways) which formed the episode "Praise the Incest. "(See for this one note" The Act (113).)

With the dream of 18 October 1976 (triggering the "reunion") dream about the agony of my father is one two dreams that most strongly acted on in my life. The resistance against his message were much stronger, he seems. The first message was received in the hours that followed the alarm clock, while the second was delayed for months. He has begun to accomplish that nine months later, I left for a journey of discovery that continues today. . .

It is in these last days that just came to me the connection between the meaning of the dream, and the reality of the Burial I try to enter this reflection. This funeral where I figure "Main deceased" occurred to me once as a "return things" (see the note of the same name, (73)). This time, I see a "return things" yet, but from a completely unexpected angle. In L© Burial indeed I appear alternately as "Father" and as "Mother". The idea was not me touched I have ever been in analogue son posture, "burying" alive (was it symbolically, or tacit consensus) his father or his mother, on the contrary! And I had strong reasons indeed to be persuaded otherwise, reasons I mentioned for the first time at the end of the note "massacre" (in the context it is true the **killing** of the Father, not his funeral). (I return more detailed in note "Innocence (nuptials of yin and yang)" (107).) In writing these last two paragraphs about my early childhood, in note "massacre", surely I had the impression (and, to be myself then under that impression) that my relationship with my father was free from conflict of my life. That©what could also suggest a cursory look at this relationship. But already in the commentary note here, "The Parents - or the heart of the conflict "

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I do not limit myself to such epidermal impressions, it appears p. 590 clearly that is not the case, that this view (which was indeed mine until January 31 1979) was one of the illusions that I liked to maintain for most of my adult life. This Illusion is clear to me, from the time I finally bothered to examine the meaning of the dream on the agony of my father - the most **beautiful** of all dreams whose life has provided me so far. This dream has the influence of the conflict on my relationship with my father with startling realism - and it also makes me live **resolution** of this conflict. The conflict is resolved by the effect of a **rupture** in me with the consensus decreeing my father died, suddenly break open the door to **something else** - and with a gesture of love from my father to me

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meaning that he heard the cry knotted my throat came to gush leave to him. . .

The profound relationship between the lived that dream, striking parable of a fixed relationship to my parents (which suddenly comes to life ...), and the reality of the Burial I probe for nearly nine months, seems to me to this with the strength of evidence. It is noteworthy that during this long reflection and to those last days again, the thought of this relationship has not touched me. I ended up "falling over" by the greatest chance, about a footnote on page I intended to point out, for all purposes, the role once again (in triggering a reflection on my parents) had played a **dream**, among others eight years that were like headlights angel on my way. It was about the effect given me so little contact with the experience and substance of this dream, I am far yet having exhausted. Once it restored contact, it was hardly possible, given the context, that kinship with the burial becomes manifest.

It is true that this relationship, for the moment, concerns a "node" only, while in the dream and in reality it transcribed, there is the node and its resolution. The resolution moreover, that the dream had me gives life, which I have known since that night the flavor and strength is mine and no one else that belonged to make it a reality experienced in my waking life also, in my relationship with my father and my mother. I was free to do so, as not to do it - and for months, it is this second alternative that was my choice! Today - five years after this resolution there - it is still the same surely in

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this somehow symmetrical where I am involved, then it is I who figure of Father

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buried by a consensus-verdict, where I was the son who piously buried his father alive in flesh and bones! And maybe this time again is that with a meditation on the meaning of my experience, in this case, the meaning of this burial, that will resolve this other node in which I find myself engaged, and dissolve perhaps then again the weight of my past.

Whether this meditation will be of some use to someone else than myself - so protagoniste perhaps this Burial I am not alone in being buried, and where are legion buriers rushed to Funerals - it does not have to be my concern; or if such a node that I see in others will resolve or no. This is his job, I have enough of my own! But if by chance he had to solve while I@ alive, surely I@ be the first to be informed * and I@ be happy. . .

18.2.7.5. (E) The enemy Father (3) - or bury yang yang

Note 129 Clearly, in the preceding pages 133 (*), I just touched the theme of **conflict with**

Parents, not even that of the conflict to the father, who was my starting point. The associations of ideas

I have followed from there, seem to me to have distant, rather than dig. In this I have

say the conflict to parents, the role of mother and father are interchangeable, as it is irrelevant

as if "we" referred to in these pages, refers to a man or a woman. Yet in our

relation to parents, mother and father are far from playing a balanced role, and the role played by each of them depends crucially on whether "we" are boy or girl (since become man or woman).

In this case, the conflict with the father (speaking through the symbolic burial of it or by its

Massacre) interested first and foremost in the case of those I know to have actively participated

at my funeral, all of whom are **men**. From then, the father, in the structuring of the self, is the one to whom

it **identifies**, on which it is **modeled**, in its relation to others (especially in women), and the

relationship to oneself. It is rare that this identifica

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tion is done without "blunder" of size and antagonism

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the father is a trace, tenacious if ever there was. This is not the place to try to get around these

133 (*) those of Note ° 128, of which it is an immediate continuation.

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burrs, all that often tends to bell tower for the boy even more willing to take

example Papa; or to examine the expression they tend to take the relationship to the father. My

own experience about this is indeed so outlier, that I might be less well placed than

person to make such an inventory, while I do not feel intimately, by my own experience, the ins

and bounds and the particular "flavor" of any of the main case 134 (*). My experience here is mostly

indirectly, by what I observed around me, and in the first place in the relations of my children

me.

Beyond the specific nature of "blunders", and grievances and resentment vis-à-vis the father who draw,

there is a common feature yet I strongly perceived in many occasion when all about

deliberate "explanatory" was entirely absent. It is that the antagonism of the boy or the man with respect to the father, who served him as best they could and that model reproduced in "positive" or "negative" (by imitation, or opposition), he likes it and acknowledges it or not - this antagonism is nothing one aspect, particularly telling and crucial antagonism with respect to **itself** . Specifically, it is the sign Outside, by the rejection (more or less clearly expressed) the father, the **rejection of a part of itself** ; of this, surely, for what (unwittingly or against certain options conscious or unconscious) it looks his model challenged - to his father.

Suddenly, I fall back on my feet well - I see clear what tipped link between "self-loathing" (or "Refusal (or ignorance) of self") and "antagonism to the father" - but I fall from an unexpected quarter. I preparing to find a more or less direct link between this antagonism to the father, and self-denial as refusal (or "burial") of the feminine in himself. Instead, it seems that I falls (though I would have expected, in "logically") on the refusal of the **male** . Yet I know although this denial then, less obvious and more hidden in

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man that women refused him (which I especially p. 593 had occasion to speak), is hardly less scarce, and it weighs on him a weight equally heavy. He often surraoute to another, so that, in some way also to structure the self, whether in color yin or yang colors, it is sure to be unacceptable to yourself! Or to put it differently, this refusal father, or denial of what is "masculine", "manly" in itself and makes us look like the father often goes **to together** with the adoption without reservations (for lack of a counterweight "yin," challenged) a system of values "yang" "macho" zinc strand! 135 (*)

The idea came to me that this contradiction (truly effarente indeed, once said and written on black white!) is probably also true **nerve** in this **competition** without thank you, which is a characteristics supermacho our society (and this as much in the high spheres of science, as everywhere elsewhere. . .). For if "up" and "beyond" are values superyang par excellence, these values would be probably not internalized with such vehemence, and their implementation would be done with such brutality (even if it is hushed, when it comes to the "highest levels" ...) if the rival in a better position than us, that it is beyond even oust we saw not simultaneously be profiled before us shade Father formidable, both admired, envied and hated secret - one that was there before us, and whose only existence as far back as we can remember, has been **the biggest challenge** in our life.

18.2.7.6. (F) The arrow and the wave

Rating 130 (19 November) I felt all anxious to continue even thinking where I had left.

It©been a week, actually (from the note of November 12, "The vehement wife (the overthrow of 134 (*) Compare with reflections at the end of the note "The Massacre", n ° 87.

135 (*) (29 November) This is at least the case of the far more common among those that I know.

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yin and yang) "(126), I have the feeling day after day to be about to enter" the heart of the matter "- turning to the overall picture of the burial that I promised myself that would bring together the "shutters" partials had de

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pledged ongoing reflection - and a week as the "point" in question is pushed back p. 594

day. Each day ending my note (because you have to stop and go to bed when the time advance), I feel I did a job I could deliver me to do, I have "advanced" a notch - but I feel the same time as the "point" where I© getting dropped all! The temptation obvious here is to continue milking until I arrived at the famous "heart of the matter." But after the "health problems" in the past three years, I know also that it is the gaffe to avoid. Besides, I know, deep down, that I© right, in the "bright" in question. Only, I bite my brake to have done the trick. This impatience reached the end of a task, this momentum to such "point" or "Heart of the matter" intensely perceived in front of me - close or distant yet, no matter the merits - this attraction of the "purpose" of which I project myself forward as a speeding arrow on target - this aspect which seems to me most intensely "**yang**" of myself, characterizes my way of being **outside of time work** . It is a striking aspect of the "**boss**" of what is conditioned, acquired in me. Nothing in this which is known from my childhood, could foreshadow this character later appeared in my childhood, and who so strongly marked my entire adult life until today.

In the same work, this aspect seems almost disappeared. I feel that the few that remain here and there is no more and no less than a sign of occasional interference, Discreet it must be said, the boss during labor (which, indeed, he does not care!). The work itself, at the option of the worker who by my hands working at the pace that is his, is following a very different breath. The impatient ardor fades before a quiet, peaceful and obstinate. There is no arrow, hurrying towards a target, but a wave that spreads very and jutting far nowhere, where the moving force that animates the door - a wave followed by a

Another wave followed by yet another ... There are no hesitation in this movement, in each place and at any time it has a direction of its own bearing the or pulls forward. In every moment there is a progress, we can not say to what, there is a "work" done in a movement that ignores the effort - and there is no goal. The very idea of a "goal" here seems strangely preposterous - So where would one want the to place ? ! The purpose has disappeared, as

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the arrow. If arrow there, it is not a vibrating arrow soars

p. 595

the heart of a target to come and spoil it planted in it - but in **every** place of the moving mass of waves following each other there is a motion and a strength unequivocal, there is a direction in an increase, as precise and clear as an arrow, invisible yet urgent that this would mark direction, this force movement.

Thus, it seems to me in my work, I am also "yin", as "sea and movement", as one can be. he was the case, I think, any discovery work in my life, any work I have ever launched me with passion, and above all, my mathematical work and the work of meditation. And now that I come unexpectedly to describe a picture, sudden and compelling, how I feel this work, it seems to me that image at the same time also describes the **movement of my life** since the day of reunion with myself, and perhaps already even before, from the time maybe my "healthy tear" in a cozy fold 136 (*). At least, she describes the "how" of my life at the deep level, that of the "quiet" which I spoke (there are a few hours worth) into one page of footnotes in the note yesterday - a peace that is not affected by the agitation which takes place on the surface. In this deep calm, there is movement and progression, but there is no goal - the goal is gone.

And I also remember now that it is this image that came to me in March, where I

136 (*) See the note of the same name, n ° 42.

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speaks of the manifestations of my two passions, meditation and mathematics, as "up-and-down move-efore waves to the next to each other, like the breaths of a vast and quiet breathing. . . " 137 (**).

Now, eight months away, I think I recognize in these images the spontaneous movement of my being, in what is the most spontaneous, in what is truly original in me - in what has the child eager to know before touching the concern for sound and cravings of becoming. . .

18.2.7.7. (G) The mystery of conflict

Note 131

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(20 November) yesterday evening was spent almost entirely to review the notes from the day before, p. 596

correct way, retype a decidedly too overloaded page, write notes footer (provided

the day before) - and had already midnight! Yet I could not wait to go again before the evening, however little

whatsoever, and have gone back to my typewriter, to use the "wire" interrupted the day before. And it is

quite another thing that came - the image of the boom and the wave. For a long time I recognized

in that of the arrow, while that of the wave seemed to correspond to a very different temperament

of mine. It is a surprise, appeared during this reflection on the yin and yang, it is nevertheless

the image of the wave that expresses the most striking, and most aptly, the "basic tone"

prevailing in my being, when "the boss" is away, or when at least it gives way to something else. The image

is mounted, as if it had been there all ready, she waited for the words that would finally make him

to take shape. They came without haste and without hesitation, as I just did my best to **describe** the as closely as possible, without retracting or deforming, which was still in the state of a diffuse feeling.

The complete description, it was about two o'clock in the morning. I read these two pages the same night, there

were no alterations to make, as saying. The most delicate passage was one in which I tried to describe

this intuition of an infinite number of continuous "arrows", closing as a "field" forces. This was an idea

who presented with force, and seemed reluctant to let talk through language. I felt yet

that this was an important aspect of the entire image, the aspect of "yang in yin." In the wave there

a "arrow", there is a **momentum** that carries it forward, following a movement that is clean and it is not

that **an** arrow, but rather of a multiplicity, a multiplicity **continues** that restores with

flexibility this movement of the wave. And I also knew that in my work I was **also** "arrow"; but

I am in a different mode than I had imagined until now, because they have taken leisure

ever watch this work with some attention to me soak as if it were another than

me to perceive the tone that is his. If I did not do it sooner, for eight years I happen

meditate, it is probably that I stayed in my blind prisoner of a deliberate inveterate: the

identify me

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"patron" in myself, rather than the worker-child; that is, too, when I say "me," of p. 597

think first of all (perhaps even exclusively, often) than I am when it is the

"Boss" is on the front of the stage. A few things around, these are also the moments out of my work precisely.

The necessities and vagaries of education (among others) have done anyway, since the discovery of meditation, for my attention on **some** traits of my work - namely, traits which I felt they were universal in nature, they should be present in **all** creative work in any work

Discovery 138 (*). But before this reflection on the yin and yang, I had not yet thought to discern 137 (**). See end in "My passions", n ° 35 from which these lines are drawn.

138 (*) The first text written, I think, I mentioned some of these traits is that of October 1978 "As a Program" (which he is alluded to in the note of 6 November, "The beautiful stranger" n ° 130). After this text, I do not bother to explain and deepen black and white my comments on it before the Crops and Seeds reflection this year. His first eight sections are essentially devoted to this theme, besides many other comments everywhere in 527

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in my own work distinctive features, which make it different from any other. One of these features, which seems the most crucial of all, is finally identified in the note of November 8, "The sea comes up..." (122). The image evoked first in that note then, in the context of a typical conjecture that question of prove, is included in the notes of yesterday in a different light, beyond any particular context.

I finally resume the thread of reflection where it left off before yesterday. I was on 139 (**). With the proposition to try to identify the root cause of the antagonism to the father, beyond the specific grievances that can nourish against him. By following the associations of ideas that arose with force, I got away

First of this, being brought especially to talk about the conflict to the parents, father or mother either.

This "conflict" can take both the form of allegiance (as was the case with me), that antagonism. Since my work on the lives of born parents, "conflict **parents**" strikes me as being truly

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"The heart of the conflict" in ourselves. Solve it, I am convinced, is neither p. 598

more, nothing less than solve the conflict to parents, ie: to be free of them, to be fully autonomous spiritually, pursue **his own** journey. . .

Returning again to the antagonism to the father in man, I reconnected with an intuition

has become to me many times in recent years: it occurred to me that the deeper meaning of this antagonism father is the refusal of it in us that makes us look like the father, appearance and traits **manly** our person. I made that last part of the reflection of yesterday 140 (*) a separate note, with the name

"The enemy father (3) - or bury yang yang" - suggesting therefore also, by that name, the link with the two sections "The enemy Father (1), (2)" (n ° s 29.30), where the theme of "father enemy" appears for the first time.

Thus, the appearance of the burial which had been mentioned at the beginning of reflection before yesterday, namely the aspect of "self-contempt," or "self-ignorance" or "self-denial" appears as a kind of stroke

union, or better, " **hinge** " between the two previous parts, the flap "Supermère - or funeral

"Feminine" "and the component" Superpère - or killing and burial of the father ". This kind of hinge appears,

when it is clearly seen that in the first of these areas, "the feminine" is before anything else,

"feminine **within us** " (as it was perceived in effect as the note of November 10 "The funeral of yin (yang

bury yin (4) ", where the flap "Supermère" appeared), and further, that "father" is primarily a substitute

symbolic of the "men in us." Thus the two aspects in question are perfectly figure shutters

symmetrical, corresponding to the two "scenarios" obvious "self denial" - namely, the refusal of "the woman" (aka Mother) in us, and the refusal of "man" (aka Santa) in us 141 (**). And the

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theme of the conflict

p. 599

parents, which is a kind of combination or superposition of two distinct themes of the conflict to the mother, and father, appears also as a kind of hinge. Or rather, according to what has been seen in reflection yesterday 142 (*), this theme appears as inseparable from that of self-denial, one and the other being two separate aspects of the same undivided reality, that the **conflict in ourselves** .

In all this, it seems that the initial purpose of "identifying the **causes** deep antagonism to the father"

remains unresolved. I could say that antagonism father is one of the **forms** that takes anta-

gonisme to oneself, or denial of self. From then, the original question seems to split into two. Firstly,

for what "causes" self-denial takes it, in some cases, this particular form? The probe is also

this reflection.

139 (**). In the note "Parents - or the core of the conflict", n ° 128.

140 (*) In fact, it is not the standby rating, but the day before, which I@ about here was chained.

141 (**). I remember that it is not uncommon for two kinds of refusal "symmetrical" overlap one to another in the same no one. View the devaluation of yin in our society, it must be quite rare, anyway, that the refusal of yin is present as a more or less pronounced. So I would be tempted to see the antagonism to father a sign (at least

presumptive) of a double rejection of yin **and** yang.

142 (*) See penultimate footnote page.

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enter any degree detailed in a number of different typical situations, such as to arouse such antagonism.

On the other hand, we return to the question, deeper and more crucially, the " **causes** " of the refusal

Of course, that is also the cause of conflict, division in us. I think I have grasped at least the **mechanism** shared by what is transmitted generation gap refusal to ourselves we are nothing thing internalizing the rejection of us by our surroundings from our first years - refused all under certain aspects and certain impulses in us, who are an essential part of our being original, our creative faculties. I touch on this aspect (among others) in the "Refusal and acceptance "of" The key of yin and yang ", especially in the first two notes" Heaven Lost "and" Cycle "(116) (116 ©)

On entering this "mechanism" common transmission of the conflict does not mean: have including the **causes** of the conflict in us (through us) in human society. **Why** , of all time everywhere (by the unanimous testimony have survived through the ages), "the Company" does tolère- Does not that those who constitute it are the ones **whole** ? Ie beings in full

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Possession p. 600

their talents, which suppress at great expense a part of who they are, if considered shameful (or as formidable...) it is better to ignore it is, and tacitly approve it **is**

not ...

This is for me one of the great mysteries of existence, the biggest mystery perhaps 143 (*).

There was a time there a few years ago, when my attitude towards the universal reality of repression and conflict, was an attitude of **rebellion** activist - to revolt against this " **sword** ", who claimed bisect which, by its nature, was to be one, **was** one. These were my plans again, writing the eulogy, there are five years 144 (**). It is through the lengthy meditation of work that followed, the life of my parents, that attitude has changed. Through this work, who handed me day after day in close contact with the events of the conflict in my parents, and that made me patiently up demonstrations in their meaning and their cause - by this work I finally ended up feeling the **mystery** of the conflict. The revolt attitude had disappeared, as if it had never been. She had been a knee-jerk reaction, a simple dispersion energy. A revolt - against whom? Not against a person or group of persons, against the famous "They...!" We are all in this together, and that makes a million years or so we© here. . . Revolt against "God"? He would not have missed it.

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Basically, I know, for a long time (I can not even say how long, though long p. 601

I pretended to ignore it. . .) That everything in this world has its good reason to be, and even if we understand the bottom of it, surely everything is **good** as it is. Death and the "beyond" of death (if

such beyond) is one of those things. It©a mystery, and there is a " **faith** " in me about it, it is

not in the "articles of faith" on the existence (or nonexistence) of a past and its peculiarities,

but just this simple assurance: that things are perfect as they are, including

everything about death, and for everything concerning the birth, just as mysterious. during

143 (*) This suggestion is purely subjective, it simply reflects the fact that among the "great mysteries of existence" is

this that I feel particularly strongly, in a manner that goes beyond mere intellectual curiosity. This is the only

aroused in me a **desire** that of probing, to know, to know "the final word" (insofar as it can be known with

the limited powers that are mine). The difference is the same in mathematics, between open questions "I

feel good "(in which I could throw myself on the spot), and those that I" understand "in the technical sense, which

I see (on a superficial level) the scope, but "do not make me neither hot nor cold." The Riemann hypothesis is one of those

recent (probably due to my ignorance in analytic number theory), and the "Fermat©Last Theorem" was one

until just a few years ago. These are my "anabéliennes" thoughts that changed my arrangements with respect to this

Last, while my ignorance of the work he has raised is as great as ever before.

144 (**) It is question of the episode several times in Crops and Seeds, the last being in the note "The Act" n ° 113.

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long, yet I had excluded "conflict" in the number of these things - I took it as a kind of "Blunder" impermissible blémissure, a "quack" stubborn and absurd (or disgusting) in concert Creation. He only finally I take so little knowledge of the conflict closely, instead of wasting me to mine fight him for my relationship with him is changing significantly.

The mysteries of death and the "after death" from birth and "forward-birth" are not clean our species. The questions they raise are meaningful to all living beings, perhaps even all things, from the electron to the nebula. The mystery of the conflict, by cons, I think proper to man, humans ¹⁴⁵ (*). It seems to me **the** great mystery of the particular sense, the particular destiny of **our species** . The "explanations" that were given by ethnologists and

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psychologists, all those

p. 602
at least I@e heard, are clearly not anything other than **rationalizations** to **justify** the repression suffered and internalized as essential to the smooth running and the very existence of the society ; a bit like a penguin society or one-legged, he is sure theorists leading to prove by A plus B (without anyone thinking to contradict) a society where people have the use of both arms (or both legs) could by no means function ¹⁴⁶ (*). This is of justifications sewn with white thread, trying to retract a mystery by explanations that arise as "scientific". In fact, the question of the origin and meaning of the conflict (or repression) in the human society remains purely rhetorical, as long as the one who pretends to ask not went through an intense and thorough work of becoming aware of the conflict **itself** , and the origins of conflict **in him** . In the absence of such self-knowledge, this matter (like the kind of issues freedom, or love, or creativity) is a modern equivalent of the medieval famous question "Sex of angels" - without an exercise in style, arriving to "cram" what to cram anyway. This question is not strictly speaking a "scientific" issue, so a question requiring examination does not presuppose a **maturity** , but simply a preliminary knowledge, and a certain level of power or intellectual agility ¹⁴⁷ (**).

In this case, it is not for me to guess somehow what mechanisms has instituted repression in society

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human, ie to find a **explanation** of the fact of repression. AT
p. 603

Even assuming we reach a plausible or convincing scenario, I do not feel much the wiser. It may enlighten some interesting aspect of the mystery - the aspect of "mechanical" In short - without penetrating it. Nor are the detailed results of paleontology and ¹⁴⁵ (*) (3 December) can be objected to me (rightly) that the conflict in the form of aggression and confrontation between individuals or groups of individuals, exists within species other than our own. When I speak here of the "conflict", I think of the form specific that takes in human society, and in particular its deep ties with the **division** and **repression** in person - repression of the major part of his being, including repression of its means of perception of reality, and of perception itself. The various forms of repression seem rooted myself in one that strikes me as the most crucial of all, said repression "sexual" which inculcates shame of his own body and functions and impulses of the body (or at least some of these functions and impulses). These are unknown mechanisms outside of the case human, as far as I know. I may be wrong to use the term "conflict", "division", "repression" almost like synonyms, or at least as terms that designate different aspects of the same reality. Let me explain somewhat about the direction that takes the word for me "conflict" in the note "Parents - or the core of the conflict", n ° 128. ¹⁴⁶ (*) As of the time of slave societies, for "the best minds" (which also were served by slaves) as for the other, he was saying that "no society without slaves." It was not, it seems, that Plato unexpected fortune to find himself a slave to begin to see things differently.

¹⁴⁷ (**) (3 December) that the question of the meaning of the conflict is not the purview of science, could raise the expectation that can find some answers in myths and religions. "It seems to me however that it is not.

For what is known to me, it seems that the essential functions of these, if not their main function, is to establish a "law" which, essentially, is a "package" of forbidden by what materializes in a society particular, the repression. This law, presented as sacred essence, does not have to give reasons or explain his "Direction", let alone common sense to it and other laws that govern other companies.

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18.2. THE KEY OF YIN AND YANG

molecular biology, or even the profound ideas of Darwin, really penetrate the mystery of the appearance life and his creative development on land, in the three or four billion years listened

Lées. I@e interested in the mystery of the conflict, it is not the mechanical aspect, scientific aspect **outside my person** as well as the famous "Fermat@Last Theorem." But it is the question of the **meaning** of conflict. This sense **for me** to immediate and essential way, as it relates to each of the men and countless women who have torn each other apart and killing each other over countless generations, and have taught their children the conflict returned to their parents.

There must be a **meaning** to the conflict, and I know that sense so slightly, is surely part of "faith" of which I spoke earlier. For me it is an obvious thing - and that "feeling of mystery" very familiar, that there is something deep to probe, said at the same time that "something" **is the sense** ,

exactly. "Faith" in question is covered with a faith in my abilities when they reveal me here without the shadow of a doubt, there before me a "meaning" to discover. Maybe one day, meaning become apparent, as if I had always known! That mystery only me way seems remote, unapproachable. It comes to me as something very close, it would only I know more intimately. And surely I see now a way by which to approach, or appearance rather that already seems to me a friendly wave. After all, the conflict has much to teach me, already taught me a lot. . .

18.2.7.8. (H) reversal (2) - or ambiguous uprising

Rating 132 (November 22) For two consecutive notes where I see myself embark on excursions everything has **Unscheduled** - this time

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I will pay attention to start at first with this p. 604

which was **scheduled** for once. I would consider one of the "standard situations" mentioned (not further specified) in the previous note, conditions that might arouse antagonism to the father, and deeper, rejection (More or less radical) manly traits in itself (which rejection finds its symbolic expression in the rejection of the father). I was reminded of the situation in question upon reflection November 18, ending with the Note "The enemy father (3) - or bury yang yang". My intention then was to put the finger in this "typical situation" at least on a **direct link between refusal of male and female rejection** .

The case closest to me and on which I had worked extensively again, is that of my mother. All her life she had complue in a barely disguised contempt for all that is feminine, she was modeled on male values to the death, and at the same time the relationship to men was, since adolescence, a "visceral" antagonist 148 (*). I had this big chance that my mother spoke to me very freely of her life since childhood, and have more autobiographical notes very detailed until the early years of his life together with my father, not to mention a large correspondence. This is in addition to what restores my own experience in contact with it, a material exceptionally rich, I am also far from exhausted. I worked enough yet to have felt, without doubt, that the double rejection in it that I just mentioned, feminine refusal and antagonisme vis-à-vis men, had its roots in a torn relationship with his father. This man tying in many respects, generous, honest, and loving, had soured during a long slump in social Germany after the war (that of 14-18 I hear), as there were so many. Actually, this tumble had begun before, from a status of man easier rolling carriage, and had led to that of 148 (*) Unlike the female contempt, this visceral antagonism, which shines through a vehement love life and turbulent, remained unconscious throughout his life. I do realize it that during my work in August 1979 in March 1980.

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18. XII The Funeral Ceremony

Shoe walking shoes. Spurred worries and disappointments, his temperament was turning angry sometimes family tyranny, including his wife, frail, fai

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known mainly the costs. My mother, deeply

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attached to her father as her mother was disgusted by these episodes parternelle tyranny suffered in silence by his mother, who sometimes could not stand but who never complained. The child was passionately identified his mother, a victim of the paternal arbitrary, and also the role played by his mother (victim role, role passive - "the role of women." . .) Appeared to him intolerable. There was this identification with the mother, speaking by a revolt, a visceral antagonism against the father, and **at the same time** there was this burst "I never it will be like "(without undergoing revolt), a start that could mean that at the same time" ever I will not be like women. "

But deeper still, there was also the desire of the power of the father of the man, that he allows to dominate his good pleasure. And my mother©life was dominated and devastated by this passion consuming to dominate; and above all, to dominate and break **the man** - the very one that she aroused in such a revolt burst of raging, one that by its nature was supposed to dominate, she - like her father dominated her mother, suffering, pale and helpless, his power.

I was going to write here that reflection "joined" now that pursued in the note "The vehement wife (Reversal of yin and yang) ", dated 12 November (126). As I did not have a clear memory of this note, I just read it again. Strangely, I had forgotten that the note was prompted (like, Today) "the case" from my mother. I had felt reluctant to develop this case so slightly, there are ten days. If I returned to the charge today, overcoming this reluctance (which I also Missed meantime!), this is probably that there was an aspect that had been scrambled in the situation examined born. I had forgotten that as the starting point of note today, "intend to put the finger... On a direct link between the refusal of male and female rejection ", had already been the initial motivation for reflection of it ten days ago, following naturally the question that ended the note of the day "Supermom

or Superpapa "(125) In fact, the last sentence of this reflection of 12? .:

"It does not take longer to appear the" missing link "between...", " Seem to say that I then believed having accomplished my task of the day (of eta

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blir such a link). If I completely forgot I had already updated

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this link, and I even asked myself that question even before the note there are four days (on which I chained reflection of today), it is without doubt that I had not yet been fully convinced by the brilliant conclusion that I just mentioned, made no more than six days before the note "The enemy father (3) - or bury yang yang "The situation becomes clearer by quoting the entire sentence.

"It does not take longer to appear the" missing link "between antagonism Super-father (finding its symbolic expression in the funeral of that), and contempt, rejection of "Feminine", and deeper denial of "the woman" in itself (which will perhaps find expression in "burial" a symbolic "Supermère" under a plethora of adjectives Dual-Use rave. . .). "

In this conclusion, there was not missing, which made hasty: the link between "the antagonism the Superpère "and the rejection of" male "link that appeared in reflection with the note quoted the November 18 "The enemy Father (3) - or bury yang yang". Antagonism to the Father then appeared to me as the symbolic expression of that much more crucial reality of the refusal of the yang side, "male", in himself. For "symmetrical" female rejection, this link between the symbolic expression and its deeper meaning was perceived at the onset of "Supermère shutter" in the note of November 10 "The funeral yin (yin yang buried (4)) "(124). Thus, the two components" opposite "appeared in the note 11 "Supermom or Superpapa?", namely the burial of Father and Mother©funeral, were seen

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before yesterday as symmetrical manifestations of self-denial (or self-contempt), taking the double face the **male and female refusal the refusal in his own person** .

In note 18, "The enemy Father (3) - or bury yang yang", I had also limited to the case of "subject" **man** - as yet the most extreme case is known to me is that of my mother! This was moreover entirely forgotten in this discussion and even for ten days already (if not hidden under the term "my parents" in the note of 17 November).

It is the knowledge that I have of my children and their relationship to me, which made me feel there four days link antagonism father,

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the refusal of men in himself. Actually, each of the four p. 607

(From my five) kids I had occasion to know closely enough, I felt more than once during in recent years, attitudes behind ingrown antagonism against me, their father, a refusal on the side manly of their being, and above all, **the momentum** in them that launches to meet the world - and that makes them look like a father challenged! I never asked myself if this was a general fact; or rather, there was in me a kind of unspoken presumption that he should well be so, but I never felt the need before thinking of it four days ago, to make me the thing clearly, let alone to consider so be little care. Actually, this kind of issue "general" was not at all the ones I asked myself in meditation, whose purpose was more down-to-earth understanding me, and this primarily through my relationships with others - and again, ever so slightly, understand "others", ie those with whom I entered into relationship.

Of course, in thinking of it four days ago, when I suggested that there must have that connection, that antagonism father was an expression of a deeper conflict, namely the rejection of "man" in itself, it was still a presumption suggested by my very limited experience. This link appears to me at least plausible, especially in men, but I do not pretend to "see" the link generally. I do not have not about him that "intimate conviction" that I so often chosen as my very sure guide. In the case My mother, for example, I see that antagonism father was the source of antagonism and occult virulent against manly traits **in humans** , but not for such traits in a woman, well opposite. It is true that the mere fact of valuing thoroughly manly traits and cultivate excessive in itself, do not be mean, necessarily, that we fully accept the yang side of his being; this would mean, after all accept **as** the "yin yang in" found spontaneously in everything related to "dominant" yang, this which of course was not the case of my mother.

But reflection is taking out a somewhat dialectical twist, which does not inspire confidence! I prefer to refer rather to the direct perception I have of the person of my mother, as it has refined by my reflection on his life and that of my father. I do not remember ever having felt a refusal to her something, **in**

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she who is fundamentally "manly". For cons, I strongly perceived p. 608

in it this contradiction, or rather **tear** , the one that grows in it (such as **weapons**)
and cherishes more than his life, the same traits in humans, raise it in such vehemence, a
violent fight hunger and break - and whose life has crumbled (and is consumed prematurely)
by this fever to meet and face constantly and reduce to thank you in others this **same** force on
which she staked his all and that devastates his own life, as it devastates the lives of all those he
are expensive.

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18.2.8. Masters and Servant

18.2.8.1. (a) Velvet paw - or smiles

Note 133 (24 November) cases raised in the reflection of the previous note, before yesterday, are not the only ones to my knowledge, which confirm this presentiment that a superyang imbalance in the father (that this imbalance takes despotic forms or not), reverberates in the children by a rejection of the yang, which in turn can be expressed in many different faces. In boys, in the cases that are known and present to my mind at the time of writing, this refusal takes the form of a repression (more or less complete) on the manly side in his own person - and this refusal will surely follow him throughout his life (except deep renewal, something extremely rare). The case of my mother makes me realize that it is not always the same in a girl - unless there was at my mother also some refusal on the side manly of his being, speaking more subtle and would have escaped me until now ¹⁴⁹ (*). Which is on the other hand, it is the opposite extreme effect - that of over-development of traits virile in it (in addition to an aversion to all that is feminine). I have heard of other cases in the same direction, in **men** (eg in the father of my mother) - that of a **revolt** against the father, expressing himself by the development of a strongly virile personality, able to face the father "to Since I have not had the opportunity to know such a case closely, I tend to believe that must be more rare. But it does not really matter.

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If there is one point common to all the cases of which I knew near or far, it would be this one: a p. 609

superyang father imbalance affects the child by an **imbalance**, which can be in the direction yin (case perhaps the most common), or towards yang ¹⁵⁰ (*). In all cases that are in my mind (without thinking of making a systematic survey of all those of which I have been aware), this imbalance free accompanied by **an antagonistic relationship with his father**. I have the impression that it is also accompanied by visceral antagonistic attitude towards third parties **men**, in which the lines are yang strongly marked, at least when they are not balanced by complementary yin traits - that is to say, vis-à-vis men who prevails a superyang imbalance, recalling that of the father. Such superyang imbalance (as the opposite unbalance) is certainly likely to generate a **ma-laise** by anyone, as I have already had the opportunity to see ¹⁵¹ (**). But this discomfort does not translate necessarily by an automatic antagonistic attitude - it is not uncommon, for example, that it resolves (or at least it disappears from the field of consciousness) by an attitude of submission, of admiration more or less unconditional, or allegiance.

The association comes to me here that it was these tones that were most common surely, in the relations to my person (prestigious halo), within the mathematical world - at least among those of colleagues (or students) who (as I wrote elsewhere) "did not feel protected by a comparable name", or (I will add here) those in whom a certain inner balance, some spontaneous knowledge of their own force, did not exclude such overhangs. But no doubt he is in the nature of such a relationship of "allegiance" that it conceals a hidden antagonism, which is

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manifest (openly, or in a way that is still hidden) p. 610

¹⁴⁹ (*) A similar situation is that of a mother domineering temperament, invasive, superyang sign of imbalance. In the two cases which are known to me closely, this is translated in the girl by a very strong repression of the "virile" traits in her.

¹⁵⁰ (*) When I speak here of "imbalance towards yin", that does not mean development (perhaps excessive, one-sided) of its yin lines, but rather a **repression** of yang lines, which is not at all the thing-even. In the opposite qualified case of "imbalance in the yang direction", it is indeed an "excessive development" of yang traits, which often goes hand in hand with a more or less severe repression of certain yin traits.

¹⁵¹ (**) In the note "The Supèrère (yin yang bury (2))", n ° 108. 534

18.2. THE KEY OF YIN AND YANG

when presents itself a favorable occasion. . .

I have just followed some associations, which resume and complete the reflection of the day before yesterday (in the previous note "The overthrow of yin and yang (2) - or revolt"), and thus also that of the note of 18 November, "The enemy father (3) - or yang buries yang". They make me realize that the relationship between a certain state of imbalance yin or yang in one of the parents (in this case, a yang imbalance of the father), and the its repercussions on the child is not unambiguous, as I hastily suggested. Do not doubt, the form in which the parental imbalance is transmitted, in this case the father, must depend on many other factors, both in the family environment (and more specifically in the person and the attitude mother), that the child's birth temperament ¹⁵² (*).

But to tell the truth, it was not in that direction that I thought I was going to engage, starting to think

sometimes. Rather, I was thinking of pursuing another association of ideas, which has been present since November 12, or introduced for the first time in the dynamic reflection of the **reversal** of roles yin and yang (in the note of the same name, "- or the vehement wife", (126)). Perhaps the reader will does he make the connection on his side - is it still that when I raised this issue on November 12, then the day before yesterday on the 22nd, there was somewhere in my head, as if in mute, the thought of two others occasions where there had already been talk of "reversal", during this reflection on the Burial. The first time it was in the note of the same name of the Procession V, "My friend Pierre" (note (68 ') of April 28). The second occurrence is, in the footnote, the reflection of 30 September, which is part of the note "The Funeral Praise (2) - or halo and strength". There is even a third such opportunity, but between the lines, at the beginning of the reflection due two days later, which opened the reflection "The key of yin and yang". (This is the note "Muscle and tripe (yang buries yin (!))" (106), of October 30.)

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the famous "association of ideas, inspired by the Triune Funeral in three parts", to which it is alluded - the same one that triggered me the same day, to leave on this digression on wine and yang that I have been pursuing for nearly two months. This might be the time now to never sell the wick, since I speak about it, not to mention that I've been thinking about it since the day after May 12, after the note "The Praise Funeral (1) - or compliments ", more than six months ago.

The common point in these three situations is that it is a "reversal" of roles between my friend and ex-student Pierre, and me. In the two cases that were formulated in clear, recalled a moment ago, I appear as the "collaborator" of my ex-student (if not exactly as his student!). The first time is like the one who would have contributed (in a confusing way certainly, but sometimes interesting, one concedes it) to the development of the "powerful tool" of l-adic cohomology by my brilliant predecessor and friend. The second time, when we are quoted in a breath (to have "linked the topology, the algebraic geometry brick and number theory by "interdisciplinary" means. . . "), it is by the clever way of a "forgetting" typographic that the same reversal of a reality is suggested, as by the greatest chances of 153 (*). The meaning of this reversal becomes more tendentious than a simple question of precedence (within here, of an institution that I was alone, with Dieudonné, to "start" at the scientific fique, but that I had left long ago), when we pay attention to the choice of epithets ("theories of legendary depth" for one, "brilliant discoveries" for the other who is entitled to more to the underlined, with everyone except me). This meaning has been illuminated "strikingly" in the reflection "The 152 (*) Thus, I find that in each of the three brothers of my mother (all younger than she) continued a development well different from that of my mother (who was a little bit like a swan in the duck brood), and also different from that of other brothers.

153 As I had been noticing it earlier in the note "The Massacre" (No. 87 °), chance often have it, as long as typographers and movers get involved!

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funeral of yin (yang buries yin (4) "(124), of November 10), by which the reflection on yin and yang was suddenly "landed" in full ceremony Funeral: to one the accumulation of epithets (dithyrambiques at times) yin and superyin, at the other yang and superyang. . .

This is what struck me already the day after the note

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"The compliments" of May 12, even before

p. 612

to have had the opportunity to explain it as detailed as it was two weeks ago. Next way I then felt things (and that I must see here), there was there a real **reversal** of the reality, or more precisely, a "reversal", pushed to an extreme caricature, of a basic reality that I felt like something nuanced, balanced. I saw myself as a person with strong dominant "yang" to see superyang, at least in my most obvious, most obvious traits, and especially, those who are apparent to others 154 (*). On the other hand, I felt in my friend Pierre a basic temperament yin, definitely more balanced than mine had been, the time we often saw each other and where he was a pupil.

I believe that this apprehension of reality was essentially correct. If it happened to me sometimes, in recent years, and even more recently 155 (**), to sense a note of original background "yin" in me, it seems to me that I was the first and only to feel it - that it is primarily through my features yang or "manly" enough often intrusive, I was constantly apprehended by others 156 (***) , both at the conscious level than at the unconscious level - at least as far as personal relationships are concerned. These (apart from relationships, in love), also put into play especially, if not exclusively, "the boss "in us, which is conditioned. The new fact appeared during the reflection on yin and yang, that **in my work**, my approach things is strong dominant yin "female" does not contradict really what I knew otherwise. He nuances it, correcting it on a point where I had tacitly put everything "in the same bag". And all things considered, it seems to me that the sudden and strong impression I had in me, a "reversal" a caricature of reality, or more precisely, an **intention** of such a reversal

deliberate - that this "intuition" was also essentially correct, though summary. It is reality imperfectly seized by this intuition, which I would now like to delve more closely.

18.2.8.2. (b) Brothers and spouses - or the double signature

Note 134

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(November 25) I would first have to try to get a closer look at this impression, for me

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obvious that the "base note" in the person of my friend Peter is a **yin** note. As I see it, this is so at the level of the "me", as I have seen it express itself in particular in its relation to me and others, than in his work, ie at the level of the impulse of knowledge, of the creative faculties in him.

Regarding the first aspect, obviously he and I were **complementary** temperaments, with this extra nuance that there was excessive, "superyang" in mine, seemed to disconcert-somewhat, sometimes. It was especially, I believe, this constant forward projection towards fulfillment my spots, this **isolation** from anything that was not related to them, which aroused in him a kind incredulously surprised, where I felt a hint of loving regret - the same regret I had felt sometimes with my mother, when she saw me so cut point of the beauty of things around me 157 (*).

154 (*) And this, even in the years of "before leaving" now.

155 (**) In the note "The arrow and the wave" (n ° 130 of 19 November).

156 (***) And for myself also.

157 (*) My mother, as my father had kept the rest of his life a capacity for communion with nature, at the same time that a sense of acute observation for all that surrounded him, which I have both lacked until today still.

This was perhaps the only "yin" aspect of her being that she did not repress in her, which was able to flourish freely. On the other hand, 536

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It was not at home a discomfort, strictly speaking, sign of the refusal of a certain reality. At least I do not do not remind me once that I felt uncomfortable with him or that I had the impression of attitude or movement of rejection, taking distance, or even a clash between us. And I do not have no doubt that this was not a deliberate "diplomatic" intention in him, of decided to leave nothing out. On the contrary, he sometimes expressed this "astonishment" I was allusion, without any sign of embarrassment or irritation. Obviously, the basic tone in our relationship, and who never stop until today 158 (**), was that of a loving sympathy, than crossing no shadow.

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It remains for me a strange fact, and nothing I believe could have to suspect anyone, before p. 614 the episode of my departure from IHES (and even then, at the level of what "passes" directly in a head to head let's say) the fact that from the first years after our meeting there was a deep, essential ambiguity, in his relation to me, by the presence of a hidden antagonism, a desire at least to stand out from my person, and to evict. The latter manifested itself in a particularly brutal way (which left me speechless on the spot), still infinitely muffled in the way, during the episode of my departure from IHES (mentioned in the section "Eviction" (63)). My friend had recently been co-opted as fifth "permanent" at IHES, thanks in particular to my warm efforts in this direction. In the "explanation" that occurred between us (perhaps there were several, I can not say anymore), he did not leave to any moment of that perfect and smiling natural, with all the aspects of a kindly kindness, which made him so endearing. He explained to me then, without I detect any hint of hesitation or embarrassment, and again less antagonism or enmity, or secret satisfaction, which he had in those early years made the decision to dedicate his life and all his energy to mathematical work; that this dedication to mathematics who was his, for better or for worse, was to pass for him before anything else; that reason for which I expected the solidarity support of my colleagues and in particular, of himself (to ask for the removal of funds from the Ministry of the Armed Forces) seemed entirely foreign to mathematics. tick; that he regretted of course that this was a circumstance for me crippling, and that, given "axioms" different from his family, I was going to leave IHES for a cause which, from his point of view, seemed result ; but to his great regret, he could not associate, any more than my other colleagues, with a request that was foreign to him, and whose outcome was entirely indifferent to him (134 1).

I have given here in essence the "manifest", explicit content of my friend's speech, as returned to me my memory, without any effort to try at the same time to find and restore a style of expression, or the atmosphere of an interview, which I have retained no particularity beyond what I said here.

The episode takes place at a time when I did not have the slightest suspicion that behind the manifest content harmless (and sometimes strangely absurd) of a speech, often expressed in

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muted, and quite clearly, p. 615

a completely different message. This was surely perceived at the unconscious level, but passionately rejected, repressed from conscious field. As I imply in the note quoted "The Eviction", it surely took an energy considerable to succeed in evacuating a message yet quite dazzling! it's in this note though,

written more than fourteen years later, that I am bothering for the first time to submit this episode to conscious attention, and to clearly formulate its meaning, so long denied.

I followed one of the sons, the strongest, no doubt, of the associations that presented themselves to me. I did it as for the "projection towards a goal", which is one of the dominant features of my "me", this is also, perhaps, the only aspect of my person by which I managed to be more yang still than my mother!

158 (**) (November 26) If the base tone remained that of a sympathy, an attraction, it remains that since my departure, Over the years and more and more, this relationship has frozen, sclerotic, emptied of what gave him quality of life. I have the impression that

to find myself in front of a "shell" so perfectly sealed, that nothing passes either in one direction or the other. See about it Note "Two turning points" and "The Tomb" o n s 66, 71.

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against some reluctance, as if by this "digression" I was moving away from my main

Pos. However, I realize afterwards that it is not so. No doubt, the image of a person and a

temperament that spontaneously emerges from the description of concrete situations in which it is found involved, is more alive and more convincing than an enumeration of "traits", which would be supposed to

ner. Rather than getting started, I'd rather note another association, and engage in another

digression, comparing the relation examined here to that between Serre and me. At the level of the relationship between our people, the prevailing impression for me is not that of a "**complementary**" as with

Peter, but rather that of an **affinity** between two temperaments strongly "yang" one and the other. More than one

In the eighteen years of close mathematical communication, this affinity has been manifested

occasional frictions, expressed by cold transients, none of which have been of long duration. Such as

I remember, these episodes were caused by movements of impatient impatience at Serre, who

"passed" badly with the susceptibility that is mine. It happened that Serre was annoyed by the obstinacy with

which I pursued an idea against all odds when it seemed important to me. I took it out

on each occasion, without worrying whether she was going to "pass" or not, strong as I was of the conviction

rarely wrong) to have "**good**" view. I do not know why, Serre had developed a warning

against my cohomological "big fat" - maybe he was just allergic; just like André

Weil, to all "big blacks". On the other hand, when I started to develop "my" cohomological yoga,

in the second half of the fifties, Serre was practically my only casual interlocutor -

it was therefore badly barred! I

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believe that he did not agree to take a cautious interest in these works, and did not begin

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to realize that they were leading somewhere, that with the development of cohomology spreads since 1963,

followed the same year by my demonstration sketch ("in four shots to pot") of rationality

The functions ¹⁵⁹ (*).

It seems to me that the relationship between Serre and me was typical of a yang-yang affinity, unlike the

relationship with Deligne, who was a yin-yang complementarity. At the level of mathematical work and style

approach of mathematics, the situations were reversed. As I had occasion to say

already in a previous note ("The nine months and the five minutes", (123)), I feel the approaches of Serre

and mine as **complementary** in the sense of a yin yang-complementarity. It is this complementarity

even that was the occasion of occasional frictions, due to strongly yang temperaments as well at

him only at my place.

The relationship between mathematical approaches in Deligne and at home was different, not to mention

doubt. I can say, without reservation, that it was with Deligne more than with anyone else that I had

this experience of perfect **affinity** in the way we view and approach math questions

we were interested in each other. This experience was renewed each time there was a mathematical dialogue.

between us. It is quite clear to me that this is not a casual circumstance.

for example, the influence I have had on him during decisive years of learning.

This affinity has not developed during a long familiarity - it is it, on the contrary, presents

our first contacts, which was the force at work to create, almost overnight, a link of a

such strength, rooted in our common passion. This is a deep affinity between two approaches

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of

p. 617

159 (*) Another sticking point that I remember, probably more episodic yet, was my insistence to reattach

the shift theory to the quotient in algebraic groups and formal schemas (still poorly understood in the years

fifty) to questions of "effectiveness" of flat equivalence relations, or even (later) to the transition to the quotient in the

context of fpqc beams. These views, first taken by Gabriel and Manin, are now commonplace a little

everywhere in algebraic geometry and even elsewhere. It seems to me that the reluctance of Serre has dissipated, from the moment when

I ended up bothering (as no one else seemed willing to do it) to prove the first black and white

effectiveness theorem, for flat and finite equivalence relations.

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mathematics, pre-existing to our meeting, and which express (I am sure) an important aspect of original temperament in one as in the other - a "basic tone" yin in apprehension and discovery things¹⁶⁰ (*).

There is no question of "demonstrating" such an intimate conviction, any more than I would think of wanting "demonstrate" that the basic tone in my own mathematical work (say) is yin, "feminine". Everything at more is it possible sometimes, for such things, to "pass" a feeling from one person to another, and trigger someone else to become aware of something they had not previously lent to Warning; something that had escaped his conscious attention, yet still being "recorded" already somewhere, in diffuse form. The situation is surely blurred, as so often, by the efforts made by the interested to mold according to the values in honor, yang values, "masculine". While I can see that his mathematical work and the (considerable) influence he has exerted are deeply marked by his ambiguous relationship to me, I doubt however that the efforts in question to erase a basic temperament similar to mine, challenged - that these efforts were crowned

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of success. Certainly p. 618

dispositions of rigor, which did not play yet in him before my "departure", prevent it for a long time to look (at least in the writings for publication) on things too far below him, or on those who are today anathemas. Yet it seems to me that in what he publishes, he was able to prevent himself from follow the style of approach that is spontaneously his. This is the impression of the least that I had while flipping the few parsimonious prints except that he still wanted to send me to the grave, after my "death" fifteen years ago.

But of course, my apprehension of the mathematical approach Deligne draws primarily in the years before my "death", between 1965 and 1969. For five years we were then strongly connected to each other on the same things, and the mathematical communication was uninterrupted (except for a year that he spent in Belgium), and more intense than I had with any other mathematician, including mime (it seems to me) Serre. I have had occasion more than once to discuss these¹⁶¹ years (*), intense creativity both in one and the other. They were marked at my friend's house by an impressive start, which, however, did not surprise me, as it seemed self-evident! It was the time when his sense was very sure substance, what is tangible behind the most abstract appearances, or in the formulations the more "nonsense general", was not yet obscured by a sufficiency, nor by the burial syndrome appeared later. He makes many contributions to these themes (extreme-yin, I might say) that later (with his blessing without reserve) have long since been excluded from the rank of "mathematics¹⁶⁰ (*) (26 November) reflections of this note, in continuity with those notes "The rising sea" and "The nine months five minutes" (n ° s 122, 123) seem to suggest for anyone the presence of a "double signature" or a **double** "basic tone": one (most apparent probably) concerns the "boss", ie the structure of the "me" and the mechanisms that the govern; the other concerns the "Worker", aka the "child", that is also the impulse of knowledge, of discovery of the world, of creation (including, of course, the love drive). (It is, it is true, the most common thing in the world to take the boss for the worker and vice versa, that is to say, to take bladders for lanterns - but that's another story. . .)

So at home this basic double tone is yang (boss) -yin (child), Serre is yang-yang, Deligne is yin-yin (without there being in me any feeling of doubt, of hesitation about it). On the background of relations of sympathy with the one and with the other, it is this "distribution" of "signs" (or "tones") that makes, at the level of relations between people, my relation to Serre either of affinity and my relation to Deligne is of complementarity, and that it is the opposite for the relations between our approaches to mathematics.

Of the four possible "distributions", only the two-tone yin-yang remain. View the disadvantage of yin in our macho society, disfavor that will tend to play especially on the first tone (the "your boss"), I presume that the double-tone yin-yang should be less common than yang-yang. But I know at least one notorious mathematician, who tells me seems to match this signature. Of course, the second tone, or "original tone", is trickier to pin down, since it will be often "blurred" by external influences, by the desire to be and to do "like everyone else".

¹⁶¹ (*) See the notes including "The Child", "The Burial," "The eviction", "The inauguration", "Node" (in the procession V, My Friend Peter), and the note "The heir" (in Procession IX, My pupils).

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serious¹⁶² (**): topos of formalism," big furbished "cohomological ... I review and rises pin these contributions, with obvious pleasure, in the introductory

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tion GAS⁴¹⁶³ (*). Others such as

p. 619

(among others even more "muscular", who ranked him from the outset as one of the "big stars") are in my double report 1968/69 discussed in note "Investiture"¹⁶⁴ (**).

Note 134 1

(26 November), 165 (***) typical detail, the military funds, about which nobody wanted raise a finger, as long as it was question they would be cause of my departure, were deleted the year even from my departure in general indifference! We never knew, sometimes it could be a problem guest mark a little fussy on this chapter. . . The funds in question represented only one part of IHES 's resources (5%, if I remember correctly). Without having to consult, he between my four colleagues at IHES (not counting the director) there was a great unanimity opportunity to get rid of me (almost at the same time, by the way, than the director himself). And me which was believed to me indispensable, and loved!

(December 6) The two physicists of the IHES, Michel and Ruelle, were dissatisfied that the "Phy-
"at the IHES is a little poor parent figure, next to the mathematical section, represented by Thom, Deligne and me (including two "Fields medals"!). This imbalance had just increased through cooptation Deligne (which was done with the unreserved agreement of Michel and Ruelle, unanimously done by the Scientific Council of IHES, except for Thom). There had been consultation between physicists

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and mathematicians of IHES, to pressure the director, Léon Motchane to restore fair
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balance between the two sections, to the extent possible. I suspect however colleagues physi-
siciens should not be upset offset this imbalance effectively, and much sooner than they
not have hoped, with the sudden prospect of my departure.

As for Thom, was outraged that the appointment of Deligne will be made against opposition
formal. He described the contributions of Deligne, all unpublished, I referred to in my
Sparkle report "inauguration", which obviously passed him over the head, simple "exercices"!
What shocked him in Deligne's accession to the status of "permanent" to IHES, on a par with
itself, it was the young Deligne - he was 25 years old - was not already covered with honors. according to
Thom accession to such a post should come only as "the culmination of a career." We were
far less than ten years later only heroic years when I welcomed an unknown Hironaka
in makeshift premises. . . Still, that bitterness Thom was such that he then thought (according
he told me in itself) to leave the IHES to return to his professorship in Strasbourg he had
careful (wiser than me once, leaving the CNRS for IHES) to keep. For my sponsorship
warm Deligne I had been the first and main cause of frustration, and I presume Thom
was found in his heart, I did what I had earned by my impertinence in me

162 (18.5.4.4 **) (26 November), I remember also that some of these mathematical was exhumed loudly and without my
name be pronounced at the "Symposium Pervert" in 1981 and the following year with "memorable volume" LN 900. On this subject,
notes "The Iniquity - or sense of a return," "credit Thesis and comprehensive insurance", "Memories of a dream - or birth
memorandum "n ° s 75, 81, 51.

163 (*) (November 26) These comments were added in a second edition of SGA 4, completely revised (especially
for everything related sites and topos). They can give the impression that Deligne had been associated with the outbreak of
main ideas and key findings that are "powerful tool" in the étale and l-adic. So I have
there brought water to the mill of Deligne and cohomologues my other students, sharing (ten years later) the remains
a late master!

164 (**) I recall that this double report is reproduced in this volume 1 Reflections Mathematics.

165 (***) This sub-rating in the previous note ("Brothers and husband - or double signature" n ° 134) is from a footnote
page to it. (See footnote at the end of the third paragraph of this note.)

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seeing forced to leave the IHES just months after introducing my brilliant "protected"!

As for the director, at a time when he found himself cornered by the unanimous desire permanent, pressing
leaving, he then (as a proven tactic he handled to perfection) played the game of "divide
rule ", using the issue of military funds as a convenient way to create a diversion, and
get rid of at the same time the most troublesome of its standing. (Reversal of masterful situation
while the secret he had kept around the presence of these funds seemed like a reason
additional and urgent to force him to leave!) This does "not stop after my departure, it has
when even dragged a long time, and his departure from the IHES closely followed mine - from that so that,
like him, had been part of the IHES its early precarious and heroic years, and which,

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therewith and according to p. 621

his own, had ensured the credibility and sustainability.

18.2.8.3. (C) the Servant Yin, and new masters

Rating 135 (November 26) Among the many affinities between Deligne and I, in the years before my

Initially, there was the pleasure he took, like me, develop (when the need arose)

what I call the "big refurbished." The greater part of my mathematician energy, not to say

all, was dedicated to such tasks. If it was to build a house, make "wholesale refurbished"

mean: not merely to a tantalizing sketch of the house, or even two or three angles

different, or even to make detailed plans, with ribs and everything; but to bring and cut one by one

stones which should be used to build; assemble the walls, lay the beams, rafters and tiles or lozes; ask doors and windows, sinks, pipes and gutters; and install (if this is beautiful and many live there yourself) up curtains on the windows and drawings on the walls. It can be a house with good size, as it can be just a shed of a room - mind in the book is nevertheless the same. And as long as we live it, we may well have everything thoroughly and to the end, we soon account that the work is never finished, it always comes from the new - at least when the "big furbished" forgiveness, the house is spacious.

The most of my mathematician of energy between 1955 and 1970 was devoted to start and develop-
lopper zinc strand four **large** "big furbished" - without of course reached the end no, see above.
These are, in chronological order, the cohomological tool drawings, topos, patterns ¹⁶⁶ (*). these four
Master topics are also closely interconnected

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other, as would separate buildings ^{p. 622}

part of the same farm or hamlet, which all contribute to the same purpose. And each of these
"Furbish big" brought me absolutely without my having no attempt to develop other "big
furbish "already significantly less big - a bit like building a big house or even an entire
hamlet, one is led to install a lime kiln, a workshop of joinery and carpentry, etc. For example,
¹⁶⁶ (*) The "cohomological tool" did not wait for me to exist. This is some personal approach, which led
including the "control of étale" (which seems to me the main technical and conceptual ingredient in the de-
demonstration of the Weil conjectures, completed by Deligne). This is what I continue again, twenty years later, with "To the
Fields prosecution "in the direction" non-commutative cohomology "(or" homotopic "). In the direction" cohomology
commutative "I give some clarification on this approach in the beginning of the note" My orphans "(n ° 46). The
four "big furbish" in question here basically correspond to the five "Key concepts" in the note cited, except that
that "cohomological tool" corresponds to **two** such notions or ideas (ie, derived categories, and the formalism of "six
") Operations.

It is interesting that the only one of the four "big furbished" (or main themes of research) that is named
Funeral in my praise (see notes n ° 104 and 105) are the topos. Coincidentally, this is also one of the three
buried under the care of my cohomologists students, who had not yet been exhumed in paternity of spare,
at the time of Funeral Eulogy. (This stands in 1983, derived categories are unearthed in 1981 at the Symposium
Perverse, and the grounds in 1982 in the "memorable volume" LN 900.)

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each year the need arose again to increase the arsenal of concepts and buildings cat-
RIQUES, two or three (small) "big furbished" additional. People from ten or twenty years later, that
found everything all cooked and sit comfortably in places (and even others who know
basically what stick), shrug a condescending air about as "non-sense"
unreadable (Deligne dixit) and hair cuttings eh four ("Spitzfindigkeiten" as the name was a
shows German correspondent, however well disposed towards me ¹⁶⁷ (*)). These are people who have no
idea what it's like to build a house on the bare earth, and who never build in no doubt,
merely playing to the owners in those that others have built for them, with their two
hands and with all their heart.

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I was a bit lively at the moment, seeming to put my friend Peter in the bag of those who "have no
p. 623

idea what it's like to build a house. . . *. He not only saw me at work, but it is with
pleasure he was building his side, as if he had never done anything for twenty years he was
in the world. Besides the story of "big furbished" and construction of houses and all that (in case the
player would be not already seen. . .) Is yet another aspect or another image, to identify some
something I had previously tried to capture somehow the image of "rising sea" and
by that of a wave train is following each other ¹⁶⁸ (*). This is the "yin mode" or "feminine" mode,
apprehension of reality, and the approach corresponding to impregnate and to generate a
image, which renders this reality with flexibility and fidelity. So here I am back by a detour through my own
person, in my initial intention - that of "pass" this strong perception in me, a kinship,
an essential affinity between the approach of mathematics at Deligne, and in myself. But in this
look at Deligne I just try to identify with an image, there has been an "interference" complete,
to me it seems, after leaving Death of 1970 - I think the "big furbished" are completely absent from his
publications "after". Certainly he could not have reasonably make use of this trait in his master disavowed,
to run down it, while tolerating that same trait flourish in him, according to his own nature.

It is true that if it is, not to follow an inner need, expression of a basic instinct,
but simply to increase prestige by the accumulation of **results** who "brand", my friend had
really no interest in continuing to bother with (more or less) "big furbished." In my day already
and outside the Bourbaki group (itself engaged in a "big furbished" good size!), it was already there
thing rather frowned. Nothing surprising in this matter, since the blinders "superyang" in our society and
consensus in the scientific world does not date from yesterday. It was perhaps the main reason

which houses I was enjoying building remained uninhabited during the long
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years, except
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by mason himself (who was at the same time as the architect, carpenter etc.). And today yet even part of my work has long since become common heritage (and even where there is still no other reference available that my writings), remains surrounded (at least for those who do not part of the beautiful world and who make it their duty to take high) almost a halo of fear as whether to enter would request almost superhuman faculties. It is true that it is often long and it not be otherwise, given that everything is beautiful and well made, and hand and in detail, from beginning to end, even with 167 (*) My contact assured me nicely, just to please me, he knew my work was "largely measurement free from such defects" ("frei von diesen weitgehend Übeln"). It was for her" flaws "in which no could miss falling (such as "Spitzfindigkeiten" of all stripes catégories), if we ventured to develop theory (as I suggested about the reasons) on foundations that still remain conjectural. Here we find the visceral rejection of "mathematical dream" referred to in "The Forbidden Dream" and in the three following sections (Sections 5-8). This is yet another one of the aspects of an automatic suppression of any approach or approach "yin" "Feminine" in mathematics.

168 (*) See the two notes "The rising sea" and "The arrow and the wave", n ° s 122, 130.
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each chapter in turn explanations saying where it is coming from 169 (*). It does not seem to me my students in the days when they worked with me unduly struggled to get into the bath. But it was at a time when the "tangible results" had finally take the deposit of the establishment mathematics, and my students were working with insurance to play a card "safe". I have the feeling that since more than one is happy to accredit against by the version "unreadable" 170 (**), in accordance with a fashion far more tyrannical today than it was in my time.

But even apart from the wishes of fashion, when making calculations of profitability and "returns" surely we will take care to avoid the "big stuff" like the plague. Develop a "big refurbished" and put available to all, this is a **department** that makes a scientific community, which often accept against his will. I've never been too bothered by this fact understandable reluctance; I knew

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I had "the right stuff", and that sooner or later, people could not help but come. p. 625

But even as they come to the "returns" in terms of "credit" can only be modest.

If I made a statistical report, not concepts, issues, ideas I have introduced and developed in the fifteen years from 1955 to 1970 and which are either entered the common heritage and anonymous, is buried without music (waiting to be unearthed large brass bands), but what might be called "the great theorems", I doubt I would find even ten. Maybe the total time spent directly their demonstration is of the order of a few weeks or months to break everything. There are not any had one before 1957 (theorem of Riemann-Roch-Grothendieck) - yet I know that I did not wasted my time during the previous three years. If it is the same, none of the "big theorems" would be shown at the moment (although it was not my main concern), if during these fifteen years I had stubbornly follow a passion to understand in me, trusting mode approach she dictated to me, that it is "profitable" or not (in terms of such desiderata or such others), or be seen or not in the big world. This approach was each time, leaving a strong initial intuition, or a handful of such intuitions, to take such a strong thread and any test that drew me into the unknown; and in so doing and to change view, I could not help but to As with the unknown amount in the process of awareness, such coarse stones that "Knows" by pruning, to build houses, very large and less extensive, and all good to be inhabited - houses where every nook and corner is destined to become welcoming and familiar place for more a. The doors and windows are straight and open and close without ajar and no squeak, the roof leaks and the fireplace draws. This is not necessarily Notre Dame de Paris, and there is not a "big Theorem" hidden in the bread bin of each - it's just the houses that he had built, and I have built to be inhabited. I found my joy to them, nice and spacious, knowing that the work I did, alone or in company, had to be done and that each time it was as good as I could.

This spirit also where I found the Bourbaki group in the fifties, and that I got felt comfortable, "home", notwithstanding the differences in background and culture, and challenges Casual I have mentioned in its place. By that time at least, it is a

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Spirit of **Service**, again, that p. 626

169 (*) It is only over the years, I think, that I realized the need to include such explanations often purely heuristics, trying whenever possible to communicate to the reader a sense of "direction" and about, strongly present in me as I write. Today, it seems more important to me that a thorough write-key demonstrations,

the reader will be pleased to replenish or even build from scratch, since it feels that it will, and that "Where" draws. . .

170 (**) The thing is obvious that for the only Deligne, still repeated to me the thing in person during his recent visit. he was SGA 4 (of which more than half is developing with extreme care the language of topos), declared "unreadable" by My friend, as justification for his brilliant "operation SGA 4 1

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I found. Service of a **task**, and beyond the task, other men serving, greedy like us include small and large things and understand them thoroughly and to the end. This "service" was taking not face austere duty or asceticism. He spontaneously and joyfully stemmed from an inner need, he expressed a common thing that linked the men so different.

And it is this same spirit that I recognize still in the Cartan seminar, where so many French mathematicians made their debut, and later (in the sixties) in my own seminar (meeting the acronym AMS, "Algebraic Geometry Seminar Marie Wood"). One difference between the two seminars is that mine were heavily focused on the development of "big furbished" mentioned sometimes (hence " **my** " furbished), for which he was never too arm, while the themes followed by Cartan from one year to another were more eclectic. More importantly I think that was common to both seminars, and above all, what seems to have been their basic function, their **reason for being**. Actually I see two. One function of these seminars, near about Bourbaki was to prepare and put available to all easily accessible texts (I mean, essentially complete), developing detailed how important themes and difficult to access 171 (*). The other function of these seminars was to create a **place** where young researchers were motivated safe even without geniuses of power learn mathematician profession on full current issues in contact with eminent men and benevolent. Learn the business - ie, put their hands in the dough, and thereby, find opportunity to make oneself known.

It seems that my departure in 1970 marks the end, in France at least, the "major seminaries" - places **sustainable** when, year by year, are under construction some of the major themes of mathematical contemporary - and places **caring** too and inspiring for

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all who come to put the
p. 627

hand. I do not know if there is anywhere in the world (in Moscow perhaps spurred on by IM Gelfand?). What is certain is that such places are decidedly against the spirit of the time, just like the "big furbish", written down on paper, carefully, to be available to **all**.

It is not by chance that nobody writes virtually careful presentations and (temporarily) exhaustifs on mature themes developed for ten years when it was not twenty, obviously crucial, and that meanwhile are accessible only to a handful of people "in the know". Whoever is part of the "big world" mathematics, if he is also part of the same time of the "handle" in question will have no difficulty in If required to make them aware of by those who did not ask better. The others

limpet! In the sixties, I saw a proud bunch of books that claimed to body and cries to be writings. I would have written myself, but I could not do everything at once. None of these books, to I know, is still written at present 172 (*). But I know more than one (even if that

among former students) who was quite on the pace and had the feel and the hand to be able to write without such evil book he needed (and still need). And the few who came back later work some, I do not feel that this is the abundance and the difficulty of their most personal work that the

171 (*) "On the difficult access," either because these themes remain imperfectly understood, whether they were known only rare insiders, and the scattered publications that dealt not gave an inadequate image.

172 (*) (28 November) I should make an exception here theses were written under my leadership. The spirit that animated me and, I believe, was communicated to my students, for the time at least they worked with me, was the one that inspired me for my own work; ie, in graphic terms, "build houses" which obviously was needed, even if

I was often the only one to feel the need of a particular "house" special. I feel that in general (except one exception) that feeling ended by communicating to the student, and that he was "hung" on such a subject, and subsequently was identified strongly about chosen. If one puts aside Verdier, who did not bother to make available all the work of foundations agreed between us and still waiting to be written, the thesis work of all students who did their doctoral thesis Status with me became what may be called "standard references". These are good houses to be inhabited, and none of which overlaps with any other. . .

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would have prevented ("sorry but I really do not have time!") to render this service to the famous "community mathematics. "For so it is even likely that it would have made it notorious as

author of a book read and quoted (even if all it exposes does not come necessarily
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him - but the "how" p. 628

is by no means negligible amount. . .), As the package more or less thick its reprints. Obviously, this is not a simple "lack of time" that keeps each other, with unani- impressive moth-eaten, to make available to all the remaining few privileged ones - or to have (if only here or there, the time to write a book say) an **attitude of "service"** . Here comes irresistibly ment association with the seminar SGA 5 1965/66 whisked away for eleven years, for their own benefit staff, by the very people who were the first and exclusive beneficiaries, my friend Peter and my cohomologistes other students in mind! It is true that there was a body to share, so motivation a bit in this special case. But I also think of other cases where the service accumulated filled patent gaps, and where it was brushed aside with one hand by the people in place 173 (*). We say that it is yet the case a bit special, it was myself that was targeted when he was visible it was I who had inspired the work in question. Yet I feel in all this a "zeitgeist" which surpasses all case.

The aspect of "zeitgeist" I'm identifying here somehow, is the **discredit strike an attitude of service** - discredit that I perceive through a crowd converged signs, and for me is a patent fact. Everyone is free to deny it, as it is also free to examine itself, and the note. My purpose here is not to "prove" a reluctant reader, but to try to understand its meaning. In the context of this discussion, there is one direction that jumps. The service attitude is typically an attitude "yin", "female", and it is not surprising that it is part of the lot of those are devalued. The shade I perceive increased many times, is that such an attitude was just good for those who do not have the means to an attitude of "master" - the work done in this spirit
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was the work of **subordinate** , good for the rank and file among those who ride carriage of great ideas and p. 629 the "brilliant discoveries."

Yet I also know that there are not that - because otherwise, why we prevent at all costs "Rank and file" of good will (when by chance he is found) to quietly in his corner bass task that rightful finally providing the solid references where previously we had to just say (when deign to say something...) "We know that..." or "we can show that..." or more rarely and honestly "we assume that..."? !

I was confronted for the first time to this troubling question it eight years ago, when Mesa-Yves Ladegaillerie ventures to get to "cram" his thesis 174 (*). It was, I admit, at a time when my interest both for mathematics, for the world of mathematicians, was more marginal.

I was a little flabbergasted, without trying to elucidate the meaning of this mystery. At variations, my attitude has not changed much in the years that followed, until February, with reflection poursui- life in Crops and Seeds. Yet, by dint of picking up signs, and even without meaning to, I could help gradually to capture in as so little sense, or rather, the senses. I see two indeed. Mon Regarding my person - it is burial syndrome to me, which I have not quite finished yet to tour. The other has nothing to do with this particular person or another. This is an **attitude exclusivity in the possession and control of "information" scientific** , attitude prevailing in 173 (*) I am thinking, of course, the work of Yves Ladegaillerie, and that of Olivier Leroy, which was discussed in four notes Previous sections ("You can not stop the progress," "Coffin 2 - sectioned or cut," "The note - or the new ethics" "Coffin 4 - or topos without flowers or wreaths," Notes n ° s 50, 94, section 33, footnote ° 96). 174 (*) See about the two notes n ° s 50 and 94, cited in footnote previous page.
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the "establishment" scientist, and making a sort of caste ruling by divine right, within the so-called "community" Science 175 (**).

This is a theme I have already touched (barely, barely) in note
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"Ethical consensus - and
p. 630

information control ", and some also in " The "snobbery of youth" or defenders of purity " (25), (27)). I suspect that this is a **new fact** in the scientific world, which came to settle stealthily in the past two or three decades. I do not think I was among those who propagated and welcomed the "new ethics" unwritten ethics of the "two weights - two measures" 176 (*). Yes I have a co-responsibility in its advent, it would rather do happen have not seen 177 (**). before these last few years, I did not suspect that the information which I benefited all azimuths freely almost since my first contacts with the scientific world in 1948, had become over the years, I do not know how or when, a **privilege** huge I shared with a handful buddies -a **class privilege** , to use a term a bit much rehashed, and yet here I appears to take a reality all that has tangible. But my purpose is not to make a "class analysis" of the mathematical world, and "relationships

force "and" means of power "in the world - no more than make one." table manners "is time to return

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About a more limited - to understand that, in its essential springs major p. 631

protagonists, the "news item" My early funeral!

18.2.8.4. (D) the Servant Yin (2), and generosity

Rating 136 (28 November) The two previous notes were essentially digressions around theme of yin-yin affinity between Deligne and I, at the mathematical work and approach of mathematical. I do not know if they have contributed to "pass" the perception I have of this affinity and its nature, which for me is not subject to doubt.

I have written elsewhere that "in my work, I am also" yin ", as" sea and movement ", as one can be."

On reflection, I would say it's not true at face value - that "can be" more, because (as

I see it) is the Deligne more than me. Or at least, the "yang in yin" seems more accused me

home, that home. What is passion in me, it takes more Weighted paces. The when I start

forward boldly, more than once it will remain on a conservative expectation, and often founded. for some

I have an idea primer, an "end" by which I can get, I do not hesitate to get into a quagmire

I substantial mathematical sense, without worrying about first look a little closer the initial idea

("Ihr auf den Zahn fühlen", as we say in German...), Nor to predict the outcome of the battle. Sometimes the idea

do not hold up for any a priori obvious reason, which escapes me as I am fire and flame

"Jump into the juice." I end by well realize - sometimes I feel quite silly, and yet it is rare

I have launched myself regretted. It's that way and not otherwise, I established contact with a

unknown substance - in rubbing me, be it "wisely" or not.

175 (**) (6 December) Note that the thirst for domination is an imbalance **superyang** , and form by far the most common of a such imbalance. It corresponds to an obliteration of yin term "female" in the couple yin-yang "master-servant", or "this dominating (or control) - this is, "neighbor of the couple" control - service ".

176 (**) I do not know if there are many among seniors or colleagues of my generation, or even among colleagues and friends more young people who had seen it. I doubt there is only one among "those who welcomed me fraternally, in this world that became mine "who Crops and Seeds is dedicated - except perhaps Chevalley It's part certainly things I would have liked.

talk to him - but he is not there to tell me. . .

177 (**) I do not know if there are many among seniors or colleagues of my generation, or even among colleagues and friends more

young people who had seen it. I doubt there is only one among "those who welcomed me fraternally, in this world that became

mine "who Crops and Seeds is dedicated - except perhaps Chevalley It's part certainly things I would have liked.

talk to him - but he is not there to tell me. . .

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18.2. THE KEY OF YIN AND YANG

My friend, him, first probe and examine - and it starts, when it feels safe, if not the end point, it that would be asking too much, but in any case where there is land, and he will not return empty-handed. I do not have never in his work feel any **dispersion of energy** , as there often was

home - rather than at home **every time wear** . From this point of view, his work style was

the mark of a **mature** , while mine was rather that of a **youth** , sometimes blundering force

be spirited. At our first meeting, however, it is me who approached

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forties, p. 632

when he was twenty. And more than once I felt home to me a kind of smiling indulgence

that some benevolent than an adult would have overlooked a child he would have affection when he saw me

embark again in some (small) "big furbish", never suspecting anything. . .

The aspects I mentioned here are probably detect discomfort in work "net", published that

present a final stage or advanced at least one reflection. My requirement in my job is not

lower than at home, and I hardly confided notes to a typist or a printer, when they

had reached a stage where they met the need in me complete clarity. By cons, in style

I'm writing in "Reflections Mathematics" (especially in "In the Fields of Pursuit"),

the original approach to the work is apparent on every page. The reader may find it "hiccups"

numerous. They all are of low amplitude - spotted most often the next day or two days later when

this is the same day, and ground in the following pages. (So be also surprised me myself

same - it's one of the signs of this extraordinary "ease" in my mathematical work, I mentioned

Besides 178 (*).) One reason for the presence of "small failures" of course my lack of familiarity with

a subject to which I had not touched for seven or eight years - and these blunders are also rarer

gradually as the work progresses, the contact lost gradually recovers. Nevertheless, this way,

every time, taking for "cash" without hesitation that restored me enough memory

nebula, things that I knew more or less in time, illustrates this aspect "go-getter" and

sometimes rough, which is (among others) the aspect of "yang in yin" in my mathematical work (or

non-mathematical). I am convinced that a text just as spontaneous, to be written from the pen of Deligne

would be much closer to what is commonly considered "publishable" - even as

publishable according to demanding criteria that are his.

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If I insist here on the character of "maturity" to "very yin yin" in work style and approach to p. 633 mathematical my friend, this is not to suggest by that the idea of any imbalance in his work, so that this work would be marked by a lack or absence of qualities "yang" "Manly". If so, the work would not carry on every page, like those of the Serre mine, delicate brand, and can not deceive the **beauty**. But this is not the place, nor would I not have done in the case of Serre in mine, to follow regarding respect the delicate harmony of yin and yang, the "feminine" and "masculine" in his published work which is known to me, and in what is known to me its work through personal contact I had with him for nearly two decades.

It should not be assumed either that this finding I make a balance of yin and yang, or a kind of truism, it would apply immediately to any man who for one reason or another did figure "Great mathematician." This perception of beauty that I mentioned just now, is not also present, nor to the same extent, to the work of all mathematicians that leave a lasting impression on the mathematics of their time. Among those, I know two who, like Deligne appear like being yin dominant both in their work and in their personality, and whose work did me no 178 (*) See note "The trap - or facilitated and exhaustion", n ° 99. It seems to me that this "facility" is even greater now than it once was, before my "start". That seems linked to a maturation that took place in me during the fifteen passed and which is felt in my mathematical work elsewhere.

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point this impression of an inner balance, a beauty that never leaves hungry. The Yin imbalance takes such an extreme character, in one of these colleagues, it seems entirely incapable, if only to formulate clearly and correctly any definition or any statement (without even speak of an idea ...) - as on many things he has deep insight, and he introduced many important and fruitful ideas. They took the body each time by working other than him. Obviously, there are at his repression of rare effectiveness of natural traits and strengths "yang" as well in his work as in his ways of being. This repression assumes the proportions of a true impotence, including in his work, where he would be unable to carry through any thing by its own means. He compensates for this weakness by being an attitude of megalomania, internalizing the same time the flaws he likes to grow in it, like it was **thanks to them** that he could have

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design ideas

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(in his eyes) make him **the** great scholar of the millennium. . . 179 (*)

I feel a crackdown in the opposite direction to my friend Peter, evacuating some traits "yin" and the leading (With varying success) to be modeled on a superyang image. This repression is very far indeed, the opposite extreme case I have just mentioned. It is not going to erase the reader or the listener the feeling of beauty, satisfaction without any aftertaste of uneasiness, which are signs of understanding true, making every moment in their fair share and clarity, and in the shade, the mystery. That is to say the brand "superyang" chosen by my friend does not encroach on the work itself, the times of work I hear, where the presence of the "boss" should be erased as often as it is (I think) at Serre, or my 180 (**).

It is against at the choice of the **themes** of work, it seems to me that the role of the boss becomes important, even intrusive. There is this fixed idea to stand out of me, and thus, the refusal follow such inclinations of his own nature that associate too strongly in him the image of the master denied. Also, if he happens to like to each provided great ways to demonstrate difficult theorems (or, "Proverbial difficulty"), and even introduce good ideas and develop them, he would not think of "Rethink" naively in his way and if only in outline, a science (such as topology, which would need yet well ...) - if not, create from scratch a new science, "shoot to light new worlds" (as I wrote elsewhere) (136 1). Yet if there is someone to which I have no doubt that he has the means, it's him. If something has lacked until today to do so is the **generosity** - the true generosity, which is both calm assurance, that makes us keep the momentum of our own nature where it takes us, without us

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worry or encouragement,

p. 635

or "returns".

But there is also the joy of simply "build houses" big or small that others will live, not that this is necessarily the dimensions of "a science" or a "new world" - that of carry around and ask beams and stone like the first mason or carpenter came without fear is making being taken for this or look like such - or making everyone what (at the discretion of some) must remain the stronghold booked the very small number. This is a service attitude, a certain humility expression yet the same generosity mentioned earlier, the same fidelity to his own nature. My friend has bartered

against an attitude of complacency ("I - do such work") and a caste attitude¹⁸¹ (*), in the choice 179 (*) I'm talking about attitudes and ways of being that I could see the time before my departure, when I had the opportunity to familiarly meet this prestigious colleague. It is not excluded that something has changed since (although this would be anything more than rare. . .).

180 (**) I return to this early printing at the end of the sub-grade n° 136 1 (4 December) to this note.

181 (*) This attitude "class", my friend and the "big mathematical world", appears in my thinking first in the two notes (March) "ethical consensus - and information control" and "The snobbery of youth - or defenders of purity" (n° s 25, 27), and it reappears in the note last week "Yin The servant, and new 548

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Working themes supposed to "acceptable".

Finally there is a third position or strength, by which "the boss" weighs on the choice of working themes My friend, the substance that gives herself to sound, a force that sets it imperative barriers. This is the syndrome of "master of the funeral," or **syndrome gravedigger**. It is not only here to refrain from appoint one who must remain ignored. It is also to bury his work itself, or more precisely, of the "cut" net, as the **chain saw** in its own work as in the other, at each of the limbs spouting a vigorous trunk¹⁸² (**). As I said before yesterday yet (in the previous note, "Yin Servant, and the new masters"), among the four themes I discussed and developed during my period of "surveyor", between 1955 and 1970, only one has been "taken" and used to light by my brilliant student and juice

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cessor, the other three were "bucked" - muted, p. 636
it is obvious. very partial exhumation There has been a theme in 1981, another the following year - as stunted shoots that have taken on the stumps healed mistresses cut branches, and that would circumstance surrounded by colorful tinsel and garish neon story to deceive. . .

Rating 136 1

(December 4)¹⁸³ (*) My own approach consistently led me to "rethink" in background fills what was on my way mathematician, whether the thing most insignifi- appearance fiasco, or whether the dimensions of "a science". It is true that, having only two arms like everyone, I could not every time go so far in the implementation of a work program remake "thoroughly a science," as I did in the case of algebraic geometry, to From a few simple key ideas around the notion of schema. Even then, when I invested a large part of my mathematician energy for twelve years in a row, I was far from "closing" the planned program - for this, I would have had as many as twelve more years! (And person after leaving do cared to continue the work, which had (wrongly) seem ungrateful. . .)

As other case I've thought a science, but certainly go that far, I point has **lgèbre homologique** (both commutative and non-commutative - the latter also did not exist at my initial thoughts of 1955), and **topology**, with the introduction of the concept of **topos**, always waiting days its time to become the daily bread of topologist surveyor, as well as the various concepts of "spaces" and "variety" is commonly mania today¹⁸⁴ (**). No doubt some im- parts supporting the current topology will hardly be affected

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the systematic development of the point p. 637
topossique view topology. Also this view rather seem to me the crucial element in the "creation all parts of a new science" - of this science that achieves a synthesis (completely unexpected yet when I landed in the fifties) of algebraic geometry, topology and arithmetic¹⁸⁵ (*). Beyond the building of the new algebraic geometry, and through the "master the étale" (and that of l-adic cohomology ensuing) is developing a master contractor of this new science still evolving and developing a solid technical foundation, which been for me my main contributions to mathematical my time. The "Yoga of **reasons**", which remains masters", n° 135.

182 (**) I see myself confronted for the first time the reality of "Chainsaw" on May 19 in the reflection in the double note "heirs...", "... and Chainsaw" (n° s 91, 92) and in the four coffins following notes (and, together with "The Deadman" form the "Van Funèbre" or procession of the Burial X) 21 and May 22 (notes n° 93-96).

183 (*) This sub-note to the note above ("Yin servant (2) - or generosity", n° 136), comes from a Footnote page one. (See reference in the third paragraph before the end of the latter.)

184 (**) compare with some comments in the second part of the end of March notes "My orphans" (n° 46), and its subnotes n° s 46 s to 46 7.

185 (*) See footnote on previous page. (11 March 1985) The term "completely unexpected" is probably excessive, because the foreknowledge of such a synthesis is already in the Weil conjectures, who acted as a powerful source of inspiration. 549

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conjunctural still seems to me like the soul, or at least as a nerve center of all of this new science, so vast that until today I had not yet thought of giving it a name. We could be called, perhaps, the **arithmetic geometry**, suggesting that name the image of a "geometry" we develop "above the absolute basis" Spec Z, and which admits of "specialization" both the "algebraic geometry" Traditional different characteristics, in geometric concepts "transcendent" (above the basic body R, C or Q ...) via the concepts of "varieties" (or better, **multiplicities**) analytical or rigid-analytic, and variants thereof.

I see another "new science" yet I had interview since the sixties, taking its source in my thoughts started homological algebra in 1955. It is a comprehensive synthesis of ideas from homological algebra (as developed in contact with the needs of the geometry algebraic, or rather, of the "arithmetic geometry"), the homotopic algebra, "topology General "topos version and finally the theory (in limbo since the sixties) of ∞ -categories (Not strict), or, as I prefer to say now, of ∞ -fields. I expected as much from Of course, this synthesis was to be taken over by some of my students cohomologistes to com-Mencer by Verdier

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whose famous thesis ¹⁸⁶ (*) was just supposed to go in that direction. It seemed that the p. 638

development of a satisfactory common language with any generality and flexibility all desirable, was to be matter of a few years of work, surely exciting, by a small core of researchers motivated. After some very patchy start in this direction by some of my students cohomologistes my starting in 1970 sounded the signal of an immediate abandonment of the work program, among many others who kept my heart. That's why I came back on some of my ideas in correspondence with Larry Breen 1975, with the hope of resuming life in a vision of the things I felt they are "on the way" and that "everyone" takes care to circumvent soigneusement, whenever it faces. In my letters to Larry Breen (reproduced in chap. I, "To the Fields of Pursuit"), I propose to call the name **topological algebra** that science still in the making, that in a decade or two I was alone to glimpse ¹⁸⁷ (**). Finally, weary of war and desperate to see someone else as I get down to work that twenty years longed to be done, I started to work in February 1973 with "A des Champs Continuation", to draw at least in outline the supervisor for I see to do.

It is clear that there is no comparison between the "arithmetic geometry" which discussed sometimes, and topological algebra, one of the main roles in my eyes is that of "logistical support" in the development of this new geometry. For that it gets to the stage of full maturity attested (Say) a mastery of the concept of pattern, comparable to the control that we have the cohomology spreads, you have probably expect that several generations of surveyors will it be harnessed more dynamic and bolder than I've seen at work; let alone a comparable mastery at the **geometry**

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algebraic anabelian, which seems to me (with reasons) as one of two p. 639

parts "hot" arithmetic geometry, discernible now ¹⁸⁸ (*).

¹⁸⁶ (*) See note on it "Thesis credit and insurance all risks", n ° 81.

¹⁸⁷ (**) Except at the most the only Deligne, which I had grown to have communicated a vision, it is despatched to bury with the rest in the aftermath of my departure. I refer repeatedly in Crops and Seeds, in this part, the oldest of all, my entire foundation program a kind of "all azimuths geometry" - including in "The Dreamer" (Section n ° 6) and notes "My orphans", "Instinct and fashion - or the law of the strongest," "The crony" (n ° s 46, 48, 63 " ").

¹⁸⁸ (*) (For some key ideas of anabelian algebraic geometry, see Outline of a Program, para. 2 and 3.)

By "nerve" here I mean some of this "arithmetic" geometry that brings her hunches, son drivers, and problems completely new compared to the achievements of the sixties. (This "acquis" consisting essentially in a framework and a language, and a common homological and homotopic formalism for the three disciplines encompassed by the 550

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Finally there is a fourth reflection direction, pursued in my past mathematician, going towards a renewed "from top to bottom" in an existing discipline. This is the approach "topology-Moderate" "topology, on which I lay somewhat in the Outline of a Program" (para. 5 and 6). Here, as so many times from the distant years of high school, it seems I am still only feel wealth and the urgency of working to foundations, including the need here seems obvious to me yet than ever. I have the distinct feeling that the development from the perspective of moderate topology in the spirit mentioned in the Outline Program, to represent the topology of a renewal Ported comparable to the perspective drawings made in algebraic geometry, and this, without require much comparable dimensions of energy investment. Moreover, I think that such a topographical

Moderate nology will eventually be a valuable tool in the development of arithmetic geometry, for happen in particular to formulate and prove "theorems comparison" between homotopic structure "Profinite" associated with a layered scheme of finite type over the field of complex (or more generally, to laminated schematic multiplicity of finite type over the body), and the homotopic structure "discreet" corresponding Dante defined by transcendental path, and assumptions of module (of equisingularity particular) suitable. This question only makes sense in terms of a "loosening theory" accurate for laminated structures, that as part of the "transcendent" topology seems to require the introduction of context "moderate".

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Going back to the person of my friend Pierre Deligne, he had ample opportunity during the years 1965- p. 640 1970 close mathematical contact with me, to get in-depth with this set of ideas and geometric visions, I have to review in broad strokes. (Except topology ideas moderate, which begin to sprout and intrigue me only from the beginning of the 70s, if I well remember.) His vis-à-vis the role of this vast program was twofold, and in opposite directions. On the one hand, relying on the ready tool of l-adic cohomology, and ideas (remained hidden) of the theory of motives, he made outstanding contributions to the development of geometry program arithmetic. The most important are probably starting a theory coefficients Hodge mixed, and especially his work on Weil conjectures and l-adic generalization. On the other hand, other the **tools** and ideas which he had a direct need for his work (and he has tried systematically of obscure origin), he did everything possible to thwart the natural development of the rest: it is "the chainsaw effect", which I have had ample opportunity to talk in my reflection on the Funeral, including even (as allusive) in the note above (n ° 136). This chainsaw-effect has been partially blurred by the partial exhumations (1981 and 1982), "as stunted growth that would have taken..." under the surge of immediate need. (These exhumations circumstance just mentioned yet at the end of the previous note.) He also did everything possible to constantly give the impression (Never say it plain...) That the authorship of ideas, concepts, techniques, and whose results he used he was careful to conceal the origin, came back to him, when he generously attributed to some other of my alumni or employees.

All in all, after this quick retrospective of what has been so tenaciously cut up and buried by arithmetic geometry.) Perhaps it should join the two preceding a third such "nerve center" intimately related to grounds, namely the theory "the Langlands" of **automorphic forms** . If I refrained to talk about it is because my unfortunate ignorance always about the theory of automorphic functions. (I do not know if the opportunity arises, pushing me to finally fill so little that ignorance. . .)

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My friend, I return to the impression that prevailed in the previous note, when I suggested that the interference the "boss" of egoic greed in his work, was limited mainly to the choice of **themes** work.

After all, the provisions of gravedigger-chainsaw are apparent in his work, with very few exceptions close, **anywhere** where the opportunity arises - and I realize that these "opportunities" are endless! **This syndrome gravedigger** (closely related surely to the highlighting of superyang values) seems

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to have

p. 641

had on his work and his work truly effect "invading" without common measure with that of his pro-yang options; and this effect is in no way limited to the choice of topics, the "boss" put at the disposal of "the worker-child", then withdraw on tiptoe. It seems to me otherwise the boss hardly off the worker while at work, he is so worried that he could forget mandatory instructions; in other words, the work itself is well invaded often by **interior dispositions** entirely foreign to the very nature of the work discovered which is momentum into the unknown. This is something that also was strongly felt many times over thinking about the burial, and I tended to lose sight during my long reflection on the yin and yang.

18.2.9. The claw in the velvet

18.2.9.1. (A) Velvet Paw - or smiles

Note 137 (December 7) For over a week that I did not continue with the notes, except for work housekeeping (including subnotes two preceding notes). I had to make me pull three teeth (That's what it is to approach the sixties...), Necessary but brutal intrusion, which meant that I worked recently at a slightly reduced speed. I took the opportunity to fall back on in correspondence pain. Here everything seems back to normal. . .

In the four previous notes (from 24 to 28 November), I tried especially to identify more closely or affinity relationship of complementarity between temperament and mathematical approach to Deligne and home, to get to this place "reversal" of yin and yang roles, I had grown perceive in the pre-

Presentation my friend tries to give of himself and me, at least in terms of personalities "Mathematics" of the one and the other. Along the way, moreover, other aspects of reality appeared for my friend or myself, and beyond our persons, aspects also of the world of mathematicians or just the world of men. Finally, it seemed to me that this is the attitude of service and signs of the disappearance of such an attitude in the scientific world, that was the new thing most significant that is introduced in this stage of reflection, as I try to suggest the name "Master and Servant" I gave him.

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To return to the original about "locate" a reversal, I feel I now have

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sufficiently identified the real situation concerning my friend and I to give it away. A first point to be made is that this initial intuition of a reversal of yin and yang roles, which I came after the reflection of May 12, "The Praise of Death (1) - or compliments," was indeed correct. It was clear already, from the reflection of 10 November in the note "The funeral of yin (yin yang bury (4))" (n ° 124), that my friend is trying to give a supervirile picture of himself, and superfeminine me. The issue raised in the note of November 24, "The reversal (3) - or yin bury yang" (n ° 133) was whether this statement is indeed a "reversal" of reality. The "fact new" appeared in the note "The rising sea. . ." (N ° 122), that as my friend, tone basic in my approach to mathematics was yin, "feminine", could in a moment to doubt.

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The reflection of the last three notes has however dispelled that doubt. It was clear from the outset that always I am perceived by Deligne (along with my fellow students and former students), while the conscious level at least as strongly (too much perhaps...) manly ¹⁸⁹ (*). But it appeared that more in Deligne and the relationship between me mathematical level and on the bottom of a strong affinity yin-yin, played Also a **complementary** yin-yang (might be called "secondary" in contrast with the affinity acting "primary"), in which it is indeed me who plays "yang", manly, with a component "yang in yin" clearly more pronounced at home than it is at home.

Deliberation that I have seen in Deligne, who seems eager receive an echo of many sides ¹⁹⁰ (**), therefore appears to me indeed

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as a **deliberate reversal of roles**, and more spe- p. 643

cally to **roles yin-yang** ¹⁹¹ (*). It seems to me that this is another important aspect of Burial, is adding to the four already reviewed above (in footnotes 13 and 17 November "backward-looking tive (1), (2)", n ° s 127, 127'). It is all of these five aspects, interrelated surely he would Now assemble into a coherent overall picture of Burial.

Such a table, to be convincing, will again bring together, in a common perspective, **three "planes" successive**. In the foreground there is the only Deligne Grand officiate at my Funeral, non-student and non-heir Master said deceased, and having no place to be or to have been. . . This is obviously to the deceased himself (but who is he, a deceased, contained a tacit), **the** central character of the Funeral Ceremony. He is followed closely in the background, with "the busy group of my former students, carrying shovels and ropes strength" (to quote memory enumerating Cortèges, in "The Scheduling Obsèques"). In the third plane finally, are the congregation (almost) entire, coming celebrate my funeral (and those of the four co-dead, holding on to the tile in their "coffins securely screwed oak"), and lend a hand at the funeral.

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Between these three areas seems to be a perfect harmony, a "**Unanimous Agreement**", like you see p. 644 reign in any other funeral celebrated in shape, between the Priest filled with a holy componction, the family of the deceased wearing the occasional air, and the bulk of the audience, singing where you need to sing, and keeping silent where it should be quiet, never, never go wrong.

To continue on this last image, I now see myself placed in the position (less comfortable as the dear departed, decidedly out of it. . .) From that placed in front of a so touching together, propose impertinently want to guess the true thoughts and motivations and agitate each other, priest and family of the faithful behind the air of solemnity or contrition séants

¹⁸⁹ (*) In fact, the current values being what they are, I doubt that a scientific prestige can be carried by a picture

(Generally accepted and received), which is not necessarily an image "yang" or superyang. It is at only unconscious, it seems to me that the "feminine" in nature in my approach to mathematics was perceived both by my friend and former student, that in mathematical general public (that, at least, so little contact with the kind of things I have work).

¹⁹⁰ (**) Here I think of the "puffs insidious contempt and derision discreet" mentioned in the introduction (see Int. 10, "A act of respect"). I do not have to amaze me when I see some of the most prestigious among those who were my students give themselves the tone. The thing that seems to me common in many "flashes" which reached me over the years, it is just a condescending affection against highly featureless "yin" in my approach to mathematics and in my work. See also about the comments in footnote 23 June page, in note n ° 96 "Coffin 4 - or topos without flowers or wreaths."

191 (*) The first time this deliberate reversal of roles appears in my thinking, it is the reversal of roles in the master-student relationship, then I am introduced as "collaborator" My student, taking himself face the **true** founder and master of the étale and l-adic. (See about the two notes "Reversal" and "In Praise Funeral (1) - or compliments, "n ° s 68 ', 104.) It is interesting to note that in the " couple "" teacher-student "is good the master who plays yang (as the giver, or speaking), "active", and the student yin role (as the one who receives, listening), "passive". Again, brilliantly made by my former student reversal can be seen as a reversal of roles yin-yang, in the same direction (yin-yang-yin yang becoming) as that is the main message of my praise Funeral, messages appeared in the note "The funeral of yin (yin yang bury (4))."

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This is a moment that reflection has continued, with the main thread tacit driver, about prepare necessary to apprehend the closest of the three "planes" of the table - that of priest chasuble, sorry, my friend Pierre Deligne I meant. It is on this plane that I would now my attention.

I will say from the outset that aspect (or "parts") of the table which was featured in the note "The Fos Soyeur - or the whole Congregation "(n ° 97), namely the component" retaliation for dissent, "not me seems to play a role in my friend more erased, if he even comes into play. I did not have any now feel that my friend Pierre felt the least "challenged" by my "dissent".

Instead, it was the big deal, as he would probably never dare to dream, to elegantly rid of the presence of a teacher a little too far in this institution where he came to the age of twenty-five years, to access one of the most envied situations (or at least the most enviable) in the mathematical world. The fact that this dissent be gone be accentuated in the months and years followed, was experienced, it seems to me (maybe not at the conscious level, but whatever the bottom), as a even greater boon, who betrayed him thank you, no hint of resistance coming from anywhere (as he was able to render account progressively over the years), a "legacy" impressive 192 (*). It's not he would have pretended to

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complain, even in his heart or his own blind, this boon ines-
p. 645

Perea! And it seems to me that the same must be valid, relatively speaking, for most my students "before" (I left), and in any case, each of my five cohomologistes students. If one or one of them, either in his heart or in a more or less clearly expressed 193 (*), could suggest a sense of dissatisfaction, frustration because of my dissent, I tend to believe that this is in the nature of a **rationalization** of fossoyante attitude towards his master providential tially disappeared, rather than a **question** (was it one among others) of it. Which strengthens me this conviction, as regards my cohomologistes students "in general", as their leader preeminent Deligne is that the signs of the burial was going to happen (as long as the auspicious occasion to appear - and, oh unexpected miracle, she appeared) - is that these signs are apparent already before I left in 1970, and in any case soon after the famous seminary of SGA 5 1965/66 for the I know killing. It is no coincidence, surely, if with all so perfect, every five 194 (**) is are disinterested about the fate of the seminar where they learned their trade, and at the same time, beautiful mathe-

matic that were almost the only ones, for twelve years, to have the privilege to know and use. I quite extensive on the subject during the debate on the fate of SGA 5, to be useful here to say more. I only recall, in terms Deligne, in three of the four articles that wrote even before my departure in 1970, the intention to conceal, or at least to retract and minimize as far as possible the influence of my ideas, is clearly apparent, without having expected

192 (*) See, about this "heritage", the note "The Heir" (n ° 90) and the under-noted (n ° 136)) of the note "Yin Servant (2) - or the generosity "(n ° 136).

193 (*) The only one of my former students who had heard me in a sense these tones one (with, in addition, a certain shade disapproving) Verdier is there of that one year. From time to Surviving and Living, it seemed against by sympathizing with my dissent. he even had a cordial collaboration episode with his wife Yvonne, occasionally (if I remember correctly) of the organization a traveling exhibition on the initiative of Robert Jaulin (including Yvonne was student), to which I joined as survivrien participant ..

194 (**) (12 December), I should nevertheless set apart JP Jouanolou, who ended up writing three consecutive presentations of the seminar, developing concepts and techniques which it would have a direct and immediate need for his own thesis.

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18.2. THE KEY OF YIN AND YANG my "dissent".

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So what is the root and the special nature of this antagonistic attitude, eager competitor p. 646 supplant, clear in my friend to me - attitude that has coexisted with affectionate sympathy and confident, and a fellowship in the mathematical level, in the early years of our meeting? I have even the belief that it should be this muted since we met, and probably even from before; and also, it has rather resulted from the outset of the role that was to be mine with him, she did was prompted by a particular characteristic in me - if not the entire set of "features" that have I could keep with him that role. It is the role as it strives to erase twenty years, surely it involved, but are not sought on either side, and by necessity, an aspect "parternel". And he There's no doubt in me that it was around this aspect that is knotted the conflict - a conflict that already existed in him long before he heard my name nor (probably) the name of our common mistress mathematics.

This belief, in fact, is not the result of reflection, let alone pretend I the "show". Rather, it came in the years after I left, I scarcely know myself when or how; I think gradually, by dint of large and small signs, on none of which I'm stopped, if only for that Within a moment, and yet all together eventually leave a trace of knowledge, disseminates and imperfect indeed, but knowledge yet, was there one day ... I could probably, by a hard work updating half buried memories and probing them one by one, to deepen and materialize this knowledge remains somewhat imponderable; and it is quite possible (and even likely) such work would reserve me many surprises. Yet I do not feel motivated me to do. This is without probably because (rightly or wrongly) it seems to me that this is not really my job, but my one friend - what I sonderais here concerns the much more, it does not concern me. As for me concerned, this intuition or "knowledge" or "belief" that I just made, is enough for my desire of this understanding, and I shall trust without reservation.

As so often in my life, I am confronted by a relationship

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antagonism to the father, where I face p. 647 surrogate father, father "adopted" (much, it seems to me that father "adopted" 195 (*)). This, more deliberation with my friend reversal of roles yin-yang, associates immediately in my mind with the situation described in the note "The reversal (2) - or ambiguous revolt" (n ° 132) - location whose relationship with my mother to his father is to me the most extreme prototype. Yet differences between the situation in question, and of the relationship of my friend Pierre to me, obvious from the outset. In his relationship to me, I have at any time seen the shadow of a tone of "rebellion" or would it as antagonistic as ever so slightly virulent, aggressive, showing claws and teeth, it was in a smile. Smiles certainly have not lacked either party, but it was from him or smiles 195 (*) (December 12) I have been aware, in writing these lines, how it should be cautious in such statement "no symmetry" roles, and all the more so that these roles are played at the unconscious level. I presume that this level one, and apart from the actual mathematical communication, I had to get so little at a time, in the role "father" all prepared by the context. But this role was not clearly of comparable weight in my life and in the relationship to my friend than my mathematical passion; he remained episodic and there should no longer be some trace after my "start" of the mathematical scene in 1970. By cons, attachment of my former student myself, for better or (Especially) for laughter, has continued to manifest all the fifteen more years that followed, both in his same work by maintaining, against all odds, followed by a personal relationship with me.

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sympathy (as I felt them) or sometimes innocent surprise, and sometimes almost pained when he could see (and I finally feel the intimate nuance satisfaction) some blows, casually and velvet paw, had the fly where it was expected.

In other words, this antagonism, he speaks against me or with respect to third parties (When he was reaching through them the late master, yet still alive in him...), Has always taken without a single exception, the yin extreme form: the one who delights (and excels) to achieve and injure or to remove or crush, with every appearance of the most exquisite delicacy. While his deliberate choices for his mathematician branding are superyang (as were probably mine without more besides that home success), it seems to me that the relational level, the basic tone (screws Screw me at least, and those it regards as part related to me) is decidedly and the line, superyin. (But I'd do one reservation about this, important matter, on which he I must return.)

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Another difference "glaring" between the relationship of Peter to me, and that of the "ambiguous revolt": p. 648 from the little I know his family, I understand that the father of Peter is a man of temperament gentle and modest, so not the "profile" that would cause a revolt reaction, subsequently postponed to a surrogate father.

18.2.9.2. (B) The reversal (4) - or conjugal circus

Note 138 (December 8) In closing the discussion last night, I got a little painful impression one that comprises less. Before going to bed, I stayed a moment longer to follow associations raised by the last reflection. I grew aware of a few points of light, that will I think use of lights in the thinking of today.

The most important of these associations surely belongs to this aspect "velvet paw" by my friend, delighting in scratch (and sometimes deep and ruthless) with the most innocent air in the world, "with all the appearance of the most exquisite delicacy." This picture, came the turning of a comparison (with situation of "revolt" mentioned above) which had been wrecked, struck me immediately as rich meaning, as an essential aspect of this "antagonism" I intended to probe. And in retrospect, this evocation of the image "innocent smile and velvet paw" - restoring the essence of an experience close twenty years, I think **the** "hot spot" in the reflection of yesterday, **the** "point of light" while unexpected I groped in the dark. If this impression of groping and darkness yet prevailed beyond is that, too busy with ideas I had had in mind The moment before it was over and continue or place, I had not managed to be attentive to "tilt" delicate that had made me, from the appearance of the image. And in the still half hour that followed, pursuing some associations related to this image and one or two other times in the past thinking, attention is dispersed again. Only now, taking in hindsight a day interrupted the thread of reflection, I see a fit perspective it had escaped me sometimes again, rereading the notes of yesterday.

If I take care to follow the strongest association of all and most closely related to my experiences in aside for the moment other more

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"Structured", more "intellectual", there comes this. I see myself income p. 649

suddenly, as in a single print that would summarize them all in this multitude of special cases (experienced either as a co-actor or as close control) the **marital circus** - Circus of the couple man-woman.

The circus of the couple, married or not, with or without children, young or old or young-old or conversely, in Down and Out pulling the devil by the tail or the rolling carriage ease, it's all the same circus the couple does not change either. I see myself suddenly back by one aspect of this circus that struck me 556

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among all (I have a long time, we must say, before we see something other than just the fire...): This is the tactic very special, very "innocent mines", "I did not say nothing," tactics "velvet paw" played by the woman, in a game where ever it is she who leads with a perfect tact and no less, and where ever he is following (and often cash) without realizing anything. I saw very few couples who work on the air there, with variations to infinity is an understood thing left to care gifts improvisation of one and the other, not counting individual temperaments and other circumstances. I have had a chance just today still see a particularly dazzling display, Yet on which I renounce digress here.

It is a description so slightly colored and nuanced of these circus games, in outline all at least, or if only the evocation of tones (velvet paw precisely the side "she") wherein he plays, which was largely absent in the thinking of November 12, I just retrace in the notes "The reversal (1) - or the vehement wife" (n ° 126). Obviously, I continued this reflection against the grain of a reluctance, so that it ended up taking on the appearance of an austere analysis "forces motivations" - definitely I was not like that day It was the first time, in "The key yin and yang", he discussed the reversal of yin and yang. "The extreme case that had obsessed me some time, and which continued to do so even as late as yesterday, was that of my mother (included in Note of November 22, "The reversal (2) - or ambiguous revolt", n ° 132). I took care, however, in my "analysis test at four points" to release the first of the three "points" in order to apply the vast majority (if not all) of the couples I have known so little closely, without their predominates needs

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sarily (albeit in concealed form) vehement tone of "uprising" (ambiguous). This p. 650

Nevertheless there is another common thing, and I missed that day. She only started dawn last night, during that half hour well spent when I let my thoughts wander in the wake of reflection "in shape." This important common thing, that I had seen previously that in the extreme case "vehement wife" is the subtle play of the **reversal of yin yang roles**.

I hesitate whether I should write that this game is the "spring" of the game to which I alluded earlier, or that is **identical** to the latter, surely, what for it (and often for him) is the quintessence the male role, the devolved to man role is the **possession of power** - often fictitious possession certainly, but which in any case draws an element of reality in the social consensus. Maybe I tended to underestimate the strength of this element of reality there, the strength of the **symbol** of man, as representing an **authority** in front of the woman - and in particular, its strength as a force in the motivations of the wife. I suspect that for her, "be a man" or "human being" is, above all else, **exercise**

power . The "role reversal" of the motives egotistic 196 (*), is probably no more, nor less than **the exercise of power of women over men** .
Given the existing consensus, this exercise of power of women can hardly be done in a clandestine way.
It is not to control or to

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pretending to decide (with the expectation that the decision will be followed), p. 651
but to **make it work** - and above all, to go crazy, and this without ever seeming. That's it, the famous marital carousel, which rotates without ever being unemployed! The tactic to keep moving, 196 (*) It has been discussed elsewhere in passing the reversal of yin-yang roles at the erotic drive and in the game lover. (See especially note "Acceptance (the awakening of yin (2))".) The erotic impulse is by nature alien games the self, including power games, even as the ego is eager to make it an instrument to serve its own purposes, and skillful to achieve (in at least some narrow limits and distorting and mutilating the drive original). That is if there is relationship between the two types of "reversal" yin-yang, ie between one hand free game of the two drives yin and yang **and** in the lover, **and** in the lover, and the other set of obsessive incessant and insidious demonstration of power of one spouse over the other, it seems to me that this relationship can hardly be other than this: that each of the two types, in every moment, exclude the other.

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transmitted without words mother to daughter, a woman or girl to girl, from generation to generation, is the tactics mentioned yesterday around the corner, the **tactic "velvet paw"** . Little we will be careful, one recognizes it as an infinity of diverse faces, from the extreme yang case of vehement wife, played to me by my mother, in extreme cases of yin doleful wife (or even, overcome), I saw embodied by a Another close relative.

It seems to me that there are very few women who practice this age-old tactic, and that the thoroughly mastered 197 (*). It is daily practice especially in the marital circus, without however limit to it. It seems to me that it is not practiced from woman to woman (perhaps simply because it is more difficult to "walk" a woman than a man). By cons, in some women, this tactic becomes second nature in its relation to **all** men, or nearly so - those, all at least, which are received by it as having a pronounced manly character.

If I speak of "tactical", it also expresses an incidental aspect, the aspect of "tactical" precisely a more important reality: that of an inner attitude inveterate against "man" in general, or at least with respect to one, father, lover or husband in particular, who in his life plays a privileged role as **man** , invested (by social consensus, or by his own choice to it) an **authority** . This attitude is not not always in the nature of a thirst for domination (as in the "strident wife") - at At least not in the sense that we usually hear the word "domination." Rather, it is a hunger, which sometimes is devouring, **exercise incessantly action**

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on the other, to "keep moving" (meaning: in p. 652

movement around himself to it. . .). For that, often, all means are good. One of these ways to perform an action, and hence power, is **hurt** and sometimes hurt as deeply as we can, to outright KO, and ultimately, destroy, physically or mentally, provided only that the opportunity is favorable; and this, again, without seeming to touch it with "all the appearances of most exquisite delicacy. "More than once I myself was" sent by the wayside! "Often, caught devoid as co-actor or as a witness, I gasped in apparent gratuitousness of the act injures or destroys, with an innocent smile or absently but still casually, stark an infallible instinct the time and place to touch the other where it can be most deeply affected - that this "other" is the father or the lover, husband or child, or an acquaintance or a stranger (for little only that the opportunity is there to hit and to reach. . .).

18.2.9.3. (C) The ingenuous violence - or the placing

Rating 139 (9 December) I then touch the extreme case, yet not uncommon, of **violence to the violence** , the **gratuity** in violence and malevolence. This violence, that she strikes abroad or be as close and supposedly loved, is clean or the woman, or man, it is not "yin" or "yang". But **as** baffling and insidious under which I met here under the mask a lack of air or distracted naive sweetness - this form there, which eventually became very familiar to me, me appears to be clean especially to women. This is surely a circumstance related to consensus social "patriarchal", which invests the man of authority and power, vis-à-vis women's 198 (*). This form is 197 (*) It is also true that there are very few men who "walk" from the hip when "on" apply their tactic. I myself unopposed market for most of my life. That began to change really only with the appearance of meditation in my life, at the age of forty-eight years (it's never too late to start). Today yet sometimes I let do it. (Not often it is true, and never for long...)

198 (*) The consensus elsewhere, and the authority of man in his relationship to the woman, they are much eroded in recent generations, more and more nowadays. I would be the last to complain! It does not appear however that this change superficial in laws and customs, has changed little in the deep springs and the "style" of relations between

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his way to it to satisfy a desire for

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power to be forced (by necessity) at p. 653

follow other paths than those open to man, is not any less compelling, less consuming in it - on the contrary! Apparently unable to deploy in daylight, to be condemned lead to an existence occult, only exacerbates this proliferate and do more hunger in her, point in many cases, to actually "eat" his life and that of his family.

This hunger is not always achieved, far from it (fortunately!), The dimension of the gratuitous violence all-round ; and records on which it is deployed does not place all in shades of violence. So the tones of discreet derision are often rule, giving wind a veiled antagonism or a secret enmity, simply mischievous tone in an indulgent affection coloring a little playful on the edges are not excluded either. And while it is true that the proven tactic of "velvet paw" is privilege and weapon election of women, this privilege is however not exclusive. Many times I could, and very carefully, see wield this weapon by men 199 (*), with a Master equally perfect 200 (**). Remarkably, in all these cases,

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the man who had appropriated this own gun to the woman, was p. 654

someone who tended to repress some manly side of his being, and (by the same token, no doubt) to Molding compositions according the **breast model** .

This same tactic is frequently observed, and is almost the rule, in the power games that are played by children, boys and girls equally, with respect to the parents, or vis-à-vis other adults taking place. This is also immediately arise association with the situation of writers and journalists in countries (the past or present) where there is a direct or indirect censorship, making it impossible or risky expression Public direct and unvarnished his true thoughts and feelings. The main difference in the latter case with previous is that in it the use of indirect expression, veiled, sometimes symbolic, of his true feelings, no longer the work of the unconscious, but a conscious thought. The reason is, surely, that there exists a sufficiently widespread consensus in favor of the ideas and feelings unorthodox (it is "passing" without seeming), so that the person no longer feels himself in the obligation to hide himself, for fear of appearing as a hideous distorted in his own eyes.

Only in extreme cases of fierce political or religious terror (as there would in the Middle Ages or in the Soviet Union and the satellite countries of Stalin's time) that the impulses are inorthodoxie are forced (at least some) to dive deeper notch again, slipping away under the internal censor, as is that of censorship established in the manners and police equipment.

These examples seem to suggest that the style "velvet paw" (or "I did not say nothing, thought nothing, nothing wanted ") appeared, more or less automatically, in any situation so slightly sustainable, where doubt the fact, pointed out at the end of the discussion in this paper, this attitude of antagonism, and his means of expression by a power game (or reversal of power), is much more the result of a **transmission** of a " **legacy** " of generation to generation, that of "objective" conditions inside the family.

199 (*) However, I note the difference in the cases known to me, that when there is violence apparently "free"

(I mean, unprovoked) vis-à-vis a relative or friend, it is every time a person vis-à-vis which the applicant maintains (albeit unwittingly) a bitterness or a long animus, materializing into concrete objections (Although these remain unformulated most often). The only exception in this regard is my friend Pierre Deligne in his relationship to me and to those he likens to myself as belonging to my "sphere of influence". It therefore is an attitude antagonism and violence (! cozy, certainly) not "personal" because, I mean not involved in grievances (real or imaginary) that would feed in "against those it seeks to achieve. This is against a behavior that is meeting in many women, not just (as here) vis-a-vis close friends or acquaintances or foreigners, but also vis-à-vis such among the closest, as the lover or husband (of course, and priority), or brother even her own child.

200 (**) It appears, moreover, that this tactic implemented by the unconscious, always inherits it that "fingering" and this almost unerring, so rarely present in a fully conscious action. I do not think I ever saw him do use this tactic, without it being masterfully.

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a balance of power against us makes it impossible, or at least dangerous for us to express candidly directly, feelings, desires; ideas and intentions - and, in particular, feelings animosity or enmity against those who are perceived as acting on our stress (and no-MENT, coercion precisely claiming prevent us from expressing our true feelings) 201 (*).

It is not also the only

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If appears the style in question, and the interior dispositions that

p. 655

covers. Often, this "balance of power" is more or less fictional, it much less corresponds to reality "Objective", taking into account provisions (or average power) of the real or those perceived as "oppressive" to **the idea** rather (conscious or unconscious) that we have. This idea is rarely ment the result of a careful and intelligent examination of a given reality, but it is almost always part of "Package" of packaging of all kinds that we receive in our youth, given over some fundamental choices that have taken place in us from that early period. Thus, whether in a girl or a boy in the choice (unconscious, of course) an identification with **the mother**, requires the adoption a whole set of attitudes and behaviors (such as those who express themselves through style "Velvet paw"), and mime time ideas (most often unconscious, but whatever) that the underlie (such ideas on a balance of power, and antagonistic reflexes that accompany these ideas). In the opposite case of an identification **with the father**, but when the father himself has incorporated in its person certain traits typically "female" (or are such in our society, at least), it is understandable the effect can be quite similar to that in the first case.

The point I am getting here is that in our society, and in at least circles

of which I was part, it seems to me that this style ("velvet paw"), and this interior attitude "female" that

I examine here, are only in a very limited extent individual spontaneous reaction to relations

Objective Force, established by the company or by the particular conditions surrounding our childhood (or, our age

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adult at a given time); it is rather a " **legacy** " listed in either of our parents

p. 656

(When it is both at once?), Who himself had taken to a parent to him. Obviously, this

Legacy then preferentially follows the lineage **mother**, is transmitted primarily from mother to daughter. But more

once I could see almost get a transmission from mother to son. Nothing leads me to believe that the

Transmission can also occur, exceptionally, father to son, or even, daughter to father.

18.2.9.4. (D) The slave and puppet - or valves

Rating 140 (10 December) I want to follow some associations around the theme of **violence free of**

tuite. This was the theme which had begun thinking of yesterday, and I was myself away for

return to a review of the "feminine" style (or "velvet paw") in games of power, and as a means

expression provision vis-à-vis others antagonism (especially vis-à-vis men felt as strongly masculine or as in any capacity whatsoever in authority, prestige or power).

As I said yesterday, violence (apparently) free, violence "for fun", not more

201 (*) As I write this, the thought occurred to me that the situation I have just described is precisely that which we found ourselves faced in the early years of our childhood, we all without exception, as saying. A large part of

our unconscious mind (the part might be called "the dungeon", usually seen in unconscious as a kind of "garbage pit"), is nothing more than the response of our children's psyche to this peer pressure, which we

strength (it's almost a matter of survival) to bury far from our own eyes, in repudiation of sign, all in us

falling foul of social censure. This censorship is soon internalized into an inner censor, whose sullen

presence guarantees the sustainability of this premature burial. Yet despite the Censor, impulses, knowledge

and unorthodox feelings duly buried, unable to speak, sometimes exacerbated and formidable efficiency,

indirectly, often symbolic, yet perfectly concrete. The "velvet paw" offers an example

particularly "striking" - and often disconcerting. . .

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unique to women as men. Everyone has got to be there suddenly faced at the turn

the way, both in the face of the "most exquisite delicacy," than under the blow boot or

machine gun fire in the belly. This style, the style "yang" certainly is still rarer by

These days, so-called time of "peace", and in civilized countries like ours. For the majority

of us, well behaved and more or less well-situated people in a crowded country, the violence-dit-

well-his name is not part of daily life, as is the case of the other, felt violence,

ingenuous air. Yet it is only through the column "various facts" came the first major daily

or listen to information 202 (*), to realize that gratuitous violence "hard", even at home,

always run the streets. This is not always up to slaughter by

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top of that, the little old anonymous p. 657

we took fancy to rob. But when young people in search of adventure "borrow" the car left

unwisely opened before at home, it is rare that leaving her in a ditch ten or twenty kilometers

further, he did have to carefully prior sacked. Even in peaceful countryside where I have the good fortune

to live without too much worry about anything, any farmhouse or cottage will remain unoccupied for long that

already it is looted from top to bottom (that's the utility) and more copiously vandalized (that's for

pleasure). In all these cases I just mentioned, free of violence appears in a particularly

striking, because he (or she) is that it strikes a stranger, someone often we never saw and we will never see.

So this is where violence might be called " **anonymous** ." Historically probably, wars have been a kind of collective orgies of such violence - the time when the opportunity to kill gratis is king and when the life of a particular wave is zero at the pleasure of pressing a trigger and experiencing his power to slouch ahead falotte a figure and unnamed. . .

If there is one thing in the world, as far back as I can remember, that every time I left distraught and speechless, it was to see me again confronted the violence beyond belief, that applied and destroyed for the sake of hitting and destroying. If there is one thing in the world that prints in us indelible sense of "evil," it is neither death nor pain the body can endure, what is that thing there. And when such violence (it takes hard face or leads, it may seem "big" or "small") comes to you unexpectedly by beings who are dear to you, it is safe to touch strong and deep, to bring out (or reappear...) and wash over you a nameless agony. The root of this fear plunges the deepest, when it is to implement the loose soil and fresh from childhood and even small childhood. This anxiety then, "the best kept secret in the world" in my life as a child in my life adult, appeared in me in the hands of the mother, in my sixth year.

It was at the age of 51, during the month of March 1980, I updated the episode of implanting anxiety in my life. The influence of anxiety on me was defused even before a large measure at least,

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with the appearance of meditation in my life (in 1976), are gradually taking a place p. 658 growing. A third turning point in my relationship to anxiety occurred in July and August 1982 in During a careful examination of the anxiety mechanism in my life everyday. The creative situations anxiety, from my childhood until middle age, were those in the unknown depths of my life, made me relive again "what is beyond belief." They are also those, exactly where I still saw myself confronted with the familiar signs of violence apparently inexplicable, incomprehensible, irreducible ... The sudden burst of violence that suddenly resurface and unleashed a wave of anxiety distraught immediately taken under control and repressed. This visceral reaction remained identical to itself 202 (*) These are the things, it is true that for a long time I stopped doing, contenting myself with occasional information by interposed persons.

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until today, at pretty much 203 (*). If there is something yet changed over the recent years is the emergence of a **reflection** in the wake of anxiety, which makes understandable and often obvious, which appeared under the mask threatening to "what is beyond comprehension," the delusional; and especially the last two years, by the appearance of a **look at myself**, a look of interest and solicitude for the anxiety itself, a reflex movement of a peremptory want me strength to hide myself. Or to put it another way, my relationship to anxiety has become, especially since two years, not a visceral rejection relationship, or lion tamer or gravedigger, but and Increasingly, a relationship **Home** caring and loving message she brings to me about myself - as on my far as my past and my present its action. This, I think, the last step I stepped up to now towards a **self** inner increasingly full vis-à-vis for others, that is, before anything else: vis-a-vis my family and my friends 204 (**).

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That is, it seems, violence-who-says-not-his-name, the violence on "feminine" mode, which is the most p. 659

generating strong anxiety, much more than most spectacular violence of the full punch mouth. The one who plays the muffled violence, and thereby also affects those secret valves release others in anxiety waves nameless and faceless - it holds in hands a powerful weapon an authority or a simple coercive power. And maneuver at will and his imagination, with air innocence, these valves anxiety, is a **power** sharper and probably more dangerous, so Just as occulte.- remains that all power of fact or principle, established by social consensus. This is the "Right hand" of the woman on the man, in a society where it says (or claimed) dominate; and this is also the price that "it" pays for its illusory superiority (present or past). If **slave** (and in our countries, it is less and less), it is **puppet** in his hands or nearly so (and it is still today as much as it ever was).

In recent years, every time I see myself confronted with a gratuitous violence situation (that celle- it is exercised against me or against others, it manifests itself on the Brutal or insidious) me comes with an unanswerable strength association with **self-contempt** - or rather, I **see** that contempt itself even one that affects openly or in his heart, to despise others. I have no doubt that this

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not there in me a simple mechanism push-button, a dada "philosophical" or "psychological" I p. 660

would be just glad to get out occasionally, as a way perhaps to exorcise a convincing formula anxiety I mentioned, sticking a label nimbly mat on an unknown threat. It's a **knowledge** simply, an essential relationship, deep and (after view) obvious.

203 (*) (December 14) It would be more accurate to say that this reaction remained "similar to itself in pretty much" **up moment** of my meditation and July 1982. While the "provocations" taking me off guard were many since then, the "gut reaction" in question has appeared only once, there is a year. It was an opportunity Then a short meditation "circumstance", a few hours, which fully clarified the situation. Of a situation confused inner clashed with simplicity and assumed the anxiety that accompanies us to carry the message of our confusion, disappears without a trace, if not that of a knowledge and a renewed calm.

204 (**) was discussed already in this "last step" at the end of "The sense" (n ° 110), under somewhat different lighting a liberation from the need **for approval** or **confirmation** that "truly the" hook ", discreet and a Robustness, where conflict can "hang" in us, and where we are. . . under another person's addiction. . . , where in fact we "hold", and (casually) we maneuver at will. . . "(This passage, definitely could have been written in that day - yet I swear I have not copied)!

I can not tell if he still others such "no" to cross before me, that will give me back to see my autonomy Current as still on, and not complete (as I tend however, somewhat naively perhaps, to the believe. . .).

The emergence and development of a relaxed and attentive relationship to anxiety is indeed a **release** in relationship to others. Indeed (as stated in the following paragraph), is the opportunity for others to "manipulate at will the Valve anxiety "in us (including by alternately dosed and administered sensitively, gratification and rejection), which represents its primary means of power over us.

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This knowledge does not "evacuated" nothing, it just allows me to **locate** an unknown. It is no a sentinel placed there to bar the way to distress, or to expel it from the site. This is not the nature of knowledge, in the sense that I want. Knowledge is part of a **quiet** inside, she helps to give her seat. It's a restlessness in us, against which pushes us constantly wanting bar the way to the "intruder", lest they jostle a "quiet" composition. The calm which I speak is not afraid of the intruder, it makes us welcome. And surface agitation created by the new meeting anxiety does not disturb this quiet, but it contributes to it.

18.2.10. The violence - or games and the sting

18.2.10.1. (A) The violence of the just

Note 141 (December 13) With my "valve" in the previous note on the "slave" and "puppet" I surely found a way yet to displease everyone, and (if I read...) to make me deal with all the names ! Unless the hypothetical reader (or reader) will applaud all happy, who knows, confident the image is sent and applies to the whole world except himself (had herself); and except perhaps yet, at most, the sarcastic author. By this assumption besides, it would make my modest person a credit that does not deserves. At most I would venture to admit that in recent years (Especially since some meditation on anxiety, in July and August 1982), I began to get even even to be released, the famous "circus" - the marital circus, certainly, but also of others like him like brothers. There was even in the first part of Crops and Seeds, a section in this direction which looks good that color, named "Finish the ride!" (n ° 41 of last March). The, it was not the marital circus, but a mathematical circus, where he turn over a good part of my life, like everyone else. But it is also true that a few weeks after that section

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the promising name on April 29, a note appears "One foot in the ring (n ° 72), whose name p. 661 seem to advertise a different story! The difference with before, perhaps, is that it still happens to me here and there to turn in a carousel (and I see little more than the mathematical arena continues attract me. . .), It's me (or someone in me at least) and anyone else who has these son to me are circling, and they stopped for me to be invisible.

These reservations, I can say that most of my adult life (and more precisely, to upon discovery of meditation), I "walked" from the hip (like everyone else, yet) both in the marital carousel (he turned briskly for no less than twenty years!), as in others. I do not regret it, because the knowledge I have carousels of all kinds, I owe everything in First to those in which I myself have turned. If I've shot so long, it was because the student has been slow to learn - and also, surely, that more than one way I found bait. They finished at the end purposes, lose their strength and their charm, are we to believe. . .

It seems to me that in all these carousels, I was always the one who "walked", and never one that "was walk. "Or to put it another way, I do not think I ever had a shadow of a propensity for the famous style "velvet paw" - it happened to me to play hard claws, but never, I think, of sunk claws in a velvet blanket. It is a trait among many others, which show that at the level of the structure the ego, the "boss" of it in me so that is conditioned, the basic tone is very "masculine" without no ambiguity for the shot. The yin tones, "feminine", dominated by cons at the "child"

the original in me, that is also in the knowledge of instinct and the creative faculties.
I would add a few words about the "senseless violence" in my life. In the previous
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Note (of it three days ago), I mentioned in the lighting of one who happens to be the target of violence, or one of the least who is confronted by others (it was as a witness), when I write:

"If there is one thing in the world, as far back as I can remember, that each time left me helpless and speechless, it was to see me again confronted with this violence beyond belief, one that hit and destroyed for the sake of hitting and destroying. . . "

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These lines, and those who follow them, correspond to reality, the reality of my own experiences in all
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case, and probably also to the countless men and women who, like me, have faced violence there. They could give the impression that whoever wrote them is itself fully foreign to this violence, that all his life he was free from such delusions. There is nothing yet. I reminds some relationships in my life, four in number, three of which are placed in childhood or in adolescence (between the ages of eight and sixteen years), footprints relationships of enmity based on no specific grievance staff, speaking in the form of systematic and ruthless mockery, or by rufflées and other brutalities. The first victim, a classmate (Germany again), was the scapegoat of the class. The situation has dragged on for years, I think I remember. Both cases following are placed during the war, during my stay (at the end of a French concentration camp) in Relief of a Swiss children's home in Chambon sur Lignon, "the Guespy" between 1942 and 1944. This time the "ugly" were one of my friends (whose parents, like mine, were to be interned as German Jews), and one of our two supervisors, one and the other of German language as me. They were one and the other a bit Butt still a group of young boys and girls, sometimes ruthless, including myself - but I think I was leading their life harder than any of the gang. Cohabitation under one roof, and the common situation of refugees whose status under threat constant of a raffle Jews by the Gestapo, could arouse in me feelings of solidarity and respect, but it has not happened.

In all three cases, the person that I took as target of malevolence was sweet-natured, rather shy, not combative, as I sorted once as "soft" or as "loose" and that the coup was Part of the features that were supposed to make a lackluster character. In an era devastated by breath of violence and human contempt, and I filled with aversion to the violence of war or concentration, and all that accompanies them, yet I felt fully justified in contempt and violence that I was subjected to others, simply "because" I was pleased me to classify it as "Unfriendly" (and other qualifiers to match...), After which all (or almost) became allowed to do not to say, highly commendable. I flattered myself that to have the spirit "logical" and just,

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I did not see when my behavior, and justification by antipathy (which I would not have
p. 663

Although thought to fathom the true nature), were exactly the same as those of the German good complexion thirty years vis-view of "dirty Jews" (things that I had seen up close in my childhood); and they were those that also made possible the unprecedented explosion of violence which then swept over the world. I was sure mine (in the wake of my parents) to distance myself from this violence as a strange aberration (and sometimes even that "beyond comprehension"). I was full of haughty condescension vis-à-vis all those soldiers or civilians, who in one way or another would consent to be active workings or liabilities in the heroic mass graves and the abominations that accompany them. At the same time, My modest and in my own limited range, I was like everyone else. . .

If I try to discern the cause of a strange blindness serving a deliberate contempt and violence, it is this. The violence that I myself had to suffer during my childhood from the age of five years without ever having been designated as such to my attention entant had finished
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by creating a chronic state of tension, remained unconscious and carefully controlled by a will well soaked. This tension, or accumulation of aggression without particular target, creating the need for a landfill aggression. This "need" was not yet in physical nature - the opportunities to let off steam by suitable physical activity lacking in any of these cases - but **psychic** . Surely there must have accumulated resentment, especially unconscious and of course that does not materialize into tangible grievances vis-à-vis a particular person (one of my parents say, or people who took their place) on which I could then refer the feelings of resentment and give concrete expression, violent perhaps. There must have in me a violent "vacant", widespread violence, wandering in search of a

target on which to discharge. It seems that often it is the animals (insects, frogs, dogs or cats, or oxen or horses ...) that the costs of such violence wandering in search of a victim.

This was not the case for me, I do not remember in my life martyred animal small or great.

Apparently I needed a scapegoat closer to me, a **person** ! When looking for one, surely evil one never has to find.

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I have no doubt that what I've just written well described some aspect of reality. I feel yet p. 664

This description is still the stuff of surfaces, it identifies only a certain aspect "mechanistic" without really get deeper into the unconscious lived. For now, instead of this experience, there is a kind of large "background", vacuum. This is not the time and place to override, to probe further that this "background" covers, which dissolves in the "empty". Is the famous "self-contempt," which asserted so peremptory still in the note there three days, and suddenly, now that he is **me** , seems to have vanished without a trace? This would be the time now or never, finally, to have the Net heart, to elucidate this "fuzzy" tenacious and ambiguous that continues to mark the knowledge I have of myself Also, as before the "fuzzy" surrounding the role and existence of anxiety in my life. It was there, the anxiety, the "best kept secret" in all my life, had he seemed to me. Is there another secret, best kept still, barely grazed here and there, in two or three occasions, since I happen to meditate? I have the feeling of having everything in hand to find the last word - including the sudden influx of interest well familiar, that tells me that the time is ripe to launch me! Yet I feel that I will not do it here in this meditation somehow "public", or at least, to be published. This has had at least, among many others, the virtue of unexpectedly mature a question suddenly become very close, finally recognized as crucial to an understanding of myself, whereas previously it was a bit of an issue among a hundred on a long waiting list I may never see end. . .

It is quite possible that I have the opportunity again to meet one or other of the three men (including Both are almost my age) who were once innocent targets of violence and aggression in me ; or if not, at least I will have the opportunity to write so of them. It will be a good thing for me to make amends, and in full knowledge of the facts. Maybe it will be a good for him also. Strangely though, I do not feel that none of the three myself ever really wanted, and my violence has triggered in him a personal animosity for me Specifically, rather, it seems to me that all the context in which it was taken was to be lived by him as a kind of calamity, that he could not even be a question of escape, and that my own person was perceived more as one of the extras in this calamity than

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a relentless tormentor p. 665

(I was) and hated. It may be of course that I'm wrong, and I will never know - as he can

I also have the chance to face one day that karma then, I have sown in blindness.

It must have been, I think, a maturing in me in the years following the episode "Guespy" without

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Yet there has been any discussion about it, provided he can remember. Still, he there was subsequently effective reflex in me, that would have banned me again associate myself with acts of collective violence of a group against one of its member. I do not believe that the thing is reproduced in my adult life, nor I have ever been tempted to still play such a role, I had to feel how it was false, and without courage under playful outside and "sports". That does not stop after the war again, life is abundantly charged to accumulate before me charged situations of violence veiled and anguish, and perpetuate in me the deep tensions that had marked my childhood and my adolescence. It is in this context that is located a fourth relationship, marked by movements occasional animosity and violence that I call 'free' - unfounded or caused by specific complaints or even (I think) by acts that can be considered "provocative." This is my relationship with one of my son. Yet I know I was not less attached to him, and I did the "loved" not Unless my other children. But at some level in the unconscious, there must have been in me a refusal certain aspects of the person, precisely those who made softer and more vulnerable and more difficult also to understand, that his brothers and sister. Really, it "fit" not at all, much less that my other children, with the beautiful superyang images I would have liked to find made my children - and this even less, some harsh circumstances surrounding his first two years and had a great impact, have made it harder for him to build trusting relationships with his parents. Still, during the time when he still lived with me in the same house until about the tenth year, I happened to submit to humiliating nature of punishments imposed booming voice. They were there things that had completely sunk into oblivion, like a certain atmosphere that had finished permeated the air family - these are some dialogues with her sister and two brothers, there are two or three , who opportunely made up as

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these things be little in my memory. Maybe the day

come when he too will be willing to talk to me - he who, perhaps, among my children, as did the expenses of a family atmosphere full of muffled anguish and not assumed tensions; or at least, the one with the most "scooped" in the hands of his father, while each had its full share of the "package" parental. I know at least - and I am happy - that which prevents either of my children maintain a simple and trusting relationship with me, her father, and all talk of a heavy past and the probe, it is not a fear that they would have kept vis-a-vis me, and they would try to hide. But again, this is not the place in these notes to probe further a complex situation, which implicate six or seven other people as well as myself. What mattered to me above all is to make the unvarnished finding the occasional appearance here and there in my life and in my own actions the same apparently gratuitous violence, which so often "left me helpless and speechless" when I met in others. This observation is not made in an "intent" special, he does not pretend to "explain" or "apologize" gratuitous violence in anyone any more than it is supposed to explain or excuse mine. It is not not possible, even probable, that deepening reflection, both violence and that in others that in me, eventually enlighten each other. This is the stuff that ends up ahead of itself by Moreover, without being sought. If I did this, it's simply because he was on the way and that (otherwise cease to be true) I could not not do here.

18.2.10.2. (B) mechanical and freedom

Note 142 (December 14) Reflection of last night reminds me opportunely this thing has so tend to forget, especially (in this case) that I, **myself**, so tend to forget that: I'm not "better" than anyone else, I'm cut from the same cloth as everyone else; exactly 566

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as such of my friends that I am about to place on the spot, at the center of attention without complacency. . . Yesterday I gave a sort of description of the occurrence of violence (apparently) "free" as discharging a voltage and an aggressiveness

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 accumulated as scapegoat who, for one reason or p. 667
 another is to have the head of employment. This description "mechanistic" and superficial, certainly "well known", accredit an **attitude** all too" mechanistic "vis-à-vis the violence there, in himself or in others. It is then seen as a kind of inescapable fate, destiny rooted in the structure Unfortunately even the psyche - what can we do about it! This attitude, in an appearance "rational" or "scientific", seems to be nothing more than the rationalization of **abdication**: the abdication the presence of a **free** creative self and others, which opens the option, everyone, **to assume** the situations in which we are placed, instead of passively follow the sloping lines mechanisms all tracks, ready to take us in charge at all times. While it is true that it is rare that make use of this option "freedom", the mere **presence** of this option and creative opportunities in us one chooses or not to make use of, any changes completely the nature of things. It is **there**, and no other thing that situations involving relationships, or a person to itself or the world around, have a dimension that is absent when instead of people, it is (say) computers, so sophisticated they are. It is here also appears for each of us the privilege of **responsibility** for our actions and motivations of our actions. This responsibility is not lifted that often we resort to the convenience offered to us to hide our own motives.

To return to the present case as an illustration, if I could play the great souls while making use of my power to torment as fellow who had done me no wrong is because behind a "good faith" surface, I chose an attitude of bad times rough, phenomenal, that was palpable all so at the time, that now in retrospect, forty years later. This was indeed a **choice**, nothing no obligation to do, and which amounted to condoning tension and aggression accumulated in me (while calling me, of course, beautiful ideas "non-violent"), and discharging the "fresh" (sic) on scapegoat at hand. Such violence - that is to say, too, almost all violence and abominations that plague the world of men - can not take place, and their secret function can be accomplished, as **long** as it remains strictly secret precisely (then

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 even she burst p. 668
 the eyes); So long to get caught to itself "bladders for lanterns" to play with belief double foul play, obscuring for the needs of our most basic faculties of reason knowledge. We are encouraged there, it is true, by the air around us always, while ever since we saw around us eager to punish her by consensus subterfuge, if rude they are, the fiction of service that had his assent. And my own subterfuge, in cases species I mentioned, was indeed the consent or tacit encouragement from others, otherwise I could not hold it and continue my game.

Assume a situation, by cons, it is neither more nor less than the address **in good faith**, in the full sense, ie: without the use of the facility offered to us to hide us the ins and outs obvious by coarse subterfuge. It is also, quite simply, make use of our healthy schools

perception and judgment, without taking care to conceal them for the needs of a cause or so other. Something that may seem strange, and yet it is so simple and obvious - when we approach a situation such arrangements, of "innocence" provisions, one that immediately transforms and deeply, so confused and tied it may have seemed. Or rather, if it were "tied" in effect and did not move a muscle for a long time, it's because we empêchions ourselves to evolve, of "flow" according to its own nature; we were obstructing its spontaneous movement, following

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matching the example of all those who surrounded us since our childhood. Simply **cease** to stiffen, to **stop** obstructing, for things that seemed frozen recovering moving, so that what was stuck to unstuck, and the harsh accumulated tensions are to finally release and resolve themselves in a new and large movement finally reappeared. This "ease" or "convenience" that we have, with the encouragement of everyone, "that the moon lanterns ", and thereby block which is made to flow, has done nothing" comfortable "! Stagnation Inside it we cushy household, we pay an exorbitant price - that of an inner tension, and huge investment of energy and to maintain this tension, and fiction bladders = lanterns. That said, everyone does his idea at any time - it is our privilege. And in all

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moment by what we

p. 669

do we sow, for ourselves and for others. And harvest what we **sow** starts in the same time.

18.2.10.3. (C) Greed - or bad deal

Note 143 It is time perhaps to return to the "forefront" of Burial, ie the proponents and outs of the role that played the Grand Officiant at my funeral, my friend Peter. I was back there already A week ago, in the note "Velvet Paw - or smiles" (n ° 137 of 7 December), for me away again by this digression (five consecutive notes) to "claw" and "velvet". I feel that this "Digression", as many others that preceded it, was not useless.

If I have been led, it is precisely because the most striking apparent, perhaps, in the way My friend took charge of his role, is the persistence, with no inclination to break at any time of purest style "velvet paw", serving antagonism flawless and never said his name ²⁰⁵ (*). Another highlight behind the comely and well-tempered appearance of knowing smile and bring her tunes, many times spoke in my friend, vis-a-vis myself or one of those he placed among of "mine" (at the mathematical work), a clear intention, and free appearance, **harm** or **injure** . I'm pretty lying on concrete facts in this sense, in the first part of the burial, to be useful to come back here on it. It is indeed malicious provisions (strictly circumscribed in the field of scientific activity, it seems), of " **violence** " in a sense strong of the term, even though it remains strictly secret - always immersed in exquisite claw downy bristles. And this violence, this ill have all the appearance of the most confusing **free** - it seems they are exercised for the sake of harm and hurt,

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Like every time we see facing such a situation, this one seems so incredible that often

p. 670

we hesitate to believe the testimony of his faculties healthy ²⁰⁶ (*). Challenge this testimony, as is customary current, is one of countless ways not to take a position, and thereby perpetuating, it is surely better to ask about something, go around, looking perhaps aspects that we can have escaped and who provides an approach that can integrate into his experience. Few should be those, I think, that at no time in their lives will have passed by such malicious provisions without cause - and consenting to remember it is already not possible to **bring** a situation fact that current reflexes rather encourage us to evacuate posthaste. It is surely also good ²⁰⁵ (*) As I have had occasion to emphasize already elsewhere, that the antagonism, or a deliberate rejection or ridicule, "Never say his name," is in no way special to my friend Peter, but (as far as I have learned) is to all participants in the Burial, without exception. Thus these "funeral Yin" by derision, the base note in each of the participants (and as befits such an occasion funeral) itself - yin!

See also, for this character "occult" of the Burial, the note "The Gravedigger - or the whole Congregation", n ° 97. ²⁰⁶ (*) See the note about "The Chinese Emperor's robe," n ° 77.

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probe further to see if there would not be some hidden grievance that would cause and spring of violence who appeared without cause - as it is good also, if appropriate, to recognize for what they are "Grievances" can, the style (for example) that I practiced myself, know that such a desolate figure

who deserves any care etc.

But in this case, I'm sound, I see nothing that appear from near and far, like a **grievance** that my friend might (wrongly or rightly) feed against me, or against any of those he has chosen as target of malevolence. He himself has at no time left to hear anything that go so slightly in this direction; besides, surveyed more than once by me about such its acts left me speechless, he at no time admitted that there may have in him toward anyone the shadow of enmity provisions. I ended up feeling a secret gratification in it, in my meetings occasionally, when I used its reasons all there were objective, with that air of his own innocent surprise a little amused. . . In short I entered a game he led at will and according to his pleasure, and with intimate satisfaction I long to hear. (Still, it was very far from being the first to me and go crazy!) I still ended up, better late than never, out of this ride then 207 (**)!

If on the other hand I probe myself reviewing my relationship with my

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friend since we met there p. 671

nearly twenty years (in 1965), I no trace either of something that at no time could have been because of some grievance against me. In the conventional sense, superficial things, I can say that everything time, especially in the first five years of close contact, I "have done him good."

But this finding immediately reminds me of another, less superficial - that of **complacency** in me against him, which appeared during the discussion in the notes "Being apart" and "Ambiguity" (n ° s 67 'and 63 ".) It is clear that this complacency was not "well" for him - and also, that provisions of my brilliant young student and friend to me have developed in close symbiosis with my own arrangements, especially with this complacency. It is not impossible, even, the latter, at some unconscious level, was (not only perceived, obvious thing anyway, but more) experienced by my friend as a "complaint" as a scenario may be too familiar and hackneyed to satiety in his young age child prodigy a little around the edges, and it was served again (albeit quietly) again. He thought perhaps naively, that by the feet in the "big world" mathematical, everything would be different from what he had known - and then no, it was always the same tobacco! (And by his own deliberate choices, today it is still the same tobacco again, and bigger still, what is more. . .)

What it is exactly about it, I probably never know. It is also not my job

get the clear, even if I have enough power for thin antennae do it by my own means. Yes

"Grievance" there was, it was in any case, at most, a grievance "extra", which contributed to his flick

Started "something" - a **game**, moved by a force of any magnitude; a force which I feel

long presence, but whose nature remains enigmatic to me. Before leaving this "first map" of the table of the burial, I would at least try to speculate on the nature of that strength.

There is, obviously, an **eagerness** to supplant, oust, delete, and also that of **appropriating** the fruits

toils and others love with mathematical lady. Yet it is clear to me that this is **not**

a simple "bulimia" prestige, admiration, honor, or even power, which is the mainspring

the role that is his in the Burial. How many times, during my reflection on it

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role was I p. 672

before seeing how this **obsession** in him was to bury it buried itself! He received

shared by his exceptional gifts and an equally exceptional situation, all it took for

207 (**) It was 1981 - this is the "second turn" referred to in the note "Two turns" n ° 66.

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exceed by far his master, and leave a deep imprint on all of mathematics

his time. It was enough that he let children play in it at will, without the piss instructions, barriers here

and prohibited sense there - by simply limiting itself to ensure the necessary stewardship strictly. In doing so,

and without either pushing or pulling or to elbow, the "boss" in him, neither more nor less likely greedy

that anyone would certainly not have missed every imaginable brand prestige, admiration,

honors, and power moreover, has not even know what to do, then that's the bleak that in

give their heart and does not let large leisure to the boss to play the bosses. . .

Certainly, in terms simply "Utilities," it was a bad deal badly, to embringuer

Burial in which stuck him on the legs for fifteen years or more and who had gone to paste it

after his life, if bulky deceased had suddenly advised to shake the ceremony, lifting the

lid of his coffin at the time (just like) where least expected! (The bets are open

the impact of the unfortunate incident on future updates of Pierre boss. . .) Or to put it differently,

My friend had the stuff (for his intellectual means, at least), and the nobility, to be

a mathematical Peter the Great, and he chose instead to play small-Pierre. It has the air of a

bad deal indeed, at least if the continued implementation was indeed above all the satisfactions

conceited.

18.2.10.4. (D) Both knowledge or fear of knowing

Note 144 (December 15) By the end of the reflection of last night, there was in me the slight discomfort

one that, in a peremptory air, is an argument of impeccable logic, while avoiding the feeling diffuse yet there was something wrong. That "something" appeared, however, as soon as I stopped writing. A wave is the way to phrase it: the "logic" of the unconscious, which presides in our most critical choices, is not that of conscious reasoning

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ordinary, and even less

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the 'orthodox' reasoning. In this case, the perception I have of the "assets" of the young man Deligne in the second half of the sixties (say), and the weight I give them (which goes in the same sense, at least, the weight that will grant them any reasonably knowledgeable mathematician) - this perception and weight (I would like to describe as "targets") are unrelated provisions and feelings of the person himself; with those, especially concerning his own abilities, which form While the key-asset among all those he has.

I have the impression that however conscious level at least, and with all the standard clauses that modesty demanded, my friend had built and made his flatterers echoes returning from her beautiful long time, surely, about his unusual gifts. But there is for me no doubt that a more level deep, or that are taken without words the great choices that dominate life, this "objective" version things became (and still is) a **dead letter**. In its place there is a **doubt** insidious, no "Proof" value (... Or superiority over others) never uproot - doubt the more stubborn he remains forever unformulated. I perceived my friend, as I have seen in other less brilliantly gifted, and it is the same. This doubt is the messenger of a stubborn **inner conviction**, which also remains unexpressed, more deeply buried that same doubt: an inner conviction of helplessness, and land irremediable. It is also, this "self-loathing" of which I spoke at the beginning of Crops and Seeds in the context of a reflection that remained "general" 208 (*). It reappears in a more impersonal context and a different face, there is a month or two, as a "sense of crack" 209 (***) - this vague feeling

208 (*) See "Infallibility (of others) and contempt (of course)", n ° 4.

209 (***) See note "Half and whole - or the crack" (n ° 112) of 17 October.

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I had made the observation for the first time by myself, two days after I discovered the meditation. And many times also in the reflection on the burial, there was a sudden perception Acute this "intimate conviction of helplessness" by my friend, throwing new light on this situation that seemed to defy common sense. . . 210 (***)

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I know this firm conviction in my friend or any other, is itself like **the shadow** of a p. 674 **knowledge** - the knowledge of a "crack" just that there is indeed, a "mutilation" suffered, and sanctioned and maintained until this day even by his own acquiescence. The shadow does not return Yet the knowledge it came from, beneficial by itself as all knowledge - it is rather a deformed and gigantic caricature, a version-bogey. Thus distorts and makes unrecognizable knowledge, is **fear** - fear just to make contact with this knowledge itself, to let go of the depths where it has always been repressed, and assume the humble reality it is a true reflection.

Contact this dreaded knowledge, plus a fully conscious glance this known reality in the deeper layers, and fled - this is, truly, which means resume Contact fully with it in us (to be called "strength" or "child"), "grew and died a long lost lives. "For it is that strength and certainly nothing else, the childhood strength, makes us able to assume the knowledge of it in us that is cracked, crippled, paralyzed. And assume also means resume contact with this **other knowledge**, prior to that of our most essential and mutilation although it: the original knowledge of the presence of this "force" that rests in us, a force that is not that of muscle or brain, which contains one and the other.

Something that may seem strange, this lost knowledge of the presence in us of this "force", this **creative power**, as evident from indestructible our true nature - this knowledge is retrou-EBV through the discovery and the humble acceptance of a **state of helplessness**, solved by this acceptance even. Knowledge of a state of helplessness covers and conceals knowledge, deeper in-fouie again, our creative force. This one is like the key that opens us to it, and the other one inseparable in truth, as front and back of a **same** knowledge 211 (*) items of the **same** fear.

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When I say "force" hidden in each of us, there is no question here of an abstract thing p. 675 and wave, an all verbal subtlety of "philosopher", or some philosopher psychologist at the edges. It is this strength that allows you to "do math" (or "making love" ...) as a child breathes - that is to say, without carefully compel you not to leave the wake left by your predecessors, and repeat Application with gestures and revenue (or cliches...) that were theirs; and it is also one that gives you courage and humility, in your own home as in that of others, to call a spade a spade and not pull the wool over our eyes, even if you doing going against the best established consensus

or the most inveterate mechanisms and better run-in yourself. (*)

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210 (***) on this subject see the note "Reversal (3) - yin or yang bury" where (among others) are discussed some such "moments sensitive "reflection.

211 (*) In this picture, of course, " **the place** " is the knowledge of the state of helplessness, the inauthenticity of "crack", then that **upside** , more hidden, is the knowledge of our undivided nature and our creative power. I still found and yet over the years that it is "upside down", the most deeply buried knowledge of both, which is the subject of the the strongest fear, and the most vehement denials. It's not so much the familiar and innocuous trained monkey status and (most or less) "learned" that worries anyone, but the innocence of the child who feels things as they are and call them by name and did and said as he feels no shame to be different from what "is" expected of him.

212 (*) (16 December) The action of the creative force in each of the renewed strength (or "children's strength") is recognized by fruit, both by the works of the hand or the mind, as the facts of the life of every day, in relationship to others and the people and things around him. I have noticed again and again that creativity in everyday life is something much less
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The first example came here my pen throws out its juice - he has enough surely make the heart beat any young (or less young) researcher loving glory. Who would be the intrepid pioneer Science still in labor, and as prominently in all the textbooks, such a Kepler father of modern astronomy! But when it comes (as did Kepler and others) spinning her tenaciously own thread in solitude and indifference of all (when it is disdain or hostility) for thirty years or even for that one - then there is suddenly no one! It wants to be in textbooks in good company in stock, but we **fear** as being alone, if only for a year or alone

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ment one day. But the one who "knows" the presence of the force in him (and to know he did not have p. 677

to never speak or to others or to himself. . .) - that one also knows well that he is **alone** , and being alone he because no anxiety. And whether it be in the textbooks is the least of his concerns - and especially in the times when he works.

It is also this same Kepler, in his same work, "went against the consensus more established "in his science, and established thousands of years, what is more. In his time (where the Inquisition yet exist) that was much less convenient than today, where we have a good chance of losing his job, or not find, but without risking to finish at the stake. To go back to Kepler, I do not know what he was in life everyday, against "the best established consensus"; Perhaps there he stood tile, like everyone else. What is certain is that today as once and forever, there are not many people not to deviate one bit from these consensus-the. It's probably still the same tobacco - the **fear of being alone** , backhand deep and almost necessary common that by "works" (in the conventional sense - i.e., the "items" tangible shaped by hand or by mind, creativity).

The presence in such a person's life, a continuous creativity, is the sign of a "contact" continuously, if fragmented and if imperfect as it is, with the creative force in him. This is something else that the only kind of presence "gifts", and an investment of continuous energy draw portion, speaking in a more or less significant production, more or less "Public" too, but that has not, by itself, creative power, under renewal.

In my intellectual pursuits and especially in my mathematical work with "gifts" modest (but investment-considerable), it seems that this "contact" with the strength in me, that is also the tacit knowledge and deep that I had were almost intact. That is to say, that pretty much I "functioned" in all my ways (Designers) in that area (very fragmentary it is true) in my life, almost without loss, misuse or blockages energy by "frictional effects" usual. One of the most common among them is a certain timidity that if Sou Wind makes us deaf to the voice inside blowing us what we have to do, when it teaches us is "new" precisely, that is to say, leads us on paths that we are the only ones to tread. This kind of inhibition then, almost ab- feel my relationship to mathematical (and this, to me it seems, more and more over the years), has existed against other areas of my life as well as in anyone, particularly precisely in that of "" everyday life. "

Going back to mathematical activity, I see a relationship somehow reversed at my former pupil brilliant. it has from "gifts" that I have always amazed and delighted, incommensurate with mine. (It is true that the longer I live, better as I see it is not **there** the essential thing to do innovative work in science or elsewhere; see this reflection in the note "Yin Servant (2) - or generosity" (n ° . 136)) The investment in math is considerable, as was mine once, and from a young age he enjoyed exceptional conditions favorable for the development of his gifts, and for the design and development of a work that is commensurate with these. Twenty years later, I am still waiting and this work is still on my hunger! There is surely a "contact" with the creative force in him, evidenced by the beauty of these things he did - but this contact is disturbed, tormented. My friend's relationship his work, and even in his same job is a conflict relationship - work becoming, increasingly over the years, a **instrument** in the hands of the "boss" to satisfy **his** cravings, foreign to the thirst for knowledge and experience of the child. I doubt that such a relationship conflict can be resolved without having first been assumed - that is, before anything else: recognized. At least, not once in my life have I seen such a thing take place without the other. That's what made me write

that knowledge of our helplessness was "the key" to recover the full knowledge of our creative power and again, fully, the creative power itself. My mathematical work, the question does not arise, since there no work in this deep freeze, equivalent to a partial impotence, which would have made me "run" on a low only part of my possibilities. The question arose for against me as for anyone, at my lived daily in my relationship to others and to my own person, my body and my body impulses. It is at this level I have experienced again and again, that taking cognizance of a blockage, a "impotence" was indeed the **key** who freed a prisoner creativity.

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universal in man: the need for approval, confirmation by others (and there would it u **n** that approves and confirms). . . 213 (*)

18.2.10.5. (E) The secret nerve

Score 145 I am me away again my point! I had gone on the realization that my "Reasoning" Last night was next to the plate, when I wanted to "pass" this conviction in me, that the motivation of my friend to play the role I know in my Funeral, and how I know it was not **greed** (prestige, admiration, honor, power). It is true, of course, bartering in a child's momentum against a **role**, he had made "a bad deal", even from the point of view "Returns" prestige side etc. But that proves nothing. Such "miscalculations" are also the almost absolute rule, you seem to me there, and not the exception, in the choice (at the unconscious level) of our

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major investments and options. But even as the reasoning is worthless, yet I have p. 678 no doubt that what I wanted to convey is the perception of a reality that it is **not** this real greed, which has become increasingly consuming and truly share in the life of my friend, that this is not **it** yet, which is the **nerve** in this role, my friend, as **the** key figure in the implementation of my funeral.

If I try to identify more clearly the distinct feeling (without it no longer matter so little of "establish" its merits), we get this: this is **free** in the act antagonist or malicious free that many times left me speechless, that "frame" absolutely not with the "explanation" boilerplate: greed. In terms of prestige, admiration, honor, at least, and even "power" within the meaning current term, my former student and brilliant friend was getting nowhere, neither in the time nor in the longer term, in playing, vis-à-vis one that outside its master, this "disregard discrete metered and gently" which he had the secret; or playing the same disdain (less carefully dosed perhaps) vis-à-vis such researcher lesser status than him, or vis-à-vis its past or present work, in order to discourage him whose insurance its own powers of judgment was not as firmly rooted in me; or such other yet, which had courageously persevered against General scorn which my friend gave the tone, robbing the fruit of perseverance against all odds. While it is true that in the latter case, as in others, my friend pretends to appropriate the fruits ripened by others in solitude (and sometimes disdain of his Elders), this "benefit" -There (in style "Thumb" 214 (*)) is so ridiculous point when we consider **who is** the which appropriates so that the "explanation" advanced hand herself in smoke!

I know, for myself, and obvious knowledge that it is not **this** benefit then that is the "nerve" such appropriations. I direction against **the intoxication of some power** -A power more delicate, and more exhilarating doubtless that power in the conventional sense, such as scientist and importance commonly exercised by serving

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in Committees, Councils, and similar Jurys, directing an institute, or p. 679

Research brilliant young researchers, or talking to the ear of a minister. The "rapture" of which I speak is appeared (for the first time in reflection) in the note "The perversity" (n ° 76), when I am there suddenly confronted with "an act of **bravado**, a kind of intoxication in such a complete power, he can afford even view (symbolically...). . . true nature of spoliation "perverse" others".

This was an act of brilliant bravado ostentatif, yet at the same time **secret**, unformulated, slipped away casually, with even a semblance of occasional explanation for this strange name "beams 213 (*) I agree here, in another way, findings that had emerged already in the sections "Forbidden fruit" and "The Adventure lonely" (n ° s 46.47), and also, by the way, in the note "Acceptance" (n ° 110).

214 (*) See notes "Go!" (n ° 77) and "Ownership and disregard" (n ° 59') about this ownership style in my brilliant friend and former student.

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perverse", what more natural it will enlighten you on that in three words, in addition to a small list of" what should have its place "in our modest and brilliant article... 215 (*)

I recognize, again, the style "velvet paw", aka Style "go!" - and behind the uniformity

a **style** that has become familiar to me in more than one and more than one, I also feel the **common nerve** : this **thirst** driving, eating, exercise power; a **certain power** and a certain way - the power of the cat the mouse, when he played his great game with that perfect grace (only the mouse is not able to appreciate its value), and "the most exquisite delicacy" for sure - or power as a smart wife husband on her big boobies. . .

From the case raised by my friend, I have already been led to speak of "style" in question, and its meaning, in the general context of couples of all kinds. It was in thinking of it a week ago in Note "Reversal (4) - or conjugal circus" (n ° 138, December 8). It is here that for the first time, with all the clarity it deserves, the "nerve" of the game "velvet paw" (aka "Go!") as a **power play** . As a power game, however, very special nature: the fascination of the game on the one who practices, charm often devouring consists precisely in the **character of the occult power** exerted by him, this character "neither seen nor known," who can play the other (**for** him, never **with** him. . .), Turn the round has its way, still leading the way, where the other follows balourdement blow on 0

So, in response to these little clumsy blows by invisible son mania that his imagination and in his p. 680 have fun. . .

It was enough for me to write last black on white what was obscurely felt for years probably, without my ever bothered me make clear - it will only have this short effort to condense words which long remained diffuse, so that what yesterday seemed to me "enigmatic" (Ie, the nature of "some force" in such a friend) suddenly opens me its obvious sense! This "force" in him, or (as I wrote earlier) the "nerve" of such acts which may appear "inexplicable" (or even "exceed understanding "), I had already identified well in reflection of 8 December. But as the starting point that critical thinking was a good game "enigmatic" my brilliant friend, it's a **different** experience, richer and more intense than associating with his person, which fueled this reflection; a living, he fully assimilated (or nearly so), and that blew my knowledge already formed that lived more epidermal my sporadic relationship with friend Peter could not then contact me.

Certainly, it is this experience then it was ultimately to understand, and thereby fully assume; and If I started then no inner reserves in a digression on the "carousel couple" is that I felt that this carousel then had something to say about the relationship with my friend. The thought of it continued to be present in the background as a discreet base note.

The "junction" complete the two has not yet made that day or the following days. Without a doubt the time had it not fully mature yet. For the junction is done without reserve or effort, with ease of evidence, he first had me "clear the ground", following stubbornly and without haste, a one, the most compelling associations that demanded my attention. I did not unwelcome things, and I knew it was there that I had to do - take care of what called me insistently, without me distracted by "about" or a "thread" (reflection), or by a program loop.

For so I spuds and I bine, the forces of the earth and sky make their work. In the evening, you only to come and collect the ripe fruit to the point, which falls into the open hand to greet him. . .

18.2.10.6. (F) Passion and hunger - or climbing

215 (*) See note "The Magician" (n ° 75 ").

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18.2. THE KEY OF YIN AND YANG

Note 146

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(17 December) I think with reflection before yesterday, there was like a release p. 681 an understanding which had remained undecided, a little dazed, before a quantity of facts and insights piled in front of me in a rather amorphous bunch - like a puzzle I have only succeeded so well that hard to assemble a few pieces here and there. There I like being dropped on **the** "play" of nerve Unknown table that it is reconstituted, around which the other will finally have effortlessly. I have no doubt in any case that I have hit the "nerve" behind the role of the friend in Pierre the burial of the master and his (more or less) true, and "nerve" as the same time, its relationship to me, the late master.

This craving to play some power, discreetly pulling and with an air of candor invisible son - this craving surely had to be present long before I do meet him, unknown to himself and all. If I have not seen her occur in the first years when we met before Episode I left (in 1970), it is no doubt that in these years of intense learning and development a delicate and powerful thought, the energy of my friend was totally absorbed elsewhere. Conditions were ideal in fact, to showcase its exceptional means. The episode of my departure, first the institution of which we were part of one and the other, and then (in the year following) of the scene ma-theme, was a turning point not only in my own spiritual journey, but surely also in his. It was this episode that suddenly opens up ways of power that the day before he would not dreamed: the first power to "oust" the place a former teacher who took a very big place, and which previously he had merely to distance themselves discretely 216 (*); then when it became clear that it disap-

raissait the scene, most exhilarating yet able to vanish without a trace some school which bore the name of the deceased master; and thereby finally cut net in all its limbs (Except the one on which he was perched himself), the development of a comprehensive program to serve a wide vision, which he had himself long fed 217 (**).

The direction of this turning point in the life of my friend seems to me a kind of reversal in mutual relationship of hegemony of the two dominant forces in his person, those which seem prior to all the others; mathematical passion, and "munchies" the game of power ("to velvet paw"). The first of these forces is inherently essence "impulsive" 218 (*), the second is ego nature "acquisitive." Before the turn, it is the knowledge instinct which dominates the life of my friend (provided it is known), while the craving for power is more or less asleep, on vacation status. At the end of a dizzying social climbing in the space of a few years 219 (**), and in a sudden situation appeared asking a draconian choice is the temptation of power and its secret drunkenness prevails (the high hand I think, and without any hint of combat) on the passion for knowledge. It disappears 216 (*) On this concern to distance and to oust See notes "Eviction" (n ° 63) and "Brothers and husband - or the double signature" (n ° 134) and the sub-notes (n ° 134 1) to the latter, and finally the "Unfinished harvest" (n ° 28). 217 (**). Nay, on the liquidation of a "School" and effect "chainsaw", notes "The heir," "The heirs...", "... And Chainsaw" (n ° 90, 91, 92) and the first four notes of Flower "Van Funèbre" (coffins 1 to 4), n ° s 93-96. In about the vision that has been buried, see both surveys (in two different lights) provided in the two notes "My orphans" (n ° 46), and the sub-grade n ° 136 1 to the note "Yin Servant (2) - or generosity". Note that in the main text, the words "and in doing ..." ("... to cut net ... the development of a vast program. . .") Is not adequate. Validation of school was the **first** "chainsaw blow" "radical for" cut net "a set of limbs, but not the latter (as evidenced in particular notes coffin cited, n ° s 93-96).

218 (*) What is the mathematical passion "of instinctual nature," it is expression of "child" (aka "the worker") shall prevent not (as forcefully recalled in the same paragraph) that it will also be invested more or less strongly by the "Cravings" of the "boss" - and this is part of the common lot (which I have not been more free than anyone else) in the relationship between "Worker" and "the boss".

219 (**). See the note about "The Rise" (do 63').
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not the scene, but is now a vassal and humble servant of the munchies, an **instrument** in the hands of it. The Passion (aka "the worker") goes about his work under the jealous eye of Fringale, aka "the boss" which does not leave a sole. As the worker has good tools (not all prohibited him), and good hands, and even held short, it continues chugging maintain production and renowned the House. But it is not necessarily the same as before, when the worker (very kid on the edges) took his foot lengths of days, while the boss was away and had to tack once a season!

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The subsequent evolution seems to be more quantitative, than qualitative. It is the evolution progressive p. 683

give some **tactical** boss, following a style that remains uniform, while the boss-worker relationship does not change a bit. This pattern is then prudent temperament, and he does not like to venture that where there is sure to win. For this, one must be sure of the ground - or, to be sure of the tacit approval of the "Congregations as a whole", starting with the smallest group of former students of the deceased. The evolving relationship personal discussions with it against all odds, is a true reflection of the evolution of the "connaissance of the ground." There is a **climbing** gradually in the boldness of the game of power and contempt, culminating after twelve years (in 1981) with the prowess of the Symposium Pervert where deductions (and any caution) are briskly thrown overboard in the general euphoria 220 (*). Thus, it took twelve years for my friend to become convinced that the ground was conducive to the point that no caution was no longer Updated: every time win! The time was ripe, really, to finally come out into the open the secret weapon, the **reasons** - exhumed in a paternity replacement the following year 221 (**).

I do not feel motivated me to retrace here the successive steps of the escalation of twelve, while I would have everything in hand to do it. This would be a working journalist, as I have done enough in "investigation" unexpected continued in the first part of the Burial (or "The dress of the Emperor China"). These "steps" of escalating strike me as so many **soundings**, launched by my friend Congregation towards a silent, each with the same answer: he could go! during soon fifteen, she was silent and his ally bail while he was unknowingly or worry about it probably, its docile instrument 222 (**).

18.2.10.7. (G) Papa-cake

Note 147

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I do not know if this craving in my friend is exercised against others than me, and map. 684

thematicians younger in whom he sniffs my "smell". He did not return to me echo in this direction. It is

against clear to me that it is his relationship to my person, and for a little situation certainly common in the scientific world, that this propensity in him scraping by in the shadows has become the Overnight, a devouring hunger. During the episode of my departure, when he explained to me, with all the appearance of serious, he donated his life completely to mathematical 223 (*), he "believed" without doubt what he said, and myself, a little stunned, however, did not think to put his words into doubt.

Yet if I had the finer ear, or rather, if I had the maturity then to listen and do

trust a "finer ear," which does exist in me as in all everyone, I would have known that what he told me about himself was perhaps true the day before, but it was not true that day. It was a noble reason given for a dubious act, an act which neither he nor I then had the simplicity to look facing yet feel the radiant. It was **something else** that such a passion that was in those days before the

220 (*) See, concerning the "Symposium Pervert" Procession VII "The Symposium - or bundles Mebkhout and Perversity" Notes n ° s 75-80.

221 (**) See, concerning the reasons exhumation, notes "Memories of a dream - or the birth of reasons", and "The Burial - or New Father "n" s 51.52.

222 (***) See footnote "The Gravedigger - or the whole Congregation", n ° 97.

223 (*) See, on this episode, the note "brothers and husbands - or double signature" (n ° 134).

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reins of his life, and never let go until today.

It is therefore my person, or something more in the relationship of my friend in my person, that (opportunity conducive helping) then had a triggering role for this drastic change of nature in the force dominates his life, and in the direction and management of its investment in mathematics. It is time here to remember the famous "shutters" or "aspects" of the Burial, featured in the reflection of 13 November (in the note "Retrospective (1) - or the three components of a table" n ° 127), and the note that follows ("Retrospective (2) - or node of the table," n ° 127 '), shutters that took the time to lose a little way since. I did remember mine, a tad in the note of it ten days ago, "Velvet Paw or Smiles "(n ° 137 of 7 December). I have reconnected with particular intuition of this perennial role "Adopted father" I had to play with my young friend, and who, it seems, has survived and remained active in him until now. On the occasion of this reflection, I once again expresses a belief without reservation, which had to form and take shape little by little

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During the six or seven years at least (from p. 685 even longer, perhaps) that it's "about this aspect (the paternal aspect of his apprehension my person) that is tied conflict - a conflict which existed in him long before he heard my name ... ". (So this is the famous panel" Superpère ", while the component" Supermère "remains still in limbo, for now at least.)

This is also a page later just as the famous style "smiles and velvet paw" made its first and rapid onset, as an object of attention. The associations attached to it appear first in the following days, get away from the person of my friend, as also the "father" occult aspect in the role assigned me my friend in his life. There was no more talk of this aspect before today - we can not think of everything at once, much less talk about everything at once! In terms of thinking, however, I think somewhere in indistinct background but still present and active, thinking this parternel aspect should be present, it was to act as an efficient and discreet stimulator of this long digression on a "shoe in velvet" style. After all (I explicitly clear to me now, in retrospect, but it must already be in diffuse form of motivation yet conclusive. . .), The figure of the "father" is no stranger to the famous style, quite the contrary. One can even say that the very first person in her life that the little girl (or boy, never mind) sees conducted delicately and smoothly (But not always fondly) by this style, is none other than Papa!

And as long as the innocent girl (or urchin) adopted and endorsed (or his) this style and this knowledge to which must become second nature at the same time almost one learns to talk, or little from it - the first guinea pig and beneficiary, no doubt, will be the same goof Papa! most often, when I saw practice that game, he added to it the aggressiveness of a hidden grudge, in addition to about deliberate derision. And certainly, in most families, vis-à-vis the father grudge motives missing not when he did it again added those cleverly suggested (or even created from scratch) by tender wife. But my friend, I have at no time felt such nuance of rancor or acrimony.

When I saw him injure or harm "for fun" was **really** (well

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have I felt) **for the pleasure** ; p. 686

not (I think) is pleased by the suffering or humiliation he inflicted itself, but rather the secret drunkenness to exercise, according to his will and in this particular style where he is a master, a **power** - more exhilarating or spicier still, no doubt, by this ingredient has connotations " **perverse** ", " **defended** " (hurt or to suffer for **the pleasure**), and yet, he could afford, gently and casually and share that, to your heart and galore. . . 224 (*)

224 (*) See in particular, as detailed illustration, the note "The Perversity" n ° 76.

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18.2.10.8. The nerve in the nerve - or the dwarf and giant

Rating 148 (18 December) with the reflection of last night, I feel that this "leading" the table of the Burial, centered on the relationship between my friend Peter and I still leave the mists of misunderstanding and felt confused. I had seen myself in front of the task, for some time, insert it in the foreground (From among) a component "Superpère", without me really be formulated in clear, this part-there was not looks really want to insert it with good grace. If there is a student that I always felt completely "at comfortable" with me, not stretched for a penny and at no time have I recollect, it's him! I do not have little memory, it is true, all of our first meetings, and can not say that there was so in him this tension, often barely perceptible, yet real, which appears when we approach for the first time someone invested (in one way or another) of an authority or prestige, and vis-à-vis which we have a particular expectation. It is somewhat likely that such pressure had to be this, and I have not given more attention than any other young researcher which I happened to get to know. What is certain is that if there was tension at first contact, the latter very quickly vanished without a trace. To take the picture emerged last night, he was also comfortable with me, a kid (or former child) is with a sugar daddy he never had to worry about, and rarely has it refused something.

I thought about the situation last night, after I stopped writing. It appears to me now that the relation My friend worked for me

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on two distinct levels, and (seems it) without communication

p. 687

Mutual. One of these levels, that took place probably early weeks and months following our meeting was that of the personal relationship - that of the "sugar daddy" so kind as not one, not impressive of all, himself a little kid on the banks, including in his work, to the same point that has a shade for him, I would almost say, **Mother**, I have had occasion to mention already once or twice: precisely that which grants a kid, dizzy and a little turbulent, and especially naïve as not. That is true more than at work, and objectively speaking, there really was no reason to be impressed. Good Sure, I knew a lot in math he did not know (and he has learned in recent years by playing), and above all, I had an experience of mathematical still missing. But he had a rapidity of assimilation, and vision acuity to recognize it quickly in the tangled situations and confused by what he often amazed me, and that I lack. If I happened to myself to impress colleagues, it was mostly not **slaughter** unusual that I have in my work, due mainly, I believe, a certain mode of approach I have the mathematical work. But there was certainly no need for my young brilliant friend was impressed when his own slaughter, if he start writing (something that not displeased him) was significantly more effective than mine.

That level of relationship My friend of mine, the level "sugar daddy", seems to include the entire conscious image he has of me, and also a good part of the unconscious image. It is that image, it seems to me, which awakens response, following established channels probably since childhood, as a envy reflex, that of the famous game of "claw in the velvet" - a game that rightly demand that is completely "comfortable" vis-à-vis the partner fully "confident" and again, selfconfident 225 (*). It is the level of full insurance, based on an intimate knowledge of a situation, and yet corrobée

225 (*) (December 29) This statement is contradicted by the case only in appearance (which does not include my friend) where the "leader game" appears (at first glance at least) to be impressed, even overwhelmed by the one he operated. Yet this is a **pose** for the purposes of the case, including of course the actor himself is the first dupe (the conscious level, I mean) - which is essential to give this poses a certain air of "truth" that can not be improvised! If the most extreme of that game I have known, is that of my vis-a-vis my father's mother. On this subject the two notes "The reversal (1) - or wife vehement "and" Reversal (2) - or ambiguous uprising ", n ° s 126, 132.

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yet by experience, which is construed

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ted fully concordant manner by the faculties of perception p. 688

and appreciation both conscious and unconscious. The game itself is hidden, unconscious for the person concerned himself (I presume at least), but the feeling of confidence and the perception of reality which bases are the conscious, rational domain, "objective".

The other level against is fully unconscious (at least that is my impression), and uncontrolled uncontrollable, irrational nature that seems to defy and ridicule any reasoned knowledge or reasonable "objective" reality (which I just mentioned). At this level, the personal relationship strictly speaking, related to a perception to be realistic at the Other disappears. Myself Appear there as a giant, powerful and secretly envied, and my friend feels dwarf, overwhelmed by the conviction of his

irremediable insignificance, and consumed at the same time by the insane desire, not to be himself while giant it is dwarf by immutable condition, but one way or another to **raise** its level to **do pass** for giant at least, or more covertly and insidiously still - the mad desire **to be what Giant then himself** , or at least to **go for him** . I believe in this desire detect a different shade yet, that is like the echo in the deeper layers of this desire in nearby layers the surface, which is a symbolic satisfaction precisely in this game "tab velvet", and is the nerve and spring: the desire of the **reversal of roles** . In the upper layers, the reversal of roles yin-yang dominated-dominant subject-object it is. That relationship is not yet up here because the giant has no desire to dominate the dwarf - he is content to be giant, and thereby unwittingly nor in Regardless, to be a constant and burning-défi. for those who feel overwhelmed by an unrecoverable condition Dwarf ... This stunning ignorance in which one feels compelled, he feels like a tacit contempt as an affront. It is that relationship that it burns to reverse himself appearing as giant and dedicating it to insignificance - insignificance **oblivion** , when it is not insignificance by **derision** in just back from ignorance and contempt in which it feels itself bound. I said earlier that the two levels, "sugar daddy" and therefore "giant", "appear without communication mutual. "On reflection, it seems to me

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rather now than a good communication between the two, p. 689

if only by the desire to overthrow the desire at one of two levels now appears as a "Echo" similar desire to have found each other. At first glance, it seemed to me that this reversal roles, deep level "dwarf-giant", was not a reversal of roles yin-yang kind. Which is true is that this reversal is not dominated-dominant type effect. Yet even on reflection, there is no doubt that the **values** embodied by the giant are yang superyang values, while dwarf incarnation appears as non-yin values - in terms of, I mean, my ideological options friend, not so different options that were still mine in the early years of our relationship ²²⁶ (*).

This statement will become clear without doubt, when I have established a link between the image "and the dwarf giant "and reality, at the very least, explained the origin of the image in the history and prehistory the relationship between my friend and me. It is hardly necessary to say, of 'prehistory', such kind of conscious or unconscious image commences only thanks to this "self-loathing" deeply buried, I already mentioned many times in my thinking; or rather, that such an image is none other a **materialization** tangible, more or less concrete, disregard this. Perhaps I might say, even, that this "secret conviction" is on the lookout for a situation that can serve as support, and at the same time ²²⁶ (*) This consistency in the choice of values "yang" or "superyang" lasted until my departure in 1970. In the years that followed, my value system at the conscious level "Toggle" to options "yin" and "superyin" - see note "Yang plays yin - or the role of Master", n ° 118.

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create image-bogey that expresses. I believe that everything in the psyche, so deeply buried as it is, lives a force that inspires them to express themselves, often symbolically. This expression without doubt remains herself unconscious quite often, but it is no less active, on the contrary, the level of visible actions and gestures in everyday life.

Coming back, this time in **the history** of the relationship of my friend in my person, too, certainly, begins before our meeting. He had to hear from me about the time of his first contacts with the world of mathematicians, Brussels, 1960 - four or five years so

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before we met,

p. 690

when he was sixteen or seventeen ²²⁷ (*). It is surely no coincidence that it is to me, and no other, he asked to teach him the mathematician profession, or at least, to tell him what was be the theme and the central tool of his work (ie, algebraic geometry). Before our meeting, traits under which I appeared to him (at least as a mathematician) could hardly be than my brand image, making me a kind of heroic and prestigious incarnation of the key values current in the world of mathematicians, and this at a time when he himself was a modest student, emoluments fresh from high school. This image he had of me, and that was the same one that I loved to me, Nor was not a single image of Epinal, made to dream of glory-loving students. She made from tangible realities, and he had enough flair to certainly smell it from those years, the Contact mature mathematicians and in with a chance. From 1965 he was also best placed than anyone to take my measurements by itself. I then felt in him a fascination with a vision which opened to him, born and matured in me over the past decade and continued to extend and to develop under his eyes. There was no doubt for me that while these visions he was hers "As if he had always known," serve him in broad daylight as inspiration and as tools for develop visions and implement wider still, to its means. It has not happened - and this is in the light only of this long meditation on a Funeral, nearly twenty years later, that I see

how fine and passionate perception of what I had to pass him, had to serve **at the same time** to expand and support,

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by firsthand elements and an undeniable reality, a **picture-bogey** I

p. 691

aberrant; a kind of image **paralyze**, as "intimate conviction" of which it is expression. The acuteness even its perception of "greatness" and a depth that I transmitted to him, and he was the only to have endorsed (and effortlessly) in its entirety - the acuity and vivacity that made its strength, have then turned against him, making it more striking and even more peremptory aberrant image.

I thought it three days ago have hit the "nerve" of the role played by my friend for almost fifteen years - and there was no doubt in fact, then, that I had touched a nerve: the **munchies** devouring a

some **game**, a tricky game of power, which was the symbolic mime time and ephemeral gratification the desire for a role reversal. . . With the reflection of today, down in layers

deeper, it seems to me now touch the **nerve in the nerve, to spur** more secret still which

constantly creates and maintains the hunger there. Because at the "sugar daddy" there is certainly the opportunity and

227 (*) (December 29) I found this information from chronology in the "Biographical Note" (two pages), by stone Deligne written in 1975 on the occasion of the award of the "Five Year Award" of the "National Fund for Scientific Research" (Belgian)

(Egmont Rue 5, 1050 Brussels). I intend to return to this biography in a subsequent note, when I speak of Deligne visit home last October. It was during this visit that I learned from him the existence of this leaflet,

he kindly (at my request) sent me later. In this notice, which I also found the form

concrete "the dwarf and the giant" a certain image in my friend, whose design had emerged gradually diffuses

during the reflection Burial. She began appearing in the note "Burial" (n ° 61), and is specified,

particularly during the reflection in each of the notes "The eviction", "Node," "Reversal", "The Massacre," "...

and chainsaw ", " In Praise of Death (2) -. or strength and the halo "Only with this note that this perception

begins to "place" in a coherent overview of the "top" of the Burial.

(March 1985) For the biographical notes of Deligne, see note "The profession of faith - true or false in the" (n ° 166).

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every opportunity to play that game safely, leading the way with a nonchalant delicacy, and safe

win every time. But probably the charm of easy opportunity is blunted in the absence of stimulus.

And as I noted yesterday, there is no vis-à-vis sugar daddy, the sting of back complaint, the

secret grudge - that is why the calls "cake"! This sting missing in fact, I just

suddenly feel sometimes, when over the associations, like the dictation of a knowledge which would

been there all ready for a long time, I have come to describe this "new level", "uncontrolled and uncontrollable"

where live side by side a dwarf and a giant.

And the initial impression of a still confused intuition, between the two levels there were no com-

Mutual nication, suddenly disappears, giving way to an understanding, expressed and aroused at the same time

by the double image of the "nerve in the nerve" and "sting". In terms this time of "layers", each

superficial and the other deep, I now would resume with a third image again, by saying

they feed or maintain the movement of these, they are deep seated securely

rooted in the structure of the self. Without this foundation, the surface agitation would be quickly dissipated and vanished for finally let up on. . .

18.2.11. Another Self

18.2.11.1. (A) Grudge on borrowed - or return things (2)

Note 149

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(December 20) Since the reflection of there five days, and that continued especially in the second p. 692

notes that day, "The secret nerve" (n ° 145), I feel that the work on the famous "top" of the table

the Burial suddenly took another turn. Before this reflection, I felt in a position

little embarrassing that in front of a puzzle, where he would feel not to include large

thing. Since April I had already striven to put the pieces in one by one, and inventory

with care. It's not that I lacked parts, it not, I would have had the impression of having too!

In any case, there had to have an adequate level to make a painting, part perhaps, but a table

that stand up. The final piece of the puzzle that I threw on the table was that of "reversal" (from

yin and yang), kept in reserve at the beginning of "The key of yin and yang" (like "Association

ideas "which I promised myself to come back), and finally bursting with unexpected strength in

notes "The funeral of yin (yin yang bury (4))", dated 10 November (n ° 124) Thirty-five days followed,

until five days ago, was devoted mainly to tossing and turning in all directions parts

already updated over the most compelling associations claiming my attention 228 (*). I expected

that in doing so said parts eventually assemble themselves, to let up the last

Unknown table. It has not happened. Instead, they continued to make mutually foot-de-

nose, as would have fragments of ten different cuts of all newspapers, which were thrown out

pell-mell, to load for me to assemble! I began to wonder if I was not going to be forced,

at an end, to make the final inventory of parts, and another question marks about their

assembly, and stop there. . .

The situation changed five days ago, when, by dint of turning and returning these famous pieces, palpate and smell them, something finally "the penny dropped" when one of them (that of a **hunger** behind a certain **style**) suddenly was recognized as "nerve". I was indeed the immediate impression of a **qualitative change** , a **prospect** that had lacked until then, was

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now already to organize p. 693

228 (*) The "room" which had been the starting point for any reflection on the yin and yang, since early October, not returned to the and is explained fourteen days later, on November 24 in the note "Reversal (3) - yin or yang buried" (n ° 581

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from that room. It is with these words that I speak two days later, taking up the reflection in the following note ("Passion and hunger - or climbing", n ° 146). And my hunch begins already to be confirmed on the same day, with the appearance of the play " **daddy-cake** ", which looked like it had been called by the "nerve center piece" for precisely adjust it without smudging!

The play " **Superpère** " which was hanging there forever (already inherited from the first part of Crops and Seeds and recovery from the beginning of "The key of yin and yang" 229 (*)), seems suddenly go to profits and losses, as if she had simply strayed there accidentally. Under the impression of still fresh new piece "cake" 230 (**), I tend to forget that this famous Superpère (not "cake" at all, for it) did have something to do in the relationship between my friend Peter and I, even if there not taking the front stage (he was in a lot of...). I ended up still by me remind the

Next meeting, necessarily - at the precise moment, however, when I was about to explain to myself Why this eternal piece of the puzzle, there was actually nothing to do there! She was, after all, "just otherwise "the part-cake, which had just placed herself with such ease. And no, there Looking closer, this piece called-is foreign to the game, and the contours remained more vague, suddenly clarified its forms, "taking those of the image-force (blown by none other than my friend Peter himself even 231 (***)) of **dwarf and giant** . I first expected, thus reappear seeing the lines as strongly marked, it would be "no communication" with the dual nerve piece already placed (formed

Dad-cake, and the imperious craving for "the walk" - a quick phone call here, a little bit there. . .).

And here the contrary, it appears as "the nerve in the nerve," as a focal piece again, flocking without friction or takeoffs with the part of the puzzle in place!

That room, under its former name "Superpère" was also

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many times already grazed and even

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taken in hand and tossed and turned like the others, and even (I remember now) declared centerpiece, "Heart of the table" and everything; but fault may be embodied by a striking image (Supplied by the applicant itself), and perhaps most, by its absurd nature aberrant completely wacky even in terms of the large "common sense" common consensus and universally accepted, I was embarrassed and as ashamed of this damn room, she burned my hand: ever person (including a "Myself" that continues to tenaciously still live in me ...) will want to take it seriously! As much repack fresh and "play" on more sortables parts!

When I come now to speak of "centerpiece", "heart of the painting" etc., about the room became "The dwarf and the giant", that is the aspect of "self-loathing" of course I think, rather than appearance "Superpère". For now, that description for that part-sting, or "nerve in the nerve"

is also hasty and unjustified. I mean, it does not seem, at first glance at least, that this famous giant faceless and oversized hands, face make so little father. If he needs a name is "Superman" or "supermale" which would seem to suit him, rather than "Superpère". So all in all good the latter still account for beautiful and well, for the moment at least, as the room (or "Shutter") "Supermère" on which I will have to also return.

For now, my most urgent seems to try to locate the part of the table already placed, with the "nerve secret "and" nerve in the nerve "more secret still, in terms of a yin-yang dynamic in the person of 133).

229 (*) See "The enemy Father (1) (2)" (n ° s 29.30) and the note "The Superpère (yin yang bury (2))", n ° 108.

230 (***) The term "new" part is perhaps not entirely justified. But it is a part, at least, who had previously ment escaped the inventory, it was so obvious!

231 (***) For details on this, see the last footnote page of the previous note "The nerve in the nerve - or the dwarf and the giant "(n ° 148).

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my friend. In this regard, I have three hard facts. Two expressed by the "double signature" yin-yin 232 (*):

the friend Pierre is based on your "yin", both in what can be called the "personality acquired", speaking especially in the tone of his relationships with others, as in the "innate personality" or instinctual, speaking especially (for the outside observer like me, at least) by the spontaneous working style, free the interference of the "boss". The first fact regarding the acquired personality or "ego structure" (or more graphic terms, "the **head** of the boss") suggests that this structure will be done in childhood and in the first years of life, by identifying with a kind of model "yin". This does not preclude, in priori that this model was the father, if he himself had (as it seems to me indeed

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be) p. 695

a "personality acquired" based on tone yin. But then, my friend predisposition to craving for some sort of power game which, in our country if not everywhere and always, is typically (if not exclusively) "female", specifically, is **the** game between all the custom of wife play with the husband - this predisposition makes me assume that the identification was made with the person the mother, and it is from this that he has "inherited" this craving (or a propensity to such craving), and this is also he taken over "style" (or "tactical") suitable, that of "the claw in the leg velvet".

It is possible that the father was both a husband and a father-cake-cake, and my friend has had ample opportunity for a long time to make his first "guinea pig", and make the claws (and velvet!) on him. But it is also possible that the propensity or predisposition in question my friend remained unutilized until he met me, blame the first designated target, namely his father, to have aspects yang rather strongly marked, for "**causing**" the munchies, and at the same time **give rise** to tactics tried to "walk" the hotheads. Actually, any impressions that I remember, if placing in the first years when I met my friend, is not such as to suggest that he was already familiar of that game, or even that he had already practiced. I do detects traces in any case, even with hindsight, nor his relationship with me or in his relationship to others, by way say so slightly like "spoiled child." Also I would be inclined to think that this tendency was still latent in him, and she did developed and has taken the grip I know about his life and his work, after my "death" in 1970 (where he was twenty-six years), and for a particularly tempting situation.

The "third is" to remember here is the choice made by my friend of a value system consistent with values generally received, therefore the choice of the values "masculine" (or Yang). These, during the fifteen years passed, appear also to me to have turned increasingly to home "superyang". In his case, is this choice a glaring contradiction: while adopting values "official" **yang**, it has yet modeled in most of the essential features, in a pattern **yin** 233 (*). And it's not that this choice is purely values "can", it would be a false flag, raised for reasons circumstance, and that would in course

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the peripheral layers of the psyche. The image-force p. 696

dwarf and giant acting from deep layers, would lose its meaning, and also this pressing hunger overturning it raises, if the valuation yang was not internalized also in these layers there.

No doubt this contradiction then must provide an additional driving force to this "intimate conviction" of crack, insidious powerless - while (only fault, perhaps, the "model" in its proper childhood on that model) he knows (in his heart) fundamentally **different** from what it "**should**"!

If my friend, as it seems plausible to me, did not find in his father's traits, according to the consensus being around him, **would have** been there, and he could then make his own, it had to arouse in him

232 (*) The idea of a "double signature" enters the reflection with the note "Brothers and husband - or the double signature" n ° 134.

233 (*) This is a kind of contradiction common especially among women, and that my life was free.

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a **grudge** diffuse a grudge who managed to hold on to any specific complaint vis-à-vis a dad whose only fault was that of being too "cake"! This resentment, lack of a "hook" to hang with, would then remained "**vacant**", **waiting** for a suitable target - a target precisely, first, make (the context) father figure, and more, including **the ability** for this role is obvious, by the undeniable presence, glowing perhaps even excessive, these traits that lacked his father's "original". It is these features, too that make the "father" newcomer the **target** ideal, the kind of "game" already ready here to trigger, which expects more than suitable partner, aka "Father spare" alias (here we are finally!) "The Superpère!"

And suddenly I seem to be back on very familiar ground, I do recognize that at the moment even. This is a field where I was prisoner for twenty years during the marriage alone in my life (marriage which produced three of my five children). In the lines of the previous paragraph and without any deliberate (But as one who, cautiously groping in the shadows to take notice of what surrounding it), I have **also** to describe in turn the critical strengths in relationship to his father, then me, **the one that was my wife**. I can not say when or how the knowledge (or rather intuition unimpeachable) of the silent and stubborn presence of these two forces in it and their mutual relationship, is me came. One day I knew, without ever dreamed thinking about it ever so slightly, the inexorable force that dominated

the relationship with my wife to me since the early days of our marriage already was motivated by resentment vis-a-vis me not being there with her, as **other true and** father, in the days of childhood distraught. . .

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It is true and I know certainly that childhood My friend was nothing "distraught" and that personality p. 697

he developed and I knew, from the sixties and now bears little resemblance to that of my ex-wife. This does not preclude that beyond the obvious dissimilarities, I see appear, in the part of picture emerging from the shadows, a striking similarity with another "picture", which is good to me known. This similarity appears in the nature of the relationship to the father (related to a father's temperament where yang traits are deficient), and the impact thereof on an adult age relationship, at one as in the other, has dominated his life, as a focus of conflict of forces in one and the other ^{234 (*)}. For a bit, I was going to mention a third "similarity", which however is not without consequence in my own life is that in both relationships in question, the **protagonist** each time was **no other than me**. And that, in one case as in the other, appointed me for this role "Superpère" that I was asked to play was (in addition to immaturity) precisely what already since my childhood I was more expensive perhaps than anything else in the world - what also I had the most invested enormously: a "Stature" more manly than life. . .

So I found it again in a different light and more penetrating there eight months, feeling a "turn of events" ^{235 (**)} - with, now as before, an incredulous astonishment shade (it seems to fall too "right" to be quite true!). And also, again but in more tones retained the sudden explosion of old laugh, there is the perception of a comic, adding these "returns" Note inexorable sweetest of humor.

^{234 (*)} (19 February 1985) There is indeed a striking similarity between the relationship to myself to my friend Peter, and (since the first days of marriage) that which was my wife. This relationship also overflows beyond the relationship to my One Person, the sense that both of them eventually develop a propensity to some beings, which bind me links affection (including my kids in one case, the students in the other), the **instruments** to reach me through them.

^{235 (**)} See footnote "Return of things - or foot in the dish", n ° 73.
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18.2. THE KEY OF YIN AND YANG

18.2.11.2. (B) Innocence and conflict - or the stumbling block

Note 150 (December 22) yesterday, I have not found time to work on my notes, except for the careful reading and correcting of the ratings for the previous day. These days, my energy was entertained by task of

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correspondence and others, I gnaw my brake a bit (this is not a new thing!) me p. 698 meet face to face with myself, to push forward the business thinking. Writing is slower decidedly in this third part of Crops and Seeds, centered on this reflection, "The key yin and yang", where the dynamics of yin and yang is the constant thread to penetrate further into the sense of Burial. If I did not take the precaution of putting the alarm for household disruption in the work after about three hours (just to stretch the body, or to warn me that the time advances and it is time to stop) the whole night would spend as a moment! Three hours passed each Once, when I have the impression of having just started (or resumed), with two or three unfortunate pages I just type, when it is only one or two, the time just to tour some Association innocuous appearance I thought span in stride. . .

There is an extreme printing slow progression, counted in number of pages per hour or by day - and the natural reaction to this impression, with any hot material just in front of my nose that I pulls ahead, it would be to double and triple bites, as I used to do these until the recent years. But I know that this is the trap to avoid - the trap of this extraordinary "ease" in the work of discovery ^{236 (*)}, when it is just enough to "push" forward, to be sure of advancing in Indeed, slowly perhaps, but surely; as one who firmly held in the hands of a handlebar tipper plow ds good tempered steel, drawn by a pair of powerful and fearless oxen, and slowly surely frayerait his way, furrow after furrow through dense earth, sometimes surly, and even time flexible yet docile brilliant coulter gently and unhurried opens, penetrates and returns by and large brown smoldering bands, bringing to light an intense, teeming underground life. The pace is slow maybe, and the field is wide, and each furrow dug seems hardly begin the extent that lies fallow. Yet at the end of the day, furrow after furrow, the field is plowed, and the peasant returned content: for him, this day has not passed in vain. His sentence and love were his seed, and his joy at work, and his contentment at the end of each groove and the end of a long day, are his crop and his reward.

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With reflection before yesterday, and for the first time perhaps in writing *Crops and Seeds*, p. 699 I feel like I advanced on the uncertain terrain that is still directly seen or felt, and which remains (and perhaps will) **hypothetical**. Without knowing eyes that see what seems dark and night, I pioneered groping a hesitant way, without any insurance if it was "good". When the road forked, I have not played a coin, it is true, where I will continue; I trusted my instinct and my common sense, to show me the most plausible direction to continue without having any idea where this one was going to lead me. The path I was following, which traced me and had all the air of "stick" to facts known to me, that was a good sign. But it was not excluded provided, especially where the facts were weak, while another different path would have "stuck" as well, provided perhaps search still somewhat as fact remained raw or another. . . Then, around the corner and to my own surprise, I
236 (*) See note "The trap - or facilitated and exhaustion", n ° 99.
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have suddenly found out "a very familiar ground," I had once traveled extensively and painfully, I had come to know and leave. A situation that, moments before still seemed to me dark, wrapped uncertain mists of "probably" and "maybe", suddenly lit up by the light another situation that it was included. Me wondering about the distant origins in myself and in the other, the conflict in the relationship between such a friend and I, these seem to be a profound similarity suddenly interview between that relationship and one that had weighed on my life and a different weight, twenty long years.

The appearance of this similarity was of such force, I admit, that this feeling of hesitation, uncertainty, groping fainted immediately to make room for a sense of assurance and conviction. When to the end of the reflection, I speak of feeling ("incredulous amazement") that it "fell too just to be Yet true", that feeling was the answer to another base note, and told him that "it fell too just to **not** be true!" And that feeling, surely hasty and unjustified in the current state of facts which I has, has not adjusted the meantime, it is still present as background notes, whether I like it or not. Surely, without the aid of some experiences I have come to understand and accept, and especially the the long experience of my married life, thought could hardly have come to me from this "ready grudge vacancy "(a grudge" on borrowed time", in fact), and the same thought, precisely, was also the" detour path "which, in the space of a few moments, lead me back on this" very familiar ground " My marital experience.

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One can say, of course, a deliberate unconscious has brought me to a place already designated in advance,
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which might teach something about me and this deliberate, and not on motivations others. As can also experience an assumed allowed me to understand a reality in others, which otherwise would have remained completely enigmatic, blame me to have "antennae" enough sensitive (and offense, however, to dispose of tangible facts about childhood friend, and personality each parent).

I think I am close to finish my sketch (desultory!) Of "leading the table" (The Burial.) To assemble the final pieces of the puzzle that are left hand, I will use the need the apprehension elements (for they are hypothetical) appeared in the reflection of the note former. It will be a way elsewhere to test their consistency with all the facts known to me otherwise.

In reflection before yesterday, this is the play "Superpère" the puzzle that said its shape and contours. I had first identified a little hastily, in the play "The dwarf and the giant", where the giant appears yet rather as a kind of "Superman" to the overwhelming size, not as the "father" or "Superpère".

But this last piece finally appear again in the same reflection, this time as a target "Suspended in grudge" a grudge looking for a target just as if said "Superpère" was **called** by the same rancor and appeared in response to this call, in fulfillment of an expectation broadcasts. if this is so, we can say that if the Superpère (borrowed for the occasion my shoulders and my face, which apparently were tailored) had appeared in the life of my friend, he would have had to invent it! That's right, in any case, no more nothing hypothetical for me, in the case of the one I was the husband - and I was, again, "the target, expected a young life...."

Thus the Superpère appears as the "face side" of this "faceless giant and oversized hands" of the play "The dwarf and the giant". "Saw" must see especially back, giant, train likely to his famous "shows of force" (referred to in the note of October 5 "The Superpère" (n ° 108)). So the play "Superpère" casée finally, adjusting the side "giant" of the play "The dwarf and the giant".
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As for the next "dwarf" that it, its route as it became clearer by thinking before yesterday,

who joined here at the note of October 17, "Half and whole - or the crack" (n ° 112). It is still, as so-often, the eternal rejection traits "yin", "feminine" traits in favor of "yang", "male"

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whereby p. 701

My friend happens to be "fundamentally different from what it" **should** ", as he has modeled himself in accordance with a dominant model "yin".

It is important here to emphasize that at no time of the last consideration, I have not thought of, nor have tried to suggest, the person of my friend was marked by an **imbalance** in yin dominant, so a deficiency, a "Vacuum" yang features side, mainly in his personality gained. I remember about that particular print that emanated from his person, at least during the first years I knew him, was contrary to the a **balance** , a harmony, that made him so endearing to me as to everyone, it seemed, who, then known. This impression is associated closely with the other, I mentioned elsewhere ²³⁷ (*) - that seemed to have kept something of the freshness, the innocence of the child, in his approach to things (Of mathematics in particular) and also, he had seemed to me, people. This balance, and this "freshness" or "innocence", are subject to me in doubt - these are **facts** , there is no question of wanting retract. They spoke with my friend by a delicate sensibility, and when the opportunity presented by nuanced expression and bluntly of what was perceived and seen. There was a firm, as there was a sweetness. The sweetness has faded over the years, to only leave the shell, hushed and empty, a gone smoothly - and the firmness and hardness became close behind a precious semitones facade and borrowed. A delicate yin-yang balance has changed over the years (no one, no doubt, noticing) in the perennial imbalance yang - the same one, but in a different style, which had dominated my life since my childhood. It was there his choice, and these choices can change - ever games are not facts! Still, I never had knowledge in the life of my friend, a passage labeled with a yin imbalance, a softness so carelessness one, or an inconsistency; and I think not there to be had.

All this makes for the less likely the person who served as a "model" in his childhood and were surely yin features strongly marked, did not lack for much yang traits to make them balanced. If (as I tend to believe) that person was her mother, so I assume that it had yang traits rather strongly marked (vis-à-vis include such features probably less marked in father) to appear as

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"the best choice", as a "male" pattern for a boy; and at the same p. 702

time to help with this choice the emergence of a harmonious temperament.

Everything seems so, at this point, to be the best in the best of worlds, in a united family no disorder (maybe) no disagreement. All would be well, if there was yet a small stumbling block in the form of a silent consensus and although seemingly mundane: it's a boy is supposed to look like his father, not his mother. . .

18.2.11.3. (C) The providential circumstance - or Apotheosis

Note 151 (December 23) It seems to me to finish assembling the "puzzle" of the foreground of the picture the burial, I have only to place a final piece. This is the one I called "the Supermère "in note" Supermom or Superpapa? "November 11 (n ° 125). This appellation "Great " was inspired, first of all, by the "portrait" made my person, blows epithets superlatives in my praise of Death ²³⁸ (*). Surely a mirror reflex also had to play, since there ²³⁷ (*) See the note about "The Child" (n ° 60), in the procession V "My friend Peter".

²³⁸ (*) See notes "In Praise of Death (1) (2)" (n ° s 104,105), and "The funeral of yin (yin yang bury (4))" (n ° 124). 587

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had the "Superpère" in the air, in more ways than one! On reflection, however, the name I gave to the image which had just appeared touched not quite right. What was evoked by the image had superyin no "mother" connotation. If it were symmetry relation with another image, it was that the "Superman", the steel muscles and brain software IBM, rather than the "Superpère" It would therefore the occurrence rather "Superwoman" or "Supernana" heavy tits while to the navel and beyond (if not, knee ...), and buttocks to match, to dream Hercules - as brain, do not talk. . . a little in these tones there. Insufficient language also had to force me little hand, as there is not for "female" ready to the famous "Superman" (itself an invention Recent moreover, modern version of a Hercules decidedly overwhelmed). Will still for "Supernana", for lack of better. . .

It must be said that there I dragged this misnamed piece for nearly a month and a half, without really nothing to do, except here and there to remember the memory, by way of promise that we would deal with it, but later. Finally, it was not so much inspire me, and it could

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perhaps because of this

p. 703

name that does not really stuck. After all, I'd be in trouble, among all the friends, (former) students and other

colleagues I have had in the mathematical world until today, to find only one vis-à-vis which I have so little had a role "breast", or that I could feel that he attributed to me a such a role. Even those vis-à-vis which I would have rather played a role "yin", receptive, instead of a particular role "Yang" of the teacher communicates, transmits, must be very rare - at first glance I do not see (After the years 1952, 53, where I spend my thesis) that Greenhouse, and again ... If I try to remember what what were my current provisions, if not permanent, in relation to other mathematicians, it was mostly that I still had the "carpet" brand-new to "place" (to use the image that had During my time), not counting the "carpet" (also of my making) less new but (in my sense) did not really served as saying, and that seemed essential to the good performance of mathematical house in such area of mathematics which I was familiar, to put it differently, in my relationship with my "fellow" mathematicians and even though we hardly spoke together as math (I had to be even worse about it than any of my friends and colleagues!), the predominance yang (or rather, the superyang imbalance) in my temperament acquired regained all rights, as in any another relationship. Perhaps even more strongly, given my enormous investment in the mathematical, egotistic nature of investment (it is needless to say) and more precisely motivated by my options long superyang!

These are the obvious aspects, manifesting at every step in my relationships with other mathematicians, who had obliterated, my colleagues like myself, the **other** is in the opposite direction: my style mathematical work, and my approach to mathematics, are highly dominant **yin** "feminine". It is this particular, it seems to me, apparently rather exceptional in the scientific world, which also makes this style so **recognizable**, so **different** from that of any other mathematician. Whether it is style although "not like the others" came back with innumerable echoes, since I published math and all at least from my thesis (1953). This style did not fail also to provoke resistance, I like to call "visceral" - I mean, who did not seem to me (nor seem today) be justified by "reasons" might be called "objective" and "rational". This reminds me my thesis (I especially introduce the

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Nuclear spaces), which I had submitted to the Memoirs of
p. 704

the American Mathematical Society, had been refused by the first referred, a mathematician honorably known who had worked in the same subject, and had seen my work as more or less muddy. It is through active intervention of Dieudonné my thesis was published against the advice
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the referred. I learned a few years ago it was one of the hundred most cited papers in the literature Math ²³⁹ (*) in the past two or three decades. I guess there is still twenty or Thirty years of mathematics before us, the same will apply to SGA 4, as (among others) Reference the basis for the point of view of topo geometric topology; wherein APG 4 was rated "unreadable" (between other qualifiers of the same water ²⁴⁰ (**)) by my friend and brilliant former student Pierre Deligne. I know (as he also knows himself) that it is a mathematical texts to which I have devoted the most time and the most extreme care, and by rewriting rewrite from the ground up, including everything that concerns sites and topos and "prerequisites" categorical. The reason for the exceptional care is that I felt how this is a cornerstone in the development of the "arithmetic geometry"

I was trying to lay the groundwork for decades a ²⁴¹ (***) . I also know that when I made this work, I had a long time (without wanting to flatter myself) the master of hand to write a math manner both **clear** where the main ideas are constantly put forward as a thread ubiquitous and **convenient** to navigate for reference ²⁴² (****) . If I was perhaps wrong to write (And to write) a detailed reference book with a lead of forty or fifty years on my time, that the time was ripe (in the sixties) have suddenly ceased to be, not I is not due, it seems!

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These associations with Deligne take me back to the period after my departure, which echoes in the p. 705 same sense came back to me more than once "as puffs of insidious contempt and derision discreet." This shade of **mockery** was absent in the signs of "visceral resistance" to my work style, to which I alluded earlier, placing before my departure. I only detects no hostile intent or so little bit malveillante vis-à-vis myself. I had the opportunity to discuss such signs even within Bourbaki ²⁴³ (*), at least (if my memory is correct) until about 1957 when my work on the formula Riemann-Roch-Hirzebruch-Grothendieck dispels doubts that had been on my subsiter "strength" as mathematician. I do not remember having seen resistance to my work style between 1957 and 1970 (year of my "start"), except occasionally in Serre ²⁴⁴ (**), but never with a shade of enmity - it was rather a knee-jerk reaction of annoyance. For cons, I had the impression that my friends felt sometimes overwhelmed because I went too fast and they wanted to spend their time not only to keep abreast of my complete works as and as I sent them my pavers, or I telling them (in writing or orally) that I was concocting.

I understood the nature of the "visceral resistance" my style, to which I alluded earlier. Its cause appears to me as independent of the burial which was later (where the resistance ended Yet by playing an important role). This resistance is simply the **reaction** ("gut") a **of belonging style close "female"** vis-a-vis a science (the mathematical case). Such a reaction is common and "in the nature of things" in a scientific world that, far more than any other part microcosm in our society, is steeped in **masculine values**, and feelings, attitudes, reactions (apprehension 239 (*) perhaps my memory serves me here, and it is one hundred (or twenty?) The most cited papers in functional analysis.

240 (**) See footnote "The clean slate", n ° 67.

241 (***) is surely the reason, too, why Deligne has given so much to discredit this text, he even forgets Sometimes the style halftone he likes and does not go with the back of the spoon to run down! On this subject the note "The tabula rasa", cited in footnote previous page.

242 (****) is also becoming familiar (in 1965, when he had just landed in my seminar SGA 5) with the game already Net written in SGA 4, and preparing himself some presentations (drawing from my handwritten notes) that this same Deligne has learned to touch my art to write a mathematical text, including that clearly present a substance dense and complex.

243 (*) See in particular the note (nameless) n ° 5, the first part of Crops and Seeds.

244 (**) See the note about "brothers and husbands - or double signature" n ° 134.

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and rejection in particular) that go with these values. The strength of reaction to my particular work style epitome of a creative approach to base note "female", simply from packaging currents of the scientist in the world today and the last few decades - the scientific world, Anyway, as I have always known.

Like any other reaction after a package, this reaction is nothing "rational" indeed, and in that where it occurs, there

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considerable resistance to think only in examining the meaning.

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It is strongly felt to be **its own justification** - much like aversion "homosexual" in most staunch environments, or that for the "wog", also homegrown. Yet in this case, I have not felt in this reaction by itself a shade of enmity (conscious or unconscious) to me, but rather an attitude of **reserve**, adversely prejudice **vis-à-vis my only work**. From the moment only where it became clear that my style (or even my style, that Never mind!) I was doing things that we had not been able to before (and we do not manage to do really otherwise afterwards) - then only those reservations were sheathed, reluctantly perhaps. . . In any case, that is if for some these reserves remained under tacit and unconscious form, I was too locked in my work and in my duties to perceive them.

Indeed, it seems at least unlikely that such a "gut reaction" could disappear as if by magic, the simple fact that Mr. so and so demonstrated theorems that had not demonstrated before. At the level where made and unmade deliberate about acceptance and rejection, one and the other thing ("such work should not be permitted," and "John Doe has demonstrated such theorems") are really without mutual relationship!

We say that it is normal, therefore, that things had changed after I retired from the stage math - once I was gone, in short, to "speak to knock" to those who would mine to be choosy before my style, without getting to do the same with their style to them. This "explanation" box yet, because it ignores the derisive tone of hushed malevolence that existed not before. Nor is there, in what is known to me, is such as to make me assume that between 1957 and 1970 I would have had time to go to such disagreeable to all the congregation of my peers, a grudge or revenge motivation in this regard could play after my departure. With many of friends that I was leaving, I had maintained warm relations, sometimes affectionate, and (as I have said elsewhere) I do not remember one of enmity relationship with a colleague before mathematician 1970.

There has been however a grievance **later** the Congregation to me, because of a kind of "grudge" collectively, and in any case, act

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collective of "retaliation" which, for staying implied, has nonetheless been

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a "flawless efficiency." I probed this aspect "retaliation for dissent" in the note of May 24, "The Deadman - or the whole Congregation" (n ° 97). In this note, I left aside some tone in these reprisals, vis-a-vis me and those who had the imprudence to ask me - tone of derision precisely that goes beyond the simple "estoppel". And every time I felt this "puff" - There, **it was a style that was the designated target**. In other words, it is the feature that distinguishes this style of any other nature "yin" or "feminine", which was the occasion providential, eagerly seized by the collective unconscious to avenge the insult of a dissent in

added to retaliation by **excluding** the additional dimension a **derision** - derision which is supposed to designate, through a certain style, the undeniable signs of **impotence** .
And now with the word "impotence" some unspoken is finally named, it becomes apparent how this same "providential circumstances", which is added to that of my "death" becomes the occasion
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unheard for my friend and former pupil and former heir Pierre Deligne, to make tangible, credible and **grew this Topple ment** roles, this insane desire and seemingly without hope of those who feel " **dwarf** " before a " **giant** "!

"Perched on the giant shoulders" (to use the same words that appear as final word in his CV 245 (*)), it is now that it will be "giant" for all to see, and he will appoint to the derision of Congregation whole, such a "dwarf" large *hâbleur* and large vacuum brewer, this pure junk giant but yes ! - and yet that was (and remains still...) "A perpetual challenge for burning and one that feel overwhelmed by an irremediable dwarf condition. . . ."

This dramatic shift in the distribution of roles "dwarf" and "giant" between himself and the Other (He who is perceived as a **challenge** , and must replace at any price) this reversal is the same Time **reversal in roles** " **feminine** " and " **masculine** ". That's as the embodiment (plétho-America, limp and without loudness) **female** (never named in the clear yet eagerly repudiated) than which was (and is still ...) giant, is referred to

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crowd (and foremost the Magician himself...) p. 708

as miserable dwarf and as derision; and it is also as heroic incarnation exam-appeal of **virility** , as that might dwarf (which, despite everything and finfond himself "knows" that he is and the remainder by immutable condition. . .) Finds giant with steel hands, cheered by the same crowd hastened boo for the Other.

This reversal then, for symbolic it is, is obviously no common measure with the "reversal ment "as it were" private " , operated by virtue of a proven tactic (called" the velvet paw ") in the inner circle and no great consequence of a "between four eyes"; a nice little arena where he feels hold the strings who "walk" and turn the Other ... The dwarf cranking the giant, agreed, but always and irremediably dwarf again! While the apotheosis of the dwarf who is giant and above still perched, and which refers to the derision of all the very one on which it is perched - this apotheosis then be place in full public square in front of large crowds and cheering, come cheer the Eulogy Funeral of "Dwarf" dead and buried, as "nail" definitely a beautiful and delectable Funeral ceremony.

18.2.11.4. (D) The disallowance (1) - or reminder

Rating 152 (24 December) with the reflection of yesterday, I seem to have almost completed an "assembled bler "the foreground of the picture of the burial, as well, at least I feel able to do with the "parts" of the puzzle that I have now. It is understood that in this second part of the reflection on the Burial (the third part of Crops and Seeds), my point was not over Ras sound material facts (I have gathered my sufficiency in the "investigation", during the processions I X), but to reach an understanding of the **springs** of Burial, by **motivations** secret (most often unconscious probably) in each of the many protagonists 246 (*). These motivations arise, primarily, the nature of the individual's relationship with my humble self (as "deceased"); or, more accurately perhaps, what I meant to him for one reason or another, related or not I left the mathematical scene and the circumstances that surrounded him.

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The "top" is, apart from myself, in that among all who played at my funeral the role p. 709

the "priest chasuble", or the "Great Leader in Funeral." It is also among those who were friends or students in the mathematical world before I left, one with which I was associated as closely,

245 (*) On this subject the last footnote page of the note "The nerve in the nerve - or the dwarf and the giant", n ° 148.

246 (*) (December 31) The "About", taken at face value and given the number of its "many players" (and there would he ten!), would of course be entirely out of reach. Aside from my friend Peter, I can at best get an idea

Overall, identifying somehow the "motivation" and "intentions" in a "collective unconscious", which at best only covers approximately those of such "protagonist" particular.

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by mathematical affinities of exceptional strength; and also the only one that continued a relationship personal with me after I left, relationship continuing even until today. It is for all these reasons that I have about it a "given" a common wealth without measure with which to me is known to anyone else among the participants Funeral. Finally, among all mathematicians I have known 247 (*), it is also likely that, by far, in which the role he assigned me in his life weighed heavier - much heavier, obviously, than commonly assigned to him who was his master, was it in the exercise of an art which we would be doomed body and soul (like myself was devoted myself).

From this, I finally realize for ten years perhaps, and that role he assigned me also overflowed its mathematical passion (and what eventually take its place). this perception in me, which remained broadcasts over the years, has significantly clarified and expanded over my reflection on the Burial, and until yesterday.

It seems to me that with reflection yesterday, along with the foreground of the picture centered relationship between my friend Peter and I ended up setting up and also assemble the "third level" consisting of "the whole Congregation" hastened cheering for participation by its compliance expressed the Funeral and the Burial. As I wrote yesterday, which was still missing from the image that was clear during the discussion of the note (May 24) "The Gravedigger - or the whole Congregation" it was the shade of **derision** put in the exclusion of the treaty dead and "abroad" in "outsider".

The meaning of this derision, was clear from the note (November 10) "The funeral of yin (yang buried yin (4)) ", was recalled and put into perspective yesterday: it's derision toward what is felt (to a level unformulated) as "feminine" and is therefore subject to a "visceral" reaction of rejection by assimilation (Just as unformulated) of the "female" to "impotence" - the only man in his triumphant masculinity, being supposed to be carrier of "power", creative force. I also emphasized the character completely refractory silenced common sense and reason of such assimilation visceral, from a package, when ideas and pictures

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that it creates are felt with such conviction and evidence that they are

p. 710

commonly taken as their own justification.

There is one aspect, however, appeared suddenly flash with the last word in the note "The funeral of yin" that has not been taken yet. Here are the lines that terminate reflection in this note:

"These are not the funeral of a person, nor those of a work, or even those of a unacceptable dissent, but the funeral of "female math" - and deeper even, perhaps, in each of the many participants applauding the Funeral Eulogy, **the funeral of the woman who lives disowned itself** . "

It seems to me even now that I think that this has been passed more or less in silence also in the case of my friend Peter himself, on which yet I do not lack facts first hand! If this appearance was so little now though, and felt perhaps by a careful reader, it must have been between the lines rather, while attention was mostly absorbed by the various angles of appearance "reversal of yin and yang "- (aspect that at first glance at least, appears specific to the person and the particular role of my friend in the burial). This failure reminds me that I must still (in a few days 2) talk the last visit of my friend, the October 10 to 22 (indicated in the note of October 21, promising me from return "in a few days." . .). This will be the best time, to me it seems to consider a last (?) Angle of the "reversal" - with the reversal of the original yin-yang balance **in the same person** from my friend. This is a **funeral** still some original features yin and he, under the guidance of yang traits appeared on the late and taking possession. I find myself here, in a new perspective and more 247 (*) And even among all the people I've known for only two exceptions.

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deep, before this striking finding which had already more than once imposed on me 248 (*) is that believing bury him who had been his teacher (who was still a friend), is none other than **himself** in reality he buried his hands!

So if I come back again to the "third level" or "bottom plane" to this "congregation" alias "com-mathematical nity, "the few lines quoted earlier suggest that I felt so strongly in the case of my friend Peter, may well be true for "each of the many participants applauded dissant in Praise of Death. "It is this aspect, it seems to me, that I

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yet to examine somewhat, p. 711

before I feel fully satisfied and to hold (temporarily?) completed the "bottom plane" (in addition to foreground) the painting of my burial.

(25 December) I took yesterday pretext that it was Christmas Eve, to pay me a real "get high" remaining on my notes until three in the morning past (once will not hurt!). It is true that the whole day was scattered in other tasks, and (proofreading made notes of the day) there was not much a few hours of the night, if I wanted to go on the same day. As so often, I'm eventually even managed to tackle anything of what I had in mind as I sat in front of the white paper! Instead, I made a little point where I was in the "table" of the Burial, and highlighted a aspect, in the "foreground" as in the "background level", which was still fuzzy: the "**burial the woman denied**" that lives in each of the participants in my funeral.

It is clear that in this quotation, the term "funeral" is used to designate an image act of **disavowal** and **repression** (or "discharge", according to an accepted terminology). For it to be question disown and repress something (in this case, something that "lives" in itself), it must first ensure that this "something" is alive and well, "living" (was it miserably). he

These are "the woman" in every being, whether woman or man, so the "slope" of himself formed traits, qualities, instincts, or forces of nature "female", "yin" in him. The extraordinary thing is this simple fact and essential: that in every being, man or woman, lives at once **and** "woman" **and** "man" - that fact still remains largely ignored. I myself only learned that eight years ago, when I was in my forty-seventh year ²⁴⁹ (*).

Certainly, this surely been ages that "psychoanalysts" the "know" and speak. Surely there full of books where it is discussed, and everyone has a little heard of, like myself had heard. And even, "everyone" is willing to admit that there must be some truth in there, as long as it is known to people who know them say, there are books written on it and all. But hearing about and be "quite willing to admit..." And even reading a

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book or even p. 712
about ten or even (me I venture to say) to have himself written one, or even several, implies by itself that "knows" the thing; at least not in a stronger sense and especially less useless, than a mere memory made formulas like "Freud (or Jung, or Lao Tzu...) said, that ... ". Such formulations constitute a cultural background, a kind of person card "Cultivated", "aware" of this or that, even sometimes (with degrees in the key) expert in this or this, and as such they can even admit have some "utility"; what is certain is that each it takes many, the baggage it has accumulated like that right and left, in school and in books, in "good conversation", etc., and it drags with it against all odds, as a trophy tinsel and cumbersome to the end of his days. If I suggested that sometimes irreverently precious luggage was "useless", I meant was: no need for a thing, anyway person 248 (*) This "finding" appears for the first time in the reflection in the note "The Burial" (n ° 61). 249 (*) See note on the subject "Acceptance (the awakening of yin (2))", n ° 110.
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does not care, and even that is shunned like the plague by everyone, namely, self-learning. Or for it another way: it is useless baggage to **take his life**, that is to say, also, to digest and assimilate substance of his own experience, and thus mature renewal. . .

If I had to summarize in a few words the essence of my long reflection on the yin and yang, it would be the "recall" of this "simple and basic fact," I've just remembered the moment. If there is a player that has followed me so far, and if he has not felt yet in terms of his own experience, that fact: that there in her "woman" even though he is a man, and there is in him "man", even if it is female - is that by this vain effort to me "follow", he would have lost his time overload luggage, probably already heavy, yet another weight, wearing the "Crops and Seeds" label. And if he is man, and then even he would not be part of the participants in these Funerals, which he had knowledge or suspicion before reading to me, there would yet safe bet that he, too, day after day and his own blind "bury a woman who lives repudiated itself "(like myself also had done once and for most Much of my life).

There are many ways for a man to "bury" the woman who lives in him, even as a woman to "bury" the man who lives in it ²⁵⁰ (*), that is

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ie: to disown and punish. One of the ways the
p. 713

more common to "bury" something that lives in itself, it is by attitudes or acts of rejection the same thing when it is apparent to others. This rejection is simply just the "gut reaction" I mentioned yesterday in a case. What gives the backlash strength ("gut"), it is **not** really (as I seemed to leave the hearing yesterday) because the thing rejected others will simply against a set of "values" that would have our full and undivided membership. He who knows "strong" is not offended by the sight of a "weakness". The driving force of the reaction is, however, that this thing, seen in others and "that has no place," **puts us in because we - even**. It is like a **reminder** insidious immediately challenged, something about us, deep down **we know**, even we would like to hide ourselves as others; a point which therefore takes the tone of an questioned mute and formidable. In such a context, a benevolent attitude of tolerance vis-à-vis the "Through" apparent in others appear to us as a dangerous collusion of admission, to be avoided at all price. For an attitude of rejection, by cons, we distance ourselves unequivocally on the other, we give sum convincing pledges (and first of all, the internal censor ourselves) that we ourselves are pure reproach, that we are and remain compliant and "good complexion". At the same time has **coast obedience** unconditionally to certain **standards** of values, distinguishing what is honorable from what is unacceptable, the backlash is also **symbolic act of burial**, whereby the thing ourselves "that has no place" is eagerly "classified" as something that "**is not**". **Not in us**, anyway!

In this table, the form that rejection, variable shape to infinity, seems inconsequential. it Perhaps the rejection outraged, with all signs of indignation or disgust, as may be rejection

irony or disdain "gently dosed". It can be expressed in clear words and unequivocal, as it can simply be suggested by allusive words or double meanings, even without words, by suitable smile (or lack of smile...), placed where appropriate. Rejection can be fully aware, as it can be confined in the darkness of this outcropping just under, or take refuge in the shade where ever complete the look penetrates.

The degree of rejection reaction is also infinitely variable,

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following the "implicated" in question

p. 714

250 (*) The same is true also for a man who "bury the man who lives in it," or for a woman who "buries the woman who lives in it" attitudes that are nearly as rare as one might think.

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is perceived as relatively harmless, or as formidable indeed. Those that may raise the strongest reactions, are "implicated" directly related to **sex**. This extreme susceptibility eased somewhat in recent generations. But I found that the nature of things

as universal aspects that said "gay" and "masturbator" (or, more kindly said, "narcissistic") of the romantic impulse, raise today as before rejection reactions of great strength. It

Thus, at least, little we will be confronted, not in an "interesting conversation" on the manners in Roman times or depth psychology, but in life every day. even between

four eyes, we rarely talk about events in his own person, of these aspects of the drive sex (usually felt as "blunders" a little embarrassing, to say the least).

In this case I'm interested, rejection reactions which I had faced before my

from the mathematical scene, were certainly not of comparable strength to those I have just mentioned just now. It is true that the purpose of the rejection, namely, ways of being and doing "feminine" when we are

CENCE be "men", although a "sexual" connotation, in a broader sense than

linked to the mere mention of the doings turning around "the fat" and the rest. I have no doubt that this connotation one was generally felt, at an unconscious level ²⁵¹ (*). She was, however, likely enough

discreet and indirect, to exclude reactions so slightly brutal, going beyond a simple "reservation" to regard to my "serious", my "strength" as a mathematician. He added that it the area where my room is

"Through", namely a purely intellectual activity, contributed to give it an appearance relatively ment innocuous, far removed (qu'iriez you so look there...) from any disturbing association and scabrous

man-woman making her belly dancing by rolling up her skirt! That does not stop after my first contacts with the mathematical world (in 1948), it took nearly another decade for the reserves

aroused my style, even within a caring microcosm eventually disappear - disappear my view, at least. The situation changed again after I left, because a mood

kindness, friendship and respect towards me has also changed suddenly (without me knowing still account during the six years that followed) by what was felt by that microcosm like

a "dissident", and as a repudiation.

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I'm not sure, frankly, if this change of atmosphere was really as "sudden" I just p. 715

say. Or rather, I find that I have little facts in hand, allowing me to get some

idea **how** was done, after I left in 1970, the change I saw myself confronted suddenly

(this is the case this time to say), 1976 ²⁵² (*). It is true that I had not had contact throughout this time with the world that I had left, that could make me feel a certain "temperature" and

evolution. What is clear to me is that in this process, the attitude of the group of those who had been my students, and their leader incontesté Pierre Deligne, played a decisive role. The Burial

could not take place, and the atmosphere that has attracted could be established only by a "unanimous agreement" ²⁵³ (**) and seamless, encompassing both the "three shots" of this Burial: "The Heir" (aka the Great Leader

²⁵¹ (*) See in particular about the note "The funeral of yin (yin yang bury (4))", n ° 124.

²⁵² (*) It was, I remember, during my unsuccessful efforts to get to publish the thesis of Yves Ladegaillerie. It is issue of this episode in both notes "We can not stop Progress" and "Coffin 2 - or sectioned cuts" n ° s 50,

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²⁵³ (**) For the first appearance in reflection of this finding a "unanimous agreement", see Note of the same name (with uppercase!), n ° 74.

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Funeral), the group of "heirs" or "close", formed by eleven other "before students" and finally

"Congregation" (perhaps still not "whole" - it will come back...). How has developed and implemented this triad is still unknown to me, and perhaps will remain so. Now I am meaning no incentive to fathom, and I doubt anyone else will do it for me (on the contrary!). It reminds me that in writing the previous note "The providential circumstance - or the apotheosis" the question had touched me **that** finally the two, "The Congregation" or "chasseur the priest," he represented **the** implementation mistress force in the burial, the other would have been sort of "instrument ment" ^{254 (***)} I did not stop me then, not being sure even if the question made sense. - she had me although the air look like the famous question of the chicken and the egg! What is certain is that none of two (the "priest" or the "Congregation") could not do without the competition of the other

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to implement the

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Burial.

Another question against which it seems to have a clearer sense is knowing which of the two was most strongly invested in this work there. It is true that "the Congregation" is not a person, it is improper to speak of "his" investment in a task. But it is also true that for me this personified entity takes concrete figure by ten or twenty **people** that I have known, with each which, for a decade or two, see, I was followed and friendships. So when I speaks of "investment" of the Congregation is the "sum" of investments of all, of these old friends, who have been involved for my funeral, I think concretely. Thus specified, it I think the issue has nothing to rhetoric.

The answer that comes to this issue, without nuance of hesitation or doubt is **is no common measure** between the investment of "heir", and that of the Congregation - nor, moreover, than there are in an ordinary funeral, and all the more so that the legacy is important in the eyes the heir (when nobody in the congregation has nothing to gain for himself), and links (Attraction or conflict) that attach it to the deceased are strong and play in his life a vital role. Yes doubt there is in such a situation, it can hardly come from the presence of "heirs" among relatives of the deceased. (So it is here in the "background" rather than the "background" formed by the bulk of the Congregation.) If that interests me, the only one of these "close" and joint heirs whose role he played at my funeral could be a weight comparable to that taken by the principal heir Pierre Deligne me seems to be Jean-Louis Verdier, playing the role of Second Officiant for Funerals. This name is then not free, because more than once during the burial, I've actually seen one officer and one with a perfect set! But as I have written elsewhere, apart from certain public acts of JL Verdier I know little about it since we lost sight; too little, probably, for me to an idea so little detailed the ins and outs of his relationship to me, or its relationship to its prestigious "protector" and friend.

Note 153 (December 26) In the reflection of yesterday I tried to clarify this intuition, appeared "flash" on November 10 that "each of the many party

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participants "at my funeral, they represented the ENTER-

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surely symbolic of "the woman denied that lives by itself." When I spoke here and speak again of "individual" participants, it is an expression a little cookie cutter, it may be best not to take entirely lies at the foot of the letter. I believe, at least, that this intuition is indeed right for everyone ^{254 (***)} I recall that in the thinking of May, in the note "The Gravedigger - or the whole Congregation" I had realized that my friend had been an "**instrument of collective will** of an absolute coherence". The lines that go track does not really contradict this intuition, but rather complement, leaving open the possibility of some symmetry in the relationship between "congregation" and "the priest jumper".

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those (and they are many surely) held in so little this "visceral reaction of rejection" towards My particular style in mathematics, reaction has been the center of my attention during the three days passed.

It is clear on the other hand that such a reaction was **not** present in my friend Peter, or at least, it there was trace, on the contrary, in the five years preceding my departure. This is the **kinship** deep My mathematical approach style with his own style to it, which led to a communication as perfect during these years, and has also been the cause of this unusual affinity between us in terms mathematics, affinity that he and many others have felt, as I myself felt. It is This relationship also was involved, surely, this **fascination** that my person and my mathematician work exerted on him, not only in those years (which she expressed "positive"), but also in the following years and until today (where it is expressed above all "negative", but so equally eloquent ^{255 (*)}). I have no doubt that if there had been the slightest reservation, the least discomfort vis-à-vis my work style and mathematical approach things in those early years, I would not fail to feel it.

It is true that from those years, my friend has tried, whenever possible, to clear vis-à-vis from outside the role that was mine, with him, not least that as one who had taught him and transmitted something weight, which he held important ideas for his work - and even more so, to erase also this affinity relationship, or even fascination. After I left, there was gradual escalation in disavowal of myself, not only silence, but also the allocation vis-a-vis my disdain style of work, and also vis-à-vis many of the ideas and concepts that I introduced. The first record of such a condition that I be

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known is placed in 1977 on the occasion of "SGA operation 4 1

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" 256 (*). P. 718

I have not tried to follow step by step the progress of this escalation, and I do not feel inspired to do (as I said yesterday already, to a nearby issue).

This repudiation of the near approach of style relative of his, and a work which is his end, akin although to a **disavowal of himself**. Thinking sometimes this disavowal of my style and my work (as I remains mostly under the impression of five years of mathematical close contact before my departure from 1970)

I was willing to minimize, not to grant him a meaning somehow **tactic**, as a

means particularly tempting to replace, and, to satisfy antagonists impulses, seizing

the windfall of some "providential circumstance." This is indeed in effect bell sound the note of it

Three days ago, "The providential circumstance - or the apotheosis" (N ° 151). And I just remembered, that in the years before I left there was no trace of vis-à-vis its rejection of provisions

own style or mine, is going well also in this sense, and not in the situation discussed yesterday: that of a disavowal of "the woman who lives in yourself" (albeit, among others, through a certain approach to mathematics), disavowal would have **existed prior** to the implementation of the Burial.

This prevents the one who chooses such means, and he likes it or not, **pays**. This "assignment

contempt "of a certain style, to be operational, was to be played, not only vis-a-vis others,

but above all, **vis-à-vis itself**. But we can not disavow, to others and to oneself,

a "style" which is also deeply his own, **while practicing** as if nothing had happened. This "denial

tactics "of others, by the logic of things, through a disavowal by a **repression** of a part of oneself

even - in this case, by the repression of the mathematical approach to style that is his, by the

255 (*) Or at least, this fascination has been at the origin, strength in "positive sense" (the **identification** to that felt

as similar) of the two forces that have played in the development of this ambiguous identification relationship, conflict, to my person.

256 (*) See in particular in this regard, notes "Two turning points" and "clean slate", n ° s 66, 67.

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original nature of the creative force in him.

This finding does not come here as the effect of a direct perception of a fact. It is the culmination a short reflection, making use of known facts by pulling the "conclusions" of common sense. I learned to be careful with this kind of conclusions (especially outside of mathematics!), and not to trust me if they are confirmed afterwards by other

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facts. But I remember here, opportunely,

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I had been brought in terms of what is known to me the work of Deligne, to find that one finds mark on this work of certain inclinations (nature "yin") by my friend, who were well apparent yet

in the years before I left, and I also recognize in myself. I express myself so

detailed enough on this in the notes there is one month (26 and 28 November) "Yin and the Servant

new masters "and" Yin Servant (2) - or generosity " 257 (*) The most important of these things perhaps.

be is a certain humility, which shows (and describe without fear of having silly) things all

Simple, all beasts, which no one had deigned attention. The best things

I myself have made in mathematics 258 (**) are precisely of this water. Most or my work,

nor that of the man who was my most brilliant student, would have been written if I had disavowed this penchant then my nature, which did not sit well with everyone yet ... This propensity (or what "addiction") is

closely related to another, otherwise its effect would remain very limited. It is an attitude of humility again,

and "service" when it comes to knowledge and describe delicately and from all sides

this new thing despised by all, not finding her too precious time to devote ten pages are

if necessary (instead of just two lines: that's the thing - you will do what you want!), or

even ten thousand to spend a whole day (a man who does not yet lack other cats

whisk. . .), Or a lifetime, if necessary.

When I spoke of "new worlds" to discover, on a slightly haughty tone perhaps, is nothing other

as **it** I was talking: see and receive what seems small, and wear it and feed the nine months or nine,

the time it takes, in solitude, if necessary, to see grow and flourish and vigorous thing

alive, made itself to generate and design.

If this propensity, might be called "mother", is now subject of derision, it is the "benefice" "attitudes perceived as" manly "which tolerate a n possible type of approach to mathematical tick: the "muscle" to the exclusion of "tripe". The "real math", also called the "hard math" (or "math **hard**"), as opposed to (unsavory) "soft math" (or "math **soft**", not to say softened bouark!)

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it's demonstrations in ten or fifty pages tight, theorems au contest

p. 720

(Proverbial difficulty, or is not the game!), By firing on all - all the theories and concepts "Well known" and all the facts available to the right and left. When the "wood", it has to be there, is here for! And in terms of those who patiently cleared * who sowed, planted, smoked, pruned, throughout the seasons and years to grow and deploy these spacious forests trunks slender, so for them (where it was the dense and impenetrable bush) you would think they are there since the creation of the world (as undoubtedly funds decor, and as reserve "any wood"...) - these people, who are only good at laying articles-river (when it's books or series-river-river book-river, if they are foolish enough to print publishers), and unreadable even the bargain, they are retarded "soft math" if not "plates" - but it was nice to be manly one does not less polite. . .

With this beautiful flight, I believe suddenly returned to the starting point of this long meditation on

257 (*) These are the notes n ° s 135, 136. It is also necessary to attach the sub-note to the second note cited (n ° 136).

258 (**) On this subject the sub-grade n ° 136 cited in the footnote to previous page.

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yin and yang - the very first note of the beginning of October, "The muscle and tripe (yin yang bury (1))" (n ° 106). This is the same burial yet at no parade and the sound of the bugle, what is "feminine" buried by disdain male arm Iron-alias Brain steel alias Superman. This burial place has not that in the small mathematical microcosm, for sure, and it goes beyond any individual case, which may however, serve to breathe in the smell of a roughly. And that smell there is a key lesson that gave me the burial, which I figure deceased before the age.

When I restrict even more the scope of my attention, and attach myself to the special role played by my friend Peter, I see the burial yet another sense. This is again a **reversal** that I discerned. As I announced yesterday, without thinking that would come back so early, that is, not a reversal ment in a **relationship** (real or fictitious) that connects to others, but a reversal takes place **in his person even** . It is not sought for its own merits (like object, perhaps, a "mad desire"...), And it merely more to be purely symbolic (then only after a magnificent conjuring trick, one who felt "dwarf" does not thereby cease to feel dwarf as much as if he had not just persuade himself that he had become "giant". . .). This is a reversal, I do not say irreversible, but at least perfectly **real** . He leaves a harmonious equilibrium of creative impulses

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"feminine" and "masculine", p. 721

with a female dominant note. It leads to a state of war and repression, where **attitudes and poses** (egotistical like any attitude or pose), flying the flag "manly" stubbornly repress the **creative force** , derided and "buried" symbolically in the form of a flange and grotesque effigy, the features of the "Superfemelle".

In terms less nuanced but more graphic and more striking perhaps a being "**female**" end and vigorous, flexible **living** , has been transformed by a permanent conjuring trick in a be "**manly**" indémolis-sand, stiff and **dead** .

18.2.11.5. (F) The staging - or "second nature"

Rating 154 (1 January 1985) Five days have passed, taken by various occupations. The end of the year was or never to write letters in suffering for weeks or months, not counting some cards good wishes, in response to those received in the neighborhood of Noel. It was also necessary, with the manure back for two months or three already, and vegetable waste from the garden and défri-drying, or reduced from the municipal landfill, build piles of composting for good compost ready for the garden in early spring. As the land is sloping, it was necessary for that remake terrace additional, next to that already provided for composting "day to day" of household waste. With all that, I hardly found time to work on my notes, unless the stewardship work. I read again with great care, still making a few alterations here and there, the overall reflection from the party "Master and Servant" (therefore since the note of November 24, "The reversal (3) - or bury yin yang" (n ° 133)), adding footers notes already planned for the last notes fortnight. he was mainly to have a manuscript ready for typing, but regardless of any practical question, This replay was useful to find a set of reflection for the four or five weeks passed. As is the case also in mathematical thinking long-term, while "Time" especially thinking where I am daily is placed under the beam strongly focus of keen attention, the "thread" of reflection and sinuous line that followed in the weeks, see

the past months, tends to get lost on the way, to drown and dissolve in the wave of darkness.
I can not tell if this is a general fact in any long research work

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breath, or is bound p. 722

this systematic mechanism "burial of the past" in my life, which I had occasion already to
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reference 259 (*). Still, over the days and weeks, even months, of a long reflection, there
home has lost touch with the earlier stages of it, resulting in a growing unease

In work. This discomfort finally resolved by a retrospective more or less thorough of all
work that has been done, for what recovers again the contact that had gradually released.

I observed that these "stops" retrospective play an important role in my work. Each time I leave
with a new wind in the sails, relieved of this "discomfort" which reported to me a progressive loss of
overall perception of **continuity in time** of the work that I am pursuing. My mathematical work,
is not rare, if not the rule, such a backward lead me to rethink thoroughly the
work already done, and see a new perspective as well as the work done than that to 260 (**).

But whether a mathematical work or a meditation on my life, the "malaise" of which I speak is
always the sign of an understanding that is imperfect, not only (and rightly so) that the work in-
Core to do, but also the understanding of what has been done during the past work. this imperfection
can not be reduced, in fact, a failing storage each of the various stages of reflection, and
in chronological order (accessories relatively aspects also when it is a reflection mathe-
matic, where the object of attention is a mathematical situation, foreign itself to the peculiarities
mental one who examines it, and the vicissitudes of this review). It seems rather a sign of a fault
unit, an **integration** insufficient for all partial understandings emerged as fruit
successive stages of reflection. These partial understandings also remain imperfect or hy-
pothétiques, as long as they are integrated into a vision

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Overall, they light up

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mutually. To use the image still a **puzzle**, investigation of an unknown substance is similar
work to assemble a puzzle whose pieces are not given in advance, but must be discovered
during labor. What's more, each update room at first appears as a wave form
and approximate or grossly distorted relative to the shape "correct", still unknown. Work
"Local" of reflection is to identify the pieces one by one, and try somehow to guess
contours of each, guided especially on internal coherence computations with the examined part,
or thereto and other, neighboring approached. But each of these pieces reveals its true nature and its
precise and final form, once they are assembled into the overall picture still unknown
which they originate. The "discomfort" I was talking about is the one who tells me in the presence of a multiplicity
parts perfectly spotted, posing in a pile more or less informed, it is time for the
Finally assemble - or as if assembly (more or less partial) there was already, that it is still by
too fragmented, or is lopsided and must resume completely. To find **the** good assembled
wiring, the chronological order in which I came across the puzzle is probably something often
accessories. But to take the pieces one by one hand (and in that order, for that matter) in the
provisions of one who knows that they have to assemble and waiting that they each put in place
that is his, is probably an essential step of the work, to see finally assemble into effect.

The "last word" in the previous note (for some six days) trying to identify through words some
strong impression on me - that of a **metamorphosis** that would be operated by my friend Pierre to over the
years, during the fifteen years that have passed since I left the mathematical scene. I

had seen signs scattered here and there over the years, sometimes left me stunned, but at no
259 (*) This mechanism is Inrush at the "tipping" that took place in my childhood, I was set in 1936 (then
I was in my ninth year). He alluded to this crucial episode in the structuring of me in the note "The
Superpère (yin yang bury (2)) "(n ° 108), and the sub-grade n ° 108 1 .

260 (**) For further reflections, similar to the role of "retrospective" casual in a long process,
also see the second part of the note "Retrospective (1) - or the three parts of a picture" (n ° 127), especially the
Note rage there that refers to it.

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time (as far as I remember) me to dwell, to get an idea **of all** what is
happening. It must be said that while sniffing a "wind" and played a particular role that my friend (with
the reasons for including burial, which I visited many a confused account (*)), I was very far from
suspect's funeral major myself and all of my work my

Friend was orchestrating sensitively. It is the gradual discovery of this burial at p. 724 the past year, which was finally the **shock** strong enough to move inertia in me and for me motivate to "ask" finally a situation that seemed buried in the mists of the distant past. It is So also in many different arrangements of some "routine" provisions that were mine during our past meetings in attention aback provisions, I received my friend during his recent visit in October. It was during this visit that appeared this impression, or rather perception a sudden this thing for a long time probably, and I was pleased me so far ignored: the perception of this "metamorphosis" - the very one on which I fell in a different way reflection of the previous note. If I found again this impression, this time through what is known to me the mathematical work of my friend, it is surely not by sheer chance, but guided by what was taught for two months already direct contact with the same person. Strength evidence of this impression of a metamorphosis, resulting in a "being" manly "indémolissable, stiff and **death**" could certainly come as a result of a discussion comparing and assembling facts (or partial impressions of another nature), but only by an immediate experience, which remained unspoken. And this lived remains unsaid at this moment 262 (*).

In the previous note, I write that this "reversal" (in the person of my friend), or the "Me-metamorphosis" (in the words appeared in

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the "last word"), was not "looking for his p. 725

own merits", adding more brackets:" in the subject, perhaps, a "mad desire" ... "

(Reversal of this desire, therefore, which was mentioned in the note "The nerve in the nerve - or the dwarf and Giant "). However, by reading the day after the discussion papers, I was not so sure, or if my pro-
pos deliberate **oppose** these "upsets" I discerned in the Burial was really founded.

After all, in the image of the dwarf and the giant, the "giant" embodies (as I pointed out more than once) the values "masculine", and "dwarf" is overwhelmed by the de-values "female". And even as this image **lies** outside the person of my friend, it is plated on its relation to another person (me case), it does not prevent it however has no "objective" existence outside of himself,

it is on the contrary the **projection** on the outside (on its relation to Doe) of a conflicting reality that plays in **none other than himself** . To put it another way, the image of the dwarf and giant appears

the **staging** symbolic of the **real conflict** is played in deeper layers than those in which lives

the image, which conflict is none other than the eternal **conflict between the "sides" yin and yang of person** .

261 (*) (30 February) to echo this sentiment, which remained at the unformulated and diffuse state (until the discovery of

"Burial in all its splendor" from April 19 last year), I particularly noted the occasional allusions in

Part of Crops and Seeds (written in February and March last year), the fate of the concept of **reason** , especially in

Introduction, 4 ("A Trip to the continuation of obvious things") and in the "Dreamer" (n ° 6). The formulation of this

precise feeling considerably in the last pages of the final section of this first part, "The weight of a

past "(n ° 50) from the passage" I could consider (read: Daniel Quillen) "Letter to...", which was a turning point

suddenly in reflection. The first "notes" raised by the latter stage of thinking that day, and above all the double

Note "My orphans" and "Denial of inheritance - or the price of a contradiction" (n ° s 50.51), written in late March, are a little "point" what was previously perceived in a diffused state, about the fate of my mathematical work and a "Wind" fashion towards it and my person.

For a description of a particular form had taken this "general feeling" in relation to the grounds, see note "The tomb "(n ° 71) and that which follows," A foot in the ring "(n ° 72).

262 (*) (30 February 1985) It remains unsaid at this moment, while I yet come to finally make the story of the visit

My friend, in the note "The accomplishment - or the moment of truth", n ° 163.

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Such **externalization** of inner conflict, which must remain strictly secret, is also

one of the few all-out processes used by the unconscious to "evacuate" to the extent possible

the original real conflict by substituting another seems more "acceptable", or at least less disturbing.

In this case, the image-chosen lightning rod itself remains unconscious (I presume at least); and even,

I would think it remains confined in relatively deep layers of the unconscious, but

But closer to the surface that knowledge of actual conflict. (This is another fact that

"The place" of this "knowledge double face" which was mentioned in the note "Both knowledge - or fear of knowing ", n ° 144.)

This suggests that this "mad desire" recalled parenthesis in the preceding note, that " **to be this giant then itself** , or at least to **go for it** , "- that this desire is the **transposition** " externalized "

in terms of image lightning-dwarf and the giant, the desire for a "metamorphosis" in itself; a

metamorphosis if not real, at least apparent - or the predominance in its being perceived as

unacceptable, the predominance of tone "yin" (perceived as "soft" and despicable), would be

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"Reversed", turned into a predominance of tone "yang" or "virile" (felt as "heroic"

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and as the only ones worthy of envy). Far from opposing so slightly by their intimate nature, these two desires I now appear as inseparable, one being as a shadow, as **the symbolic expression** and tangible another. As for the "metamorphosis" that I ended up charged on visiting my friend (better better late than never!), it appears as this has the **realization** or fulfillment of this desire "foolish" and compelling; the fulfillment, not through the intervention of a providential grace, but long-term effect the stubborn will of the "boss" to "rectify" to **reshape** according borrowing lines, and to impose these same traits to the worker-child (which, one suspects, is never consulted for such operations, typically "boss").

I noted in the previous note the character of **reality** in this "reversal" -There (or the "metamorphosed phase "). I discern more clearly now the nature and limits of this" reality. "This is the reality of a **poses** , trying to mold in a pattern, felt like the ideal. The choice of model, ie the kind of poses adopted, probably well before we met. But I think the invested energy and dispersed in this pose remained minimal at this meeting, and in the years that followed. There has been, I think, a sudden and drastic change in the dimensions taken by the investment, by "chance" Extraordinary created by my departure; the first start of my institution (where overnight my friend had to show himself as having surreptitiously **substituted for her "rival"**), and shortly after my departure from the mathematical scene. A second aspect of reality, most important yet is that by virtue of an enormous investment, this pose finished well and truly become " **a second nature** . "That's right, this" second nature ", which I have seen during our recent meeting. It is weighted with a huge inertia - just as was the case for my own person. This has not prevented, in my case, a renewal to occur; and it occurred to me, does not detract from inertia in my friend, opposing a renewal itself.

This reality "new" that has developed in him gradually has not "solved" the conflict in him, nor the occupation of a country by a neighboring country not "solve" the conflict. Rather, the conflict in my friend is "frozen" in a "balance of power" and there are chances that it will remain until the

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the end of his days. We can say

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no doubt that the structure of the self, that is to say the mechanisms of behavior, have indeed changed, sometimes strikingly. Such changes, however, imposed by the will of the "boss", do not change nothing in the original nature, the creative forces of the worker-child. They simply akin to shackles imposed on the worker, who has to manage as it can to work anyway, under the eye

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mistrustful of the "boss" when he takes his hand tools, to show the worker what he has to make !

That does not prevent the company to turn and return, and the boss, roughly, is happy. There is a dirty atmosphere for sure, but like most bosses, he has thick skin and does not let enter, the moment that returns remain good.

18.2.11.6. (G) Another self - or and conflict

Rating 155 (2 January) For over a week, since the note of December 24, "The disavowal (1) - or recall "(n ° 152), I feel I have almost completed the forefront of the table '

Burial. And no - three times already, it took me back on the point or another that not seem quite clear, just three words to add, no doubt, to make a final point on a last

i. And each time, this "final point" kept me busy for an entire evening, so it turned out that what seemed "not quite clear" remained the same rather obscure, and it was not a luxury to be go back and find his own lighting. I suspect he will not be otherwise today,

then I propose to return to a (last?) point touched in passing in the note "The disavowal (2)

- or metamorphosis "(n ° father 153) This is one of the unique aspects of a relationship where I play the role."

adopted "the appearance **of identification** (" unambiguous ") My friend to my person. This is mentioned in three or four lines, in a note footnotes cited in note. There is no question in this evening

but the next day rereading the notes of the day, I feel that I must return. Returning reflection last night, I thought also follow up on that, but ultimately it is another "final points" remaining outstanding from the previous reflection, which kept me busy late into the night.

In the many times in Crops and Seeds I have been led to note, in relation to such friend or student, an adoptive father or appearance

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adopted, it was every time on the occasion of the appearance of p. 728

conflicting traits in this relationship. Also, without deliberation, were the aspects **of conflict** of such

"Paternal" connotation relationship that were the focus of my attention and were underlined. I felt

although in such a relationship, there is always a more or less strong element **of identification with the father** ,

with the only caveat that this identification can sometimes take "negative" form, through identification with

the "negative" (or opposite) of the image of a repudiated father 263 (*). This knowledge remained in the background without intervene visibly in reflection, while yet bringing his hand to diffuse apprehension

and the formation of a still blurry image, informs of a particular relationship. I speak once, I believe, and in general terms, in the sense of identification, at the end of the "Enemy father (1)" (n ° 29):

"... it was the reproduction of archetypal conflict to the father: Father both admired and feared, loved and hated - man it's face, to conquer, to supplant, humiliate perhaps. . . but also one that secretly we want to be, strip him of a force for to endorse - another Self, feared, hated and fled. . . "

It is hardly necessary to say that in these lines, written on the occasion of a "retrospective of my past mathematician, "if there was a case of specific species that has guided my pen writing was that of relationship with my "heir" occult and former student-who-says-not-his-name, Pierre Deligne - at one point, though, I had no suspicion at the conscious level at least, of the Burial at large orchestrated show

263 (*) This was particularly the case in relation to me three of my son, not "adopted" for once, let alone "Adopters". . .

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by him! By reproducing the moment these lines written there are more than nine months, I was struck how well they seem to prefigure and "call" (sort of) the image of the dwarf and the giant, which seem have formed and materialized for the sole purpose just to give tangible form to the intuition that comes from express it. Yet there is little doubt in my mind that it's not in me chroniqueur-researcher, that the image is formed, but in my friend himself, and it is none other than her I like the 264 (**)!
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The conflict identification appears clearly in the words "He also secretly we want
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be "and, even more strongly and without equivocation". Another Self "In the Dwarf and image giant, as it came from my pen on 18 December (in the note "The nerve in the nerve - or dwarf giant", n ° 148), it is question of" insane desire **to be this giant then himself**, or at least to **go for him**, "lines that seem to come in response to" Whoever secretly we want to be "city at the moment. But this time I stop there (every day at a time!), A not so below even the "other Self-even "came nine months earlier as a matter of course! It is true that this time, as he is a "Work on parts" in a case all that is specific, it is to be far more careful and cautious that in a context where we pretended (not mine!) to launch a general statement, which would concern anyone in particular. . .

But considering the matter, it is true that it is a small step indeed for the unconscious hungry satisfaction **symbolic**, he can afford to blows mental images of his own making, between "mad desire" (and obviously considerable force) to be this or that, and **the act of identification** with that even we want to be. For identification, for it is unconscious or so little credible and for the satisfaction it brings can be enjoyed with minimal sense of security, must still probably it has the guarantee of certain characters 'objectives' resemblance to the person (In this case) to which it identifies. I guess in this case me, to my friend's relationship me, the first "objective nature" likely to foster a sense of similarity, and an act of identification, was the strong affinity between his approach and mine our common mistress mathematics. This would force "positive direction", "the identification with that which is perceived as **similar**," which was mentioned in passing in the page footnote quoted at the beginning of reflection today.

Yet, as I have had occasion to report several times already in the reflection on the relationship between my friend and me, in the early years of this relationship, he did not fail to perceive aspects of imbalance "superyang" in the character I camped since childhood, which for ages became my "second nature". I can not say whether, at a conscious perception, my friend was able to clearly distinguish between these two completely different aspects of myself. (I tend to doubt it.) Still, the superyang aspect of the "boss" in my company
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have prompted him
p. 730

two types of distinct reactions. The one, the only one I have seen until recent months, and the only conscious in him (I presume), was speaking at the occasion by an attitude of a little trouble regret that I had opportunity to discuss, attitude that never left the friendly or affectionate tones. The other reaction, looking more closely, appears itself as "ambiguous", consists of two components meaning apparently opposite. One, "positive", is in line with a **recovery** without reserve my person, as the embodiment of "values" heroic, "larger than life"; generally accepted values certainly is likened in his early years as the air we breathe, but in the immediate surroundings childhood probably did not provide him with "model" so little inspiring. This component it while like the feeling **of affinity** (of any kind) which was mentioned earlier, was in

264 (**) On this subject the last note footer in note "The nerve in the nerve - or the dwarf and the giant", n ° 148.

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the sense of **identification** with my person, without antagonistic element. This mating element enters against the other component, or better, the other side (or "**reverse** ") of this identification of which I have describe "**the place** ", and it remains for me more enigmatic. This is probably the role "father" that My friend assigned me, by my compliance with a certain "profile" ideal supposed to embody such values, plays a crucial role. In trying to fathom groping, using some very tenuous evidence I have, the root cause of the strongly antagonistic content of this identification with an "adopted father" (the very traits "Superpère"!), I had fallen (there are two weeks) on a "scenario" plausible but remains hypothetical, in the note of December 30 "Grudge stay in - or return things" (2).

This is not the place to come back to this scenario. It seems more interesting to me to see the image "on dwarf and the giant "(which had appeared in the note of the day before), in view of this identification conflictual My friend to my person. It therefore appears that both protagonist in the picture, the dwarf as the giant, **are none other than itself** , or rather **two different aspects of himself** . "Saw" is what is felt by my friend as **the original appearance** and "immutable" of his being, one rooted in its infancy as far as it has in memory and perhaps even beyond. . . This is also which is felt as the banal look insignificant, if not derisive of person. This is **the aspect disavowed** , and by the same token, it also felt like "incurable" as "overwhelming" as **pole shameful** and despicable of his being. "The Giant" by cons is **the ideal** dizzying we despair of never reach

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which can at best hope to be like any little bit, even deceive p. 731 oneself as to others, by all means at its disposal. One of those ways was to supplant Him which appears as the prestigious and coveted embodiment of this ideal, and to "prove" his superiority to Rival by every conceivable means. As for the giant himself, he now appears as a separate and Rival Father, it is **the aspect hyped, the ideal pole, heroic ego** . The supreme gratification of the "boss" that is all that is likely to fuel the illusion that it **is** indeed the ideal pole, this projection a mind eager to expand. But the same gratification cravings that reveals a concern, "doubt deeply buried "- it tells us that the person" is not fooled, deep inside himself, these signs dummy of importance, a "value". . . " 265 (*).

On a more superficial level of the psyche, these "fake evidence" 266 (**) are nevertheless part of the "character-terria (more or less) objectives "which was discussed earlier, supposed to" make credible "an act of identification an ideal model (as it remains under the impersonal form of "Giant" faceless who lives in himself, or it takes the familiar face of the enemy Father, Rival).

18.2.11.7. (H) The enemy brother - or execute (2)

Rating 156 (3 January) Yesterday afternoon, taking advantage of a small peak time pending the passing of friends, I leafed in the autobiography of C. G. Jung, that a friend had brought me just in case. I was strongly hooked by the little I've read. This is the first time I held a Jung text between hands, and until now I had only vague idea of it - a dissident pupil of Freud, who knew (from scattered echoes that came back to me) reintroduce shifting chiaroscuro of mystery in the straight paths of the Master. It stopped there, pretty much. There I felt a living person like you and me, which moreover do not waste time to bring it back, especially: one that will entitled to the real issues, those

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he feels essential to its own lights, and do not just p. 732

265 (*) Quotations quotes are taken from the "infallibility (of others) and contempt (of course)", n ° 4.

266 (**) These signs might be "fake", they never stop less often by forming a "second nature" of fastness foolproof, "indémolissable" (in the words of the late word in the note "The disavowal (2) - or metamorphosed 605

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(When the question Adventure is old as the hills) all cooked responses of the learned people. The aspect "biography" (for publication) course interested me particularly, since the notes I'm writing are similar although a little biography and a nearby spirit that of Jung outside event remaining constantly subordinated to the inner adventure, he is both a developer, and the occasional pacemaker. I was struck that Jung wrote an autobiography (Or more accurately, has contributed to a biography) at the age of 83 years and above: only any earlier time in his life he had bothered to thoroughly examine his own childhood. It would have seemed to me that for Freud's students, it should go without saying that the first things, if not first, to learn the ways of the unconscious, it would have been explored in said channels their own person! There are even clear to me that a so-called "knowledge" of the unconscious which merely what is learned in a university curriculum (even if taught by a prestigious master as Freud himself), and analysis of a number of "clinical case" remains an unintegrated knowledge

a fragmented knowledge "dead" - a knowledge that by itself does not provide, nor even promotes understanding self or others, or the world.

But it is also true that an exploration of his own person is a company that, by nature, can not be a "program" institutionalized - no more than the restoration in its very root, a disrupted psychological balance (in a "patient", say) can not be the result of the intervention of a "ogue" whatever it is, merely implement technical boilerplate. The "disturbed balance" is not limited no stage, socially unacceptable, the occurrence of a depression or neurosis, but it can be seen in almost everyone (to a degree rather **more** than less deep). The Psychologists themselves (or anthropologists, sociologists and other "ogues") and of all persuasions, there are no more than the others! And a true restoration of the disturbed balance is not in the nature of a simple "medical procedure" intervening in another person. It is **an act of the person himself even** and no one else - **an act of love**, he is free to do or not to do. This is not the result the inexorable unfolding of psychic mechanisms (with or without the intervention of the expert are mechanical psychic), but an act in the full sense, a **creation**, a **re-birth**.

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Before I finished writing the peremptory sentence above about the "so-called" knowledge "

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unconscious, "I follow realized how context can make it appear presumptuous. Without know nothing of the work of Jung (which he had been speaking), I look to send on roses and its "so-called" knowledge of the unconscious - the moment he had apparently not bothered (Before age 83 years) to explore the soil which had red his own unconscious to him. Presumably yet by reading his biography, it appears that, without being dedicated to such an "exploration", Jung was well have **more** contact paths with his own unconscious (which tracks themselves are probably remained long unconscious), surely the beginnings of the offending statement does not apply to him. Another thing to another order me aback flipping the glossary. The term "quaternary nity" (NB this is the French edition), Jung emphasizes the character" total "number four. There a dozen years yet, I was very resistant to the idea of a philosophical or use "mystical" of numbers - any speculation or speech in this direction seemed nonsense, childish, the "Hokus-pokus" (as we say in German, for magic tricks in four). The little I learned about the Ching (or "Book of Changes") made me less conclusive. Yesterday I made the connection between the "cosmic" character attributed to the number four and the spontaneous group who had been in writing "The key of yin and yang "in" packages "usually four or eight notes, united under a common title. The phose "n ° 153)!

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first group is reduced to a single note; it is true, but (I had noted with satisfaction the ending sixth group, "The yin and yang mathematical" which includes seven notes instead of eight) by bringing it to a subsequent group, which this single note seems to fit most naturally, there are still a bunch eight ratings ($7 + 1 = 8$), therefore even a multiple of four. This "pattern" has continued until now, The last group is completed the group 10 "Violence - or games and the goad" (156 1). It must be said that from Group 7 ("The reversal of yin and yang") I have been guided by the "pattern" that had emerge without my seeking, and without seeking it or assume it a "meaning" other than some "Regularity" in mathematical form, felt as harmonious.

This reminds me of the only other text I wrote on a theme that can be called "cosmic" still focused on the dynamics of the

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yin and yang in human life and in the creative act ²⁶⁷ (*). This text ^{p. 734}

has grouped, seemingly deliberate about initial and surely effortless è no time following a Digital rigorous scheduling. I had forgotten what it was, but looking at the time (it is curious or you do not!), it turns out there are seven "stanzas" four "stanzas" each. It is therefore still a grouping of four who had done. It is true that the number of stanzas is seven, which is not a multiple of four - thus according to the Jungian criterion, the entire character is not satisfied for all of the work ²⁶⁸ (**), but only for each of the seven "stances" within it. But there I what draw me again, as the famous "poetic work" was also provided with a providential "Epilogue" (not counting a lengthy prologue, I had the sense to drop), we still have $7 + 1 = 8$ we are saved!

It is time to return to the discussion yesterday where I had left. I tried to understand the image of the dwarf and giant friend, in terms of its identification with my person. It appeared that "the dwarf" and "Giant" represent (or "dramatize", in the words of the note above that of yesterday)

the two "**poles**" extremes in the person of my friend (I mean that the "boss" was **established** as "Extremes"): a "shameful and despicable pole", and another "ideal pole, heroic." A "truth, with Unlike focus or lighting, here I agree with the interpretation found the day before in the same picture dwarf force and the giant, in the note before yesterday "The staging - or" second nature "" (n ° 154). It was then the "staging" of the conflict established by the boss, me, between the two "sides" yin and yang to be.

This formulation of the original conflict, in terms of both "sides" would correspond to a knowledge not distorted in this conflict - and I am convinced that this knowledge must exist indeed, in layers deep (but not inaccessible) the psyche. The formulation in terms of two "extremes" came yesterday, represents a **distorted view** of the conflict - a deliberately distorted by the boss, rewarding one of the "slopes"

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into a "pole" ideal, heroic, and devaluing the other into a pole again, p. 735
extreme opposite the preceding, a shame pole contemptible. I presume that this intermediate image lives in shallower layers, intermediate, partially cohabitation perhaps with externalized image, "Staging" of the dwarf and the giant, even closer to the conscious surface and partially overlapping with the surface layers 269 (*). In these last I remember, rule the idyllic image of "Papa 267 (*) This is the "Praise of Incest," which was discussed in Note ° 43 (referring to "The Guru-Guru-not - or three-legged horse ", n ° 45), especially in the note " The Act "(n ° 113), p 507 -. 509. See also the beginning of the note " The dynamic stuff (the yin-yang harmony), "n ° 111.

268 (**) The projected work (under the provocative name "Praise of Incest") was actually comprise three parts (Innocence, the Conflict (or Fall), Deliverance (or rediscovered Childhood)), only the first has been completed. From it he is here.

269 (*) This presumption regarding the image of the dwarf and giant comes, of course, so the explicit expression of the image, in the last word of the biography of Pierre Deligne written by himself (to which reference is made in the last footnote page to note "The nerve in the nerve - or the dwarf and the giant", n ° 148).

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cake "somewhat softened the edges, a respectful son and full of kindness, the conspicuous velvet and invisible claw velvet flower. . .

Compared to reflection before yesterday, that of yesterday seems particularly qualified it, and by the same token brightening somewhat contours without making him still nothing essentially new yet. It is true that stopping thinking because of the prohibitive time, I did not feel arrived at

After the direction in which I had committed, that of "unambiguous identification". Looking back after Suddenly, I realized that as a result no doubt of inveterate habit of "yang see me," he seemed self-evident to me that, when identifying ago with my person, it can only concern yangs my face. Here, in this scenic image of the dwarf and the giant is in the **giant** up Now that I had recognized, in a distorted form of course, but still clearly recognizable. Yes yet I am presented with insistence, by effect of the syndrome of "reversal" by my friend, as "**Dwarf**" 270 (**), this assimilation (visibly malicious intent) was immediately rejected by I, for a universal natural reflex and a great strength: to be confronted with a willingness to derision, taking as target lines (yin, in this case) perfectly real in me, while ignoring additional features as real (which have, themselves, rewarding consensus) - such situation raises in me the eternal reaction, if not entirely deny the offending lines, at least minimize tacitly, by putting forward, as for their **opposition**, unfairly retracted features. For this "visceral" reaction between I well and truly in the round of conflict, just like I'm supposed do it ! She tells me that eternal

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"Hook" which was taking me to train in the round. My

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own vision of reality is also distorted in response to a provocative distortion. Also it is in vain I wrote yesterday, lip (or keys of the typewriter), that

"The first" objective nature "likely to foster a sense of similarity and an act Identification was the strong affinity between his approach and mine our common mistress mathematics".

He more so, by writing, to forget that this "affinity" consisted of an approach **yin**, **feminine**, in the discovery and the knowledge of things - that this was the appearance, in fact, by which, as "similar" to him, I also like apparaissais **dwarf**, like him, was the secret side, vulnerable, ashamed, he reserved to bring into play when the best time would appear to supplant and "overthrow". This "providential circumstances" 271 (*), the predominance yin in my drive for knowledge, it was **not** only a **weapon** in the hands of a dubious friend - it was also and first of a kind the "objective basis" for its identification with me; not this time, such as identifying the **father**, but like an **older brother**, if not an "older sister".

When I use the term "objective" is to express it is a question this time of "identification" rooted, not in one of the fictions of "boss" wanted (or fear...) to be this or that, but in a **really** deep, tangible, unmistakable - that of a **relationship** between the original nature of the one and the other. In any case, surely this relationship could not fail to be perceived by him as by me, and I doubt not that at some deep level, the **direction** of this relationship was also seen. And I presume all less without having full conviction, that this perception had indeed used material in his identification with my person. This identification would be done on **two levels** distinct: a

from the level "ideal" in which I appear as the embodiment of **values** which he would himself a
270 (**) This "dwarf" he mimes being other than a metaphor of "Méganana" the traits of a "false" giant shapes and flanges
ramomo. . . (February 85)

271 (*) See the note of the same name, n ° 151.

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exemplary embodiment (albeit only in appearance, while the model seems out of reach,
and is supposed to perform well and truly ideal); second level "real", or identification is established in favor
a **relationship is** correctly perceived, but a kinship of common traits deemed

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prohibitive, p. 737

miserable 272 (*).

It's time to remember that at the time of our meeting, and for over ten years even after
one, raging within me that same repressive my features "feminine" that I finished recently
by see my friend. It seems, in retrospect, that at the time of our meeting, this repression
My friend already existed to some degree, but mostly remained dormant, and in any case, was much
weaker than it was at home. As I pointed out more than once, my person long
was marked by a superyang imbalance, while his off a harmonious printing
balanced. There were home and home since then the **changes in the opposite direction** : an evolution going,
my friend, a yin-yang equilibrium state to a strong imbalance yang, and at home, a strong imbalance
yang to a steady state (relative) yin-yang.

The idea that comes immediately is my friend, by virtue perhaps this dual identification my
person, followed (with thirty offset years!) changes in the sense of a deterioration of
original balance, I myself had followed since the age of eight. It is possible that overvaluation
moderate "manly" to the detriment of "feminine" values values will be transformed in my contact or
contacting the medium to which I belonged, in a zinc-stranded overvaluation. But as I pointed out
Moreover, the "nerve" (or "force sharp") in the Burial orchestrated by him, and also in its own nerve
metamorphosis (which is also the burial of the child in her care by the boss...) - this nerve can hardly
reside in the mere adoption of one or another system of values, more or less extreme (or even,
insane!). And so it is with the "nerve" in identification with my person, and in the role that excessive
this identification has played in the life of my friend. No doubt this is one and the same "force" that is
the work, and its roots go far as a child 273 (**).

Another strange idea comes to me here. It seems that the greatest burden

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I dragged forty percent. 738

years of my life, this repression of the "feminine" in me by the "virile", which was similar as that of the child
in me by the "Big Boss" - that this burden has been "**taken over**" by my friend, just at a time when it
might seem that it was itself exempt from a similar burden. It was around the time my system
values tipped towards yin evolution that prefigured the moment of reunion with the child,
fifteen years later, when I suddenly felt relieved of a great weight 274 (*). The association
that comes here is immediately one with the Hindu idea of **karma** . It is clear to me that over the eight
recent years, I am relieved me of a substantial part of the karma that I was hanging out with me from my
childhood. I would have thought (and I still tend to think) that this relief has not made "at the expense" of
anyone, it is beneficial not only for me, but "for the whole world." I can even say

I **know** very well that this is so, even though it would appear that another chose (or even, a
another had to choose) to regain his account. It is also true that karma which I am relieved, I do
not consider himself a "wrong". It was for me the nourishing substance of **maturation** , that was before
272 (*) These two "levels" therefore correspond to two "archetypes" distinct, and here in opposition to each other in the identifi-
cation to my person: the father (aka "giant"), and that of Brother or that of the Sister (aka "the dwarf"). The latter
also found in the image of the "Dad-cake" - suggested by the father in the flesh "as" alas, not "as
should be". . .

273 (**) For a more detailed insight in this direction, see above note "Grudge stay in - or return things" (2), n °
149.

274 (*) It is about the "tipping" value system in the note "Yang plays the yin - or the role of Master" (n ° 118) and
the "reunion" in the notes of the same name (n ° 109).

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me. I know it is good for me and for all, while I eat and be nourished in me, that knowledge is
is formed in the feeder matrix of ignorance 275 (**). It seemed to me that that substance or
karma, once transformed into knowledge, left no residue, it disappeared. Actually, I do not know
what is taught about Hindu or Buddhist tradition - if for it a law of "conversation

karma "(similar to that of the conservation of matter), that law was not altered by the creators vital processes of ingestion, digestion, assimilation. Scruples of propriety, I just retract among these "vital processes", **excretion**. This is Yet (as well as the death of the whole organism) a key process of recycling that was absorbed, returning to the endless cycle of transformation of the organic matter "dead" organic matter alive, for what ever life reborn Death 276 (***)).

Rating 156 1

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(February 30) This "pattern" ended up breaking with the ultimate n ° 12, which has unfortunately p. 739

six notes, bringing the total number of notes that make up "The key to the yin and yang" at 62. I had expected that there would **eight** notes in this group "Conflict and discovery", which would have agreed with all the criteria, and would have increased the total number of components notes $64 = 8 * 8 = 4 * 4 * 4$, which is also the number of hexagrammes the Yi King! I was sorry that my expectation is not realized, but did not want to much "cheat" and included in "The key to the yin and yang" notes Games devoted to the visit of Pierre Deligne home, which the natural place seems rather later in "The Funeral Ceremony", ranking **after** "The key ...". I remains a feeling of dissatisfaction about this group n ° 12, the only one of twelve parts of "The key..." that does not leave me a printing **unit** of inspiration and about. This lack of unity seems due to me, not the theme "Conflict and discovery" itself, but the irruption of foreign events (and at times disturbing) during reflection.

(March 7) Rereading last night thinking of January 14, I had bundled in a note (n ° 162) called "knowledge and belief - or execute" 277 (*), I felt a dissatisfaction with that name. On the one from the "main" title and the subtitle does not look, "the look" to assemble - in fact, they corre-lay, one on the first and the other to a third "movement" in reflection, which by themselves are seemingly unrelated: description of the process of the emergence of a knowledge (as a **conviction** **tion** sudden), and evocation of the endless chain and the "handover" of karma from one generation to another, and from one person to another. In addition, the most intimately personal content, the "nerve center" for my content own person, which was the substance of the "second movement" of thought (and was also the "Gateway", passing the first movement in the third) - this crucial content did not appear in chose the name. (There is also no doubt to me that this surreptitious retraction is by no means the ef-fet a chance. . .) As the three issues I consider important each by itself, and I do could watch no name or double name "well come" that would evoke all three, I finally com

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p. 740

it would be best to split the bill into three, with a suggestive name for each separately: "Conviction and knowledge ", " The most burning iron - or turning ", " the endless chain - or award (2) "(n ° s 162, 162', 162').

It's afterwards that I realized, suddenly, that by this operation, dictation (so to speak)

by the substance of the discussion, had to solve the same time the dissatisfaction "aesthetic"

I was hanging out for almost two months, while the twelfth and final part of "The key of yin and

275 (**) For reflections along these same lines, see the end of the note "Cycle" (n ° 116), and in particular the last paragraph thereof.

276 (***) On the cycle of life and death, see the note "The Act" n ° 113.

277 (*) It was also the last note of "The key of yin and yang."

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yang "(which I called" Conflict and Discovery ") persisted in not wanting to be complete (so natural, of course) into a sequence of **eight** notes, and not wanting to have the six that were already written.

And I received my reward for not having given in to the easy temptation to "cheat" and "paste" at the end of "The key "two notes" at random "and whose place was elsewhere! This last part of" The Key "(which will eventually be called "The Enigma of Evil - or conflict and Discovery"), takes the same time, a beautiful symmetrical structure, with two packages (three notes each) on the central theme, grouping themselves around the two "note digression" Fujii Guruji on monks and my friends.

18.2.12. Conflict and discovery - or the enigma of evil

18.2.12.1. (A) Without hatred and without thank you

Rating 157 (4 January) In the reflection of yesterday and before yesterday, I tried especially to find contact reality of identifying my friend in my person, and thereby to discern the scope and implications.

This is work I did as a still groping in the dark, if not in the night

black. Or perhaps should we rather say that my eyes are closed, and my eyelids are opaque to

light that I remain unable to perceive. Still, I did not remember having any time of

relationship to my friend "felt" or "seen" this identification, any more than I have "felt" or "seen" its provisions

antagonism towards me. I **know**, however, without the possibility of doubt, a rich set of facts concordant

dent that this identification with my person, and this antagonism is like a shadow, are **realities**

- like a blind man "not" the sun, daylight, colors, light and dark, exist, even though he has never seen them. He knows, without the **knowledge** of these things. Or if however, a very diffuse knowledge, through a touch more refined sense may (or a "memory" which is not rooted only in his life but in those countless generations

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gifted beings of view p. 741

that preceded it), this knowledge remains indirect and droll, like a warm voice and sound we reaching a distant and uncertain echo.

The work done in these last two days has been even as a stopgap, as the substitute-haired perception Immediate tion is lacking. This is more or less in any work "meditation" in the sense that I

hear. The work constantly **pushing** against the tide of **inertia** -from the inertia of leaden eyelids!

Surely, in the moments when the eyes are fully open and awake, it is no need for meditation,

working: just watch and see. As those moments are rare, rather than fold my arms

waiting for them, I prefer to take the lead, without worrying about the work is clumsy and "slow". He may be slow, and sometimes even slower than usual - never provided it tramples nor circular.

When there is work, real work I hear, motivated by a true desire, then there is progress: something

is taking shape, transforms imperceptibly at such a moment, visibly such other ... And sometimes,

after a clumsy and stubborn rise in darkness without shape or contours, continuing

for hours or days or months or perhaps years, the miracle occurs: the blind **see** !

And what is seen is not a fleeting vision that disappears as if it had never been, leaving only

the droll trace of memory. It is a **knowledge** born of those obscure labors, a new acquaintance,

as intimately as our taste for things we love.

I wrote in reflection before yesterday that if there was a case whose thinking was "guided my

feather "it nine months ago, writing the final lines of the note" The enemy Father (1) "(I had just

quote), it was that of my friend Peter in his relationship to me. Still other "case" more

close to me then had to be present in my mind, backward land of reflection. When I speak

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a "father both admired and feared, loved and hated" and of "another Self, feared, hated and fled ...", the words "fear", "hated", "hated" and without doubt the word "fled" apply **not** to the relationship of friend

Pierre to myself. Or by direct perception, so fleeting and slight as it is, or by subtraction from

of patent facts known to me, I never had any indication along the lines of **fear**

my friend would have been me, or hate, or just an **animosity** that would have fed my

against. It's the opposite

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that is true, as I have had occasion more than once emphasized. And it is this

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circumstance that made precisely so disconcerting that antagonism flawless, free appearance

which manifested in crescendo throughout the fifteen years, under cover like "thumb", alias

"velvet paw" ²⁷⁸ (*), to finally reach the pitch of a quiet impudence, safe (provided

to comply with certain forms) total impunity. . .

This disconcerting rise, enigmatic, immediately associated with the progression just as "disconcerting

aunt "and" enigmatic "(and these are, for once, euphemisms!) in the degradation that has for-

followed over fifteen years also in the couple's relationship with the one that was my wife, and

by backlash also in the family we had founded. In the absence of any sign that would have me

reported by my wife hate provisions or chronic animosity towards me, it took me ten years

inexorable deterioration in the relationship (whereas most of my energy was taken by the mathematical,

playing the role of the famous sand pile for the ostrich. . .) Before finally acknowledge the presence in the

I continued to love, the will to destruction tenacious, mysterious and implacable, exercising my

through against those who were dear to me. It was 1967, five years before leaving the family home, and

Ten years prior to resolves this conflict for me that I felt like the heaviest weight I had

to bear in my life. With the perspective that gives a relationship for a long time assumed, I can only see

which continues to remain a mystery to me: an insatiable desire for destruction, and at the same time

no hatred or animosity only vis-à-vis those, adults or children, who are struck without mercy,

as long as the opportunity arises.

It is the same mystery, relatively speaking, than the one I see now confronted me in

the relationship of my friend to me, with this difference, that this "stubborn will to destroy ... exercising

against me through those who are dear to me "is strictly confined to the plane of the world

mathematicians, and its instruments and hostages were not my children "in the flesh", but those who

took the place symbolically assimilated the students and who, ever so slightly, "wearing my name." In one and

the other case, I not only detects hatred or animosity, but again, there is in me feelings of

sympathy and even affection often, who can not-doubt.

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These are not the only situations I've faced in others a desire to injure or

even a will to destroy (in the strongest sense of the term ²⁷⁹ (*)), without my detects trace of hatred or animosity. Whoever has the most strongly marked my life is in 1933, in my sixth year with my mother as protagonist - the year the **family** that we were, my parents, my sister and I was destroyed forever ²⁸⁰ (**).

The different situations of this kind I have known closely, destruction of will, or will wound as deeply as we can, without my reveals no trace of animosity, seem

²⁷⁸ (*) See the two notes "Go!" and "Velvet Paw - or smiles" (n ° s77, 137), and notes that follow it, forming the part "claw in the velvet" of "The key of yin and yang".

²⁷⁹ (*) For "the strongest sense of" here I mean a desire not to suffer for the sake of hurting or destroying such a thing Limited would be expensive to the other, but the will of psychic destruction (if not physical) on the other; that (when possible) to establish a permanent and devastating despair before "what is beyond belief." Behind the brilliant exterior and the affable "Symposium Pervert", I thought finding this extreme dimension two of the brightest among his players. . .

²⁸⁰ (***) See about this episode "Suprère" footnote ° 108.

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very different from each other. I doubt they could find an "explanation" that is common or at least one common trait in distant antecedents of the protagonists, that suggests a causal link deep ²⁸¹ (***). One more important thing may be an explanation, and more important in any case, it is already **to the finding** of the existence of such a thing: **the will to destroy in the absence of hatred** . I join here the theme of "gratuitous violence", previously approached by a different bias ²⁸² (****). Here it is gratuitous violence (and sometimes destructive) **vis-à-vis a loved one** or a person considered "friendly" it is. The only **existence** in the life of every day, of such violence (which rarely told his

0 name), is a **fact** important in everyone's life - one of the important facts of human life. See this ^{page. 744} Actually, by going against the inveterate mechanisms that continually push us to want to retract, is a first step to take. It not, no theory, no reasoning, no "approach" can not we make to the economy.

I do not know if one day I **will understand** that fact, no I think the understanding is also "understand the conflict. "What is clear to me is that such understanding can not come from a " theory ", not more than an "experience" (simply by virtue of the experience). It is not a "sum total" of accumulation (of "knowledge" or "experience"), as it is not the order of the intellect alone, nor even the order of the single "intelligence" ²⁸³ (*). I'm not sure to know someone, if only as name, who lives in such understanding. But I think the one that, after a hundred and a thousand dodges before an undeniable reality and the thousand faces, has finally arrived in one **statement** of that fact, humbly, without bitterness or rebellion, without resignation and without indignation - as the finding of a formidable **mystery** may be the meaning of which escapes him, but he senses the extent and depth; a mystery or intrigue calls out, without scare or worry - this one has not lived in vain.

18.2.12.2. (B) Understanding and renewal

Rating 158 (5 January) unless it was premeditated, final accents of reflection yesterday were quite in tones still a Funeral Eulogy - but decided this time (or sung) by the deceased himself.

One is never better served than by yourself!

Yesterday I saw myself confronted again one of the most confusing aspects of the "mystery of the conflict": that of destruction will without hatred and without apparent reason, exercising in the shadows, stubbornly and tirelessly, against a relative, or such relatives or friends. It happens that this will eventually by race, by leading to a destructive cravings in all directions, where everything is as vulnerable becomes a welcome target. It's like an irrepressible bulimia "action" in reverse, which the repetitive nature (such as clown games), and consumed the mastery in the art of pulling the strings, may be an effect of the more comical when the observer (or even one just pay the price) is endowed with the sense of humor,

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and that the "actor-puppeteer only has on others only modest powers. The ^{p. 745}

situation is more serious, it is a result, when there are children of those who bear the brunt of

²⁸¹ (***). Yet self-contempt, virulent and deeply buried, is probably common to all these situations. Maybe SHOULD CRANIAL it such virulence (when it does not resolve by an act of grace through a deep inner transformation, so

as long as it is not "assumed") finds outlet and is expressed by destructive acts by a desire for destruction, which turns against his own person when it seeks and finds its target in others. At more than one and more than one and up among close ones, I have many times seen the simultaneous action of a will to destroy, as directed against

self, as against such external target, selected from the relatives (mother, father, spouse, or child...). (February 1985) View also the reflection in "The cause of violence without cause" (n ° 159), three days after that of this note which clearly This was prepared.

²⁸² (****) See footnote "The ingenuous violence," n ° 139.

²⁸³ (*) (March 5) I know in any case that such understanding will come to me only through an understanding of this violence then **in myself** .

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circus games, even if they are "bloody" and figuratively; and also when the man or woman owned by a thirst for destruction is strong powers or discretionary on some of its similar. History tells us the names of some despots possessed of such destructive madness indiscriminate, transforming their stronghold into a vast mass grave. One thinks of Ivan the Terrible or Stalin, or such Emperor of China (which I have forgotten the name and the millennium) that eventually he, from being shot by his own Topics cornered, armed with sticks and piles ²⁸⁴ (*). No doubt that there has been in our country for us cases similar in smaller scale perhaps, on which "history" was more discreet. . .

When I wrote yesterday, without any false modesty, that I did not understand the "fact" that I had made the observation, that of the destruction of thirst in the absence of hatred, this does not mean that I had no idea about it, quite the contrary. I even clearly better than just "ideas", but although some strong intuitions. They were born and grew on the soil of my life, full of conflicts had seemed the sometimes devastating as endless storms unleashing a motionless landscape

Winter,

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unceremoniously snatching what should be ripped ²⁸⁵ (*). But everything belly to the sleeping earth

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waiting in silence. When spring returns the hollow to the great dead trunks lying there inert, here crawling with intense life, and spring after (when it is the same year) we are already seeing the blossom herbs and flowers.

These "strong intuitions" all concern, I think, the "**ingredients**" of the conflict. I spoke so little, and speak again, some of them, and first of all, the "**self-contempt**," and its ties with the repressive some essential aspects and strengths of our original being, such as "watershed" yin or yang, one often is denied. I had often occasion to speak of the **vanity**, which is like the business card, the sign the most universal of all, and most obvious, the presence of the conflict in us, and that strikes me as "**The place**" of the same coin, including "reverse" is self-contempt. There is the **contempt for others**, projection to the outside of self-contempt, he is also a blanket, or rather, a derivative and an exorcism. The contempt of others is not something else, deep down, that deliberate ignorance of its existence, as a being with feeling part of this world, as well as ourselves. Gratuitous violence can

²⁸⁴ (*) This emperor, fearing a popular uprising, had forbidden people to the use of all metal objects (such as LYING cakes, forks etc.) that could be used as weapons, except a knife through the village, attached by a strong chain in a public place.

A common feature of the three mentioned characters is that in addition to the destruction of thirst, they were also owned by the **fear**: the fear of being murdered and beyond it without doubt, fear their own **death** inevitable - while they sowed death all around them. This coincidence is certainly not coincidental. I also note that Stalin (the only three on which I had so little information circumstantial) started a political career as a great teacher just in the art of pulling strings, to manipulate people by playing on their vanity and greed. His first style was acquired that, apparently, the "velvet paw" until it became unnecessary for him to take the trouble to hide claws.

If I have not included my (former) fellow Hitler among the examples, it is not because of a particular sympathy I would have for it, but because I do not detect in him this mania for destruction "**all-out**" which was discussed. The targets of contempt and destruction were those designated as "others", "foreigners": first "Jewish" (And the Communists and other "Judeo-Bolshevik" dear to Nazi jargon), then the "Asian" and other non-Arians wogs. The good German Jew was not all that has cushy under Hitler, at least until the first big raids times Allied air, when the war started really badly for them.

²⁸⁵ (*) Just that image recorded in the momentum of the pen, it occurred to me that it is only partially correct - it would almost an aftertaste of "snapshot"! By asking for a moment on this aftertaste, I found the old deliberate in me "See my life yang": movement, arrow and storms. . .

Without even taking the time to ask, but felt that the image was wrong (and yet it was her who I was come, nothing to do), I "corrected this" in the text by linking the "sleepy land waiting in silence" - and here the yin! That was the agreement that "solves" a "false agreement" (or "dissonance"). A picture in many respects more than just the storm, "snatching what should be ripped" and in the most yin tones precisely, would be that the worm gnawing "what must be eaten" - and finally collapses - but everything belly to earth waiting in silence, and when comes spring... (Continued without change!).

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germinate and proliferate in the field such contempt. There is the **fear of knowing**, fear of reality, a fear which the nerve center, the "Black Point" epicenter of a whirlwind of anguish ready to fire at the slightest alarm, is the fear of knowing: the fear of gaining knowledge of its own poses and subterfuges, even coarser; and also afraid to learn about the creative force in us day after day

we reject and bury, by the same poses and tricks.

In my life, fear appeared at the age of six, when there was still (me it seems) no vanity. It has had to appear until later, when (presumably) the "tipping" held about age

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eight years ²⁸⁶ (*). And it is also the fear that missing the first and without a trace, from the apparent p. 747

pearance of a curiosity both benevolent and irreverent, intrigued but certainly not impressed by boggling and gruesome montages big show, like "Black point" and Co. Mechanisms the vanity ; by cons, remained in place with no apparent change in eight years that the fear of knowing has disappeared. This is only the influence of these mechanisms on my life has changed, because they are defused at times of the presence of an awakening curiosity, who do not easily taken in like that!

I've got to hand a variety of ingredients of the conflict - which I know first hand and without shade doubt that these are indeed the ingredients, and essential. And for years I have everything in hand too, when I please, to "assemble" these ingredients, by explaining carefully in the light of what I have observed in myself and others, links of contiguity and dependence. It's a work of some days or weeks, even months, I suppose, and that will surely be very informative and very helpful.

If I have not bothered yet to do so, giving away prioritize other directions more direct personal, it is without doubt that I knew that this is not such an "assembly" of ingredients, the general terms which my person is absent (except as an "example" among others), that could come me "understanding of the conflict"; no more than the mere fact of putting side by side, to "assemble" or even mix a number of simple bodies, "ingredients" in the composition of a body compound, n does reconstructs the latter. For the "reconstruction" is done, it is first necessary that a "reaction chemical "takes place - something by contacting and game ingredients far more intimate way, and by forces of a different order, a simple "assembly" or a mixture could do.

It is the same for an understanding of the things of life. Intelligence alone can, in a pinch, identify the ingredients of such a thing as the "conflict" and can in any case, in the presence of ingredients already known and with the facts concerning the (known first or second hand), assemble a how plausible and even "correct". Such work may be useful for them to recognize the opportunity in a particular conflict, bring out a "etiology" more or less accurate - but it is not there yet an "understanding of the conflict." I would say by cons I have progressed a step towards such an understanding, the day my **relationship**

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conflict will be transformed When I speak here of "my relationship to the conflict", it is p. 748

First and foremost, of course, the conflict in my own person, and (from there) the occasional conflict nally opposed to one person or another; and lastly, the conflict that I see beings act close or less close in my life every day, which often expresses itself in conflicts between one to another among them.

Over the past eight years, there has been such a progression towards an understanding of the conflict, ie also: transformation, or rather, successive changes in my relationship to the conflict.

I had the opportunity to mention two or three episodes ²⁸⁷ (*). Perhaps a full understanding of the conflict equivalent to a full acceptance of the existence of the conflict, wherever they are, and however it

²⁸⁶ (*) About This "tipping", see note "The Superpère" (n ° 108).

²⁸⁷ (*) See in particular in this regard, the two notes "Acceptance (the awakening of yin (2))" and "slave and puppet - or valves", n ° s 110, 140.

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manifest ²⁸⁸ (**). I am far, obviously! And perhaps also, a full understanding of the conflict means as the total resolution of the conflict in his own person. I am beyond!

I think though know one thing, about the nature of the force, an assembly of ingre-ents, is suddenly arise an **understanding** that renews the person. It is this force that it just is not "in the order of intelligence." I doubt that any intellectual work whatsoever, reading, say, books, so learned, profound or sublime as they are, nothing stimulates its appearance. When he happens to gush, it is only in silence and in contact with what is most intimately personal in our person and in our experience; something, therefore, that no book and no one, even a Christ or Buddha, not can ever reveal.

When I say "what is most intimately personal," this does not mean that these are things we can not talk to ourselves or others - and sometimes it is good to talk. But we speak by the voice of angels and the prophets, what is **said** is not the thing itself. This thing already known but buried perhaps, whose touch can suddenly spring a new acquaintance, **this** then something is **known** neither angels nor prophets, nor even be the closest and best loved, but for **you** only.

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To return to the conflict, and the "destruction without hatred", which appears to me as the "core" of the hardest p. 749

conflict, the more resistant to an understanding, that is to say also: an **acceptance**. I also understand, the next step in front of me to enter further, what **is** this thing "most intimately Personal "which I will have to first find the contact, which would act in the case of the famous "Black Point" so tenaciously evaded! It is the experienced situations of "gratuitous violence", contempt others (and "without hatred destruction" too, perhaps), in which it was **me** the actor - who was violence, who found his account to despise. It is in contact with this reality there or not, I will have the opportunity to get to the bottom on the famous "self-contempt," and **see** finally, without any "Probably" and any "may", if this is indeed the deep root of evil, not just "all but me" !

18.2.12.3. (C) because of the violence without cause

Rating 159 (7 January) Reflection in the two previous notes revolved around the mystery of existence the strange thing: a desire for destruction (or wanting to hurt or humiliate, or harm) in the absence of hatred and animosity. The incentive for this thought came to me by the relationship My friend Peter to me, immediately sparking association with the relation to me of my ex-wife. More than time in thinking about the burial, I have come to realize, or remember, that in both cases, as in others, they are certain traits in me, traits "super-manly" than I have grown in me since the age of eight, which served as pacemakers and "attractor" for such antagonists impulses. If I am not mistaken, it is discussed for the first time in the note of October 5 "The Superpère (yin yang buries (2))" (n ° 108). This link is included in the following note of October 9 "The reunion (the awakening of yin (1)) "(n ° 109). In this note, I return to the time when, for the first time in my life, I've seen this link. It was October 18, 1976, the day of reunion with the child in me, and in the final lines of the notes who witness this important day in between all my adult life. In these lines (reproduced in 288 (**)) The meaning of such a "full acceptance" can lead to countless misunderstandings. It is of a different nature a connivance. It does not exclude the **refusal**, clear and unequivocal - it contains. On this subject reflection in note "The joint - or the enigma of" Evil "" (n ° 117).
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Note cited), I talk about the "secret hatred and resentment" of three women I had loved, including the which at that time was still my wife (then only five years I did not cohabit with her). With In hindsight, it seems that in all three cases I had in mind, this print
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"secret hatred" p. 750

did not correspond, as such, reality - I mean, in a direct perception that I would have had at no time 289 (*) of such hatred. What I had seen, and what I had ample opportunity to experience the effect was the destruction of will or desire to hurt, or hurt, both sustainable and apparently inexplicable free - something I had **interpreted** as a sign of hatred, "secret" because never expressed. I also believe that two of the women he was question is in these lines cited for the first time since I
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had known, I was the finding of what I saw p. 751

as a "secret hatred." At the point where I was at that time, it was not possible that I did not make the confusion that I have just mentioned. This confusion does not diminish the importance had to do this, in me involving myself so equally crucial that these women which I was closely linked.

As for the "resentment", referred to in one breath with the "secret hatred," I felt right from time if "some force" superyang in me drew on me the resentment of each of the three women was yet to grievances which I was in no way responsible - for injuries and the damage sustained "long before they know my existence in the days of a clueless Private loving childhood. "This perception, which had settled over the years as a result of an intense lived, surely had the effect of an invisible guide my thinking on 20 December in note "in Spite stay - or return things "(2) (n ° 149), which appears intuition that this same process **moving** an initial resentment, or a "grudge for holiday status", might well have occurred to my friend Peter, around the time of our meeting or perhaps even before. The facts known to me make at least plausible that insight.

Yet there is an important difference from the case of my ex-wife, and the two other cases, including there was talk in meditation after the reunion. I did not feel, in fact, that

289 (*) (March 6) After writing this, I remembered that there was yet in my married life, two episodes, the first few days, the second a few minutes, I felt assaulted as two beams of hatred, gushing eyes of her who was my wife.

The first time my wife went through what is called (euphemistically) a "nervous breakdown" in the courtyard of the cinquième year of our marriage (1962). This episode has profoundly affected the lives of the couple and the family atmosphere. It is also the time of my life, of all those I have kept a conscious memory, which was experienced as the most atrocious, and me most deeply (as it was supposed to do).

Unless an indoor seating exceptional stability (as lack of maturity, I was far from being so), whose hatred

we are the target, and this even more when it comes from loved ones and loved ones, our psyche devastating, when she arouses in us a similar hatred and destructive vis-à-vis ourselves. It seems that something in us must at all costs find a "direction" to "what is beyond comprehension," this "meaning" even if it were a condemnation and rejection final of ourselves by ourselves: since we are hated (and even as the "reason" that hate us totally escapes. . .) Is that we are hateful. . .

If I was to the point reached by this episode, which remained like a sword of Damocles hanging over my life in the six or seven following years, surely it came into resonance with a violent traumatic experience of my childhood. This one had disappeared from conscious memory, but it was even more acting whenever I saw myself confronted suddenly with a malice or an inexplicable hatred - all too sudden and inexplicable that this desire for destruction that had me assaulted at the age of five years, whereas from the person of all that, as far as I went up in my memory, was the peaceful and safe center of the universe.

This is one of the important things that I've finally learned in my life, malice or hatred which I happen to be the target, I'm not yet not the **causes** real and immediate (even if certain aspects of my person, I will disown nor rejects, contributing to attract me). This knowledge however remained too epidermal during even years, to defuse this mechanism deeply rooted in me, coming into play when I confronted me a malice or violence apparently "without cause." To defuse it, he will be first necessary that I was in his root and I go in the footsteps of those days and nights of these forgotten and heavy anguish when my mother became suddenly mysteriously and inexplicably, a foreign, hostile and fearful. . .

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Children My friend was so slightly "crippled" or "deprived of love." This difference seems to me to manifest in the tone of the antagonism of my friend to me, that at no time has reached this pitch of **vehemence**, which I was so familiar in the other three relationships. Also in the relationship My friend to me, the appearance of signs of antagonism was first extremely discreet and sporadic, and even after I left in 1970, it took another eight years before this antagonism is expressed so direct and unmistakable against my person itself ²⁹⁰. This seems to correspond to the existence of a "Resentful" initial remained diffuse, weightless, without the presence of a "core" corresponding to hard feeling (it was hidden from the conscious look) contempt or a wrong suffered, felt like perhaps irreparable be. . .

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In referring, in the penultimate note, the desire to destroy, or that injure or harm in **the absence**
p. 752

hatred and animosity, the thought came to me (with some emphasis) an apparent contradiction, which I thought back pronto. It's this one. In both cases that were the center of my attention, implying that that was my student (and my "heir" mathematical presumptive) and that was my wife, he had been question of a "grudge" unconscious they had carried on my person. The very idea a "grudge" or "resentment" seems related to that of a "hostility" or "enmity": it would want to say that resentment (or resentment) is one of the possible ways (and more common) to feed animosity. And this statement is certainly justified, in the case of a grudge that could called "direct", a "real" grudge motivated by a **grievance** (real or imaginary) vis-à-vis the person concerned, a **wrong** or **damage** that it would have imposed us. But n cases that occupy me, it's not such a grudge that this is but an indirect grudge, "**proxy**" so ie, delayed by an initial potential target, inadequate for one reason or another ²⁹¹ (*) to a "**target adoption**" or replacement, which appears "fit" the needs of the case. The remarkable thing, is that such "moved grudge" (this is the case to say!), which acts as **the** persistent strength in action behind the attitudes, behaviors and actions of such a nature that the

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seems driven by a hatred

p. 753

or animosity "without cause" - that such a "grudge" is yet **devoid of any feeling of hatred or animosity** ! This is also the combination of these **two** aspects of "gratuitous violence" in the strongest sense of term (the one I'm looking at here) that makes it so disconcerting point, as something that truly "beyond comprehension" ²⁹² (*): the complete absence of any "cause" rational and tangible violence, both in the one who pays the price (without having caused by attitudes, compor-clothes or hurtful or harmful acts for the other), than in those who exercise (without being moved by ²⁹⁰ See on this subject the note "Two turns" n ° 66.

²⁹¹ (*) There are many such "reasons" that often that whoever (intentionally or not) has caused injury or inflicted damage or yet "inadequate" as target of rancor or animosity, even hatred or a desire destruction, indeed aroused by him. The most common, perhaps, especially when it is the mother or father, or person considered unattainable by his rank or social position, is the dam of fear to break taboo authority internalized long ago. These are dams with great force. (Vis-a-vis me, they trend since fifteen years and more, to fade. . .) In the opposite direction, it may happen that the person cause "does not make the weight" to satisfy a grudge to the size of wrongs - it appears too insignificant, too evasive or cowardly perhaps, to be worthy of the role that otherwise would be his by right.

Finally, I can also imagine that in some cases the harm suffered is too imponderable, too subtle (and "nonexistent" in short, according to consensus in force long internalized by the individual) to give birth to something else as a grudge diffuse unfit to "condense" and to take shape and strength in a relationship herself in tones sweet without apparent angles. This is also undoubtedly a simple variant of the previous case, appeared in reflection with the note "Grudge suspended in - or return things" (2) (n ° 149).

292 (*) On this violence "beyond belief" ("unfassbar" in German), see note "The slave and puppet - or Valves" (n ° 140). When I speak of gratuitous violence" in the strongest sense of the term "without immediately qualify otherwise than the one that "beyond comprehension", the exact meaning I then view is identified in the following explication by the explanation of these "two aspects" that come together in it.

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feelings of hatred or animosity that would feed "wrongly or rightly," against the target).

Perhaps the question of the presence or absence of hatred or animosity in cases that occupy me (Where one is faced with a violence that appears as "free" as unprovoked), is here relatively accessory, surely, as was the case for me, in the experience of one who undergoes this violence, and as soon as the sustained violence becomes conscious, it must appear an impression of "hatred secret "or" animosity "on the part of one who inflicts. This impression is, however, no effect a perception (which would suddenly appeared, like a magic wand), but that of a **assimilation** to the punch: violence = hatred (or animosity) 293 (**).

One thing that seems much more important for cons, it is clear not only **the existence** a seemingly aberrant thing too, as insane, as contrary to the reflexes of "common sense" more inveterate as "bitterness proxy" moved from its "target

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Original "(or its original target) to p. 754

a "surrogate target" (a target of convenience, quasiement!); but to see to **more than** this is one **of the most common mechanism**, which meets at every corner, whether in his own person (the last where we dream to go get her...), or that of his family and friends. I have even feel it then mechanism is **universal nature**, it is part of the basic mechanisms the human psyche, it's one of those few boilerplate mechanisms that constitute the **syndrome Vanishing** from reality: the refusal to take notice, and fear of the bear.

Specifically, I feel I have pinpointed today on **all common spring situations of "gratuitous violence"** without exception. This impression has emerged, with the strength of conviction sudden, when I began to consider (three paragraphs above) an "apparent contradiction". I've had feeling while a host of fragmented and disparate impressions stored all over my life, revolving around the "sensitive point" among all of this violence "beyond belief" suddenly if ordered by suddenly acquiring a perspective that still lacked - a prospect appeared there unexpectedly, turning a late reflection, while I was about to place only one last point on a latest i. . .

18.2.12.4. (D) Nichidatsu Fujii Guruji - or the sun and its planets

Rating 160 (8 January) For a week, there is a wave of unusual cold - temperatures of -15 and underneath, and when the wind blows from the "Mont Ventoux" (the name says what it means!), it must do more cold yet. It seems that this wave raging everywhere in the world (according to someone who listens information), and in the south it had not seen since the famous winter and spring of 1956. My childhood in Germany, I experienced cold like that, but there was snow that protected land, and who put a sweetness of tone in the air and on things. With this cold without snow, surface ground is frozen like a block of ice. Within days, the garden was ratiboisé - I do not know if it will remain something spring, what we have sown and planted. The leaves of leeks, celery, chard, corn salad, beets, chard remaining are like sheets of ice, frozen vegetables. We despatch to reap maximum day by day, to eat as and measure before it thaws and that everything goes on the compost. And yesterday

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the water supply had frozen in the kitchen, happily running water was left down in the old p. 755

293 (**) (March 6) In some cases, however, there may well have perceived a beautiful hatred and very present, even though it has not been provoked. (On this subject earlier in this same note, another footnote page dated today.) There then is a hatred that, except in exceptional circumstances, remains confined in deep layers of the unconscious, and more remains in a state of "holiday" without designated target, even though it is the secret force behind the violence (as insidious, usually) which, themselves, aim well and truly and with constancy without faults, a same election target. . .

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garage, less exposed to cold. Today a friend came with a portable gas torch, he arrived

to put water on the way. I'll have to let it flow a trickle of water, so it does not dry too refreeze. Fortunately I have a good wood stove in the dining room, where I transferred my work, Sitting next to the stove really did it good. I'm made to the vine stem, I break the ax every day, good crate full grape overboard by how cold it is. When the wind keeps blowing while the afternoon, it's enough to catch numb, only to stay a quarter of an hour, twenty minutes break timber in the open air. Besides the car remained outside unbootable - it seems that cars, they do not so well bear the cold, frost or not. The same complacent friend gave it to me way sometimes, but she will walk again tomorrow to go reread hitting the secretary that I gave work ? In short, just a cold spell in winter, when it's a heat wave in summer or a good little sick at any moment to remember some realities of life that tend to forget when everything purrs wish. . .

Gradually over the past three months, my pace to migrate back to the night hours. I work until about two, three o'clock in the morning and sleep until about eleven o'clock noon. In time he Actually, if I listened once in bed, I would stay in my sleep noon easy - and vice versa, once at work, I would sleep for me! Here I try to keep a reasonable balance. I do not alarm me too of the time differences, as long as the sleep remains good, and I do not spend hours in bed without sleep with the thinking machine that keeps running. Even now when there is little work garden, there are still enough different occupations every day, including firewood, and a little gym here and there. I feel a satisfying life balance, wherein: the working discovery not mine to devour everything, but without being to a minimum. Since I took over work on 22 September, I have to spend on average five to six hours a day. It's modest, but the "performance" seems hardly less than before. "The slaughter" (around a hundred pages per month) is pretty almost the same, pretty much, for writing the first two parts of Crops and Seeds. But the qualitative point of view, there is no doubt in my mind that this is the third part that is the most deep, one that taught me the most about myself and others.

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Na mu myo ho ren ge kyo!

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While I was completing this short retrospective on the harsh winter and the evolution My life balance, I received a call from one of my friends Buddhist monks group Nihonzan Myohoji, announcing the death of their revered "preceptor" ²⁹⁴ (*), Nichidatsu Fujii, better known under the name of Fujii Guruji, or "Osshosama" to his relatives. My friend from Paris just learned the news from a stroke wire Tokyo, I presume Fujii Guruji died today ²⁹⁵ (**). He had, on August 6, to have a hundred years, physically weak, but in good mental condition. strange coincidence that August 6 is the anniversary of two important events, one of historical significance, the other of a personal nature for me. This is the anniversary of the atomic bomb on Hiroshima (August 6, 1945) - the Japanese commemorate as the "Hiroshima Day". (That is why ²⁹⁴ (*) "Preceptor" English word roughly equivalent to "teacher" refers to the "master", the teacher. Nihonzan is Myohoji the phonetic transcription of the Japanese group name, which translates as "Japanese Mission." This is a Buddhist group "Missionary" pacifist main vocation. See below for details.

²⁹⁵ (**) It turned out he was dead for only a few hours. The news spread quickly!
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Fujii Guruji festivities for the anniversary took place rather late July, to keep the day around August 6 available for pacifist and anti-atomic events.) On the other hand, my father born August 6, 1890, six years to the day after the birth of Fujii Guruji. After the death of Claude Chevalley, that of Nichidatsu Fujii is the second of a person having played a significant role in my life, occurring during writing Crops and Seeds. In view of this disappearance (which does not really come as a surprise), I am particularly pleased that last year yet, there have been with him heat exchange impressions letters. I was invited to attend the ceremony of the centenary of the old master, which would take place with exceptional pomp Tokyo. (A small book of testimonials on his person was even published in haste, for remittance to it for this occasion.). This was an opportunity for me to write (as every year or so) some words of congratulation anticipated, while apologizing for not attending the ceremony on July 30 being myself more or less confined to bed at the time of writing. (It is also true that I am not so focused on large public ceremonies, but it seemed pointless to me to mention it in my letter. Anyway, I

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had to disappoint and hurt to more than one of my friends monks in my abstract p. 757 holding stubbornly to attend any of the "occasions" ²⁹⁶ (*), which they never tired of invite me.) I had to add a few words about the beneficial side of a disease, which requires us despite

us to "get" our occupation and give the body what it wants. Fujii Guruji himself was much bedridden for the past year, which had to weigh him, given his temperament carried to the action and its uncommon energy. While this was more than seven years that I had not received any communication personal Fujii Guruji, I was surprised to receive a letter from him, dictated by him while he was still in bed. The letter (which I just read to now) is dated 13 July 1984. It is a letter full of delicacy, where he is concerned about my health, and laments not being able to send someone to take care of me. He also talks about his health, and provisions which he supports his forced inactivity. He finishes by these words, style very "Japanese" to take with a (big!) grain of salt, and that showed me more perhaps than all the rest of the letter, the tone was as good as ever ²⁹⁷ (**):

"Indeed I am a very decrepit old man of no use if I May Even get back to normal life. Yet still, I would like to live and see how the world turns. "

There he saw the world turn again for nearly six months. . .

My links with Nihonzan Myohoji group back to the year 1974. There is no question of doing here, if only the outline of these relations in multiple episodes, some in all registers - there should be a volume. They are among the "impact" the richest of the episode "Living oversteer and" ²⁹⁸ (***)

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that followed my p. 758

²⁹⁶ (*) The main among such "occasions" was the opening of "Shanti stoupas," or "Peace Pagoda". the constructive tion of the Pagodas, or places of meditation for peace in the world, dates back to a very old tradition in the world Buddhist (initiated by King Ashoka in India), and has been a major concern of Fujii Guruji. He inspired the construction of a large number of Shanti Stoupas around the world, including three in Europe and the United State.

²⁹⁷ (**) The letter was dictated in Japanese (the only language spoken Guruji) and was directly translated into English. Translation French of quoted lines: "Of course I'm a man so old and decrepit and even no use if I can find a normal health. And yet, I would like to live and see how the world turns. "

²⁹⁸ (***) It is made several references to this episode in "Fatuité and Renewal" (the first part of Crops and Seeds).

"Surviving and Living" (which was called first "Surviving" no more) is the name of a group, a vocation for peace first, then also environmentally friendly, which was born in July 1970 (the sidelines of a "Summer School" at the University of Montreal), in a scientific environment (and especially mathematicians). It quickly evolved into a direction "cultural revolution", while by broadening its audience beyond the scientific community. Its main course of action was the newsletter (roughly periodic) of the same name, whose directors were consecutive Claude Chevalley, myself, Pierre Samuel, Denis Guedj (All four mathematicians) - not to mention an English edition, held at arm's length by Gordon Edwards (young Canadian mathematician whom I had met in Montreal and was among the few initiators of the group and Bulletin).

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departure (between 1970 and end 1972). There was talk of this group, and the newsletter (not very periodic!) As well name, and also my "departure of math" and my "path" in a newspaper (or newspapers?) Japanese 1972 or 73. Listed "critical science" and denouncing military aircraft, and also, perhaps, appearance "critique of civilization" had to "go" so slightly in some article, attracting the attention of a Nihonzan Myohoji monks. This one has talked to others, especially to a young monk of same city (Kagoshima), which became a monk under the influence and was a little figure of "pupil". it has Monk was the first missionary group to land in "West", specifically in Paris in the spring 1974 ²⁹⁹ (*). He came to me a few weeks later and

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unannounced, in godforsaken village where I lived

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Then, about fifty kilometers from Montpellier. Since that memorable day in May, I saw under the midday sun, a man dressed oddly, singing on the road to the accompaniment of a drum and heading (there was no mistake ...) to the garden where I was working solo - since I once had the privilege and the pleasure of going through my house many followers and supporters ³⁰⁰ (*) Guruji. Their touch me a lot. In early November 1976, I even had the honor and the joy of welcoming in my rustic abode Fujii Guruji himself, then aged 92, in the company a group of seven or eight monks, nuns and followers. I had met the previous year at the solemn inauguration of the temple of the group in Paris in the eighteenth. Beyond the words of courtesy rigor, there was then a strong contact, immediate sympathy. The more intimate and personal context a visit of several days at home brought me, of course, a much richer understanding of both the Fujii Guruji person, that its relationship to the group of which he was the head, and soul. Interestingly enough, this visit Fujii Guruji has closely followed, two weeks ago, turning crucial in my life that was accomplished between 15 and October 18 of that year, which was discussed also ³⁰¹ (**). The weeks that followed these days of crisis and renewal were among the intense of my life, where every day brought her unexpected crop of indoor events and discoveries. AT Indeed, this visit, planned and prepared for weeks for a group of monks and nuns around their revered master, seemed to come there as a kind of strange interlude, as a diversion in adventure which then absorbed the totality of my being. It is respect for my hosts, especially

Fujii Guruji coming to honor my house, which gave me yet, for those few days, The first bulletin, entirely my pen (naive and full of conviction!) And printed in a thousand copies, was distributed the International Congress in Nice (1970), which brought together (as every four years) several thousand mathematicians. I expect massive adhesions - there was (if I remember correctly) two or three. I especially felt great discomfort among my colleagues ! Speaking of the collaboration of scientists with military aircraft that had infiltrated everywhere in the scientific life, I mainly set foot in well garnished dishes. . . It is in the "big world" that scientific I felt the greatest discomfort - echoes of sympathy from me there were reduced to those of Chevalley and Samuel. It is in what I have elsewhere called "the swamp" of the scientific world, that our action has found some resonance. The bulletin eventually take about fifteen thousand copies - a crazy stewardship work elsewhere, while the distribution is made by craftsmen. The juicy drawings of Didier Savard surely contributed significantly to the relative success of our duck. After my departure and that of Samuel, it ended up turning the leftist splinter group, the edge without jargon and analysis replica, and newsletter eventually died a natural death. What was to understand and say, at some point close yet the excitement of 1968, had been understood and said. There was little interest after that to turn and return boonies a disc. . .

299 (*) He indeed assured he was the first Buddhist missionary monk in the West, in the history of Buddhism - but I do not guarantee that this information is reliable! It is said also that of being a missionary has really been a great "Progress" in Buddhism. From the beginning, this aspect of the group Nihonzan Myohoji aroused in me a subject, which has that is confirmed over the years.

300 (*) This is one of those who just had the honor, as an "illegal alien" to be an opportunity for the first literal application in the case law in France, a certain section of some pretty incredible "Ordinance 1949. "I had the honor to find myself in Correctional, for" free housed and hosted "such off-the-law. See about this episode the "My farewell - or foreign" (n ° 24).

301 (**) See "Desire and meditation" (n ° 36) and the note "The reunion (the awakening of yin (1))" (n ° 109).
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availability the occasion demanded. As happened to me very often it is once the heart of the only event that I realized that it was by no means an "interlude" or "diversion", but
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he was part of the adventure I was experiencing. Beneath his very "tales of the Orient", a p. 760 perfect delicacy and an unusual charm, this so-called "interlude" put me in the presence of men and Women like me and the men and women I had always known, in contexts less exotic, less extraordinary appearance. It is felt to have this relationship, I also felt in my hosts friends and brothers, not characters straight out of a tale from the Arabian Nights, as has been the case for more than one of stunned villagers. And Fujii Guruji himself, speaking to me if familiarly as his "close" remained within range demanded the respect due to the revered master, I felt far, far away (from me as his relatives), yet close together, as if was my father or an elder brother and caring.

And as it is not unusual in a father or an older brother, even the most benevolent, he had vis-à-vis me an expectation, which he does not hide elsewhere, a shared expectation by those who accompanied him and all were my hosts. And I also knew that I could not respond. My adventure was related to the Fujii Guruji, through links that I discerned evil, deeper perhaps than I could see, and that of his followers who followed the eyes closed. But it was no more than my host prestigious and caring, she was my father, too prestigious for me and kind, and very close yet different: another person, another destiny.

It was not easy to "pass" that I would not of their own in a company that was their, and I did not feel mine. From the table of me that had to do with Fujii Guruji and his followers, that was the last thing they would have expected - and this especially as the relationship in staff between the group or individual members of the group and I resembled a real moon honey. It was during this visit that also some resistance very long time, due to my education, have vanished, and I joined my guests to sing with them their mantra, with the drum:

"Na Mu Myo ho ren ge kyo"

This mantra is the foundation, the alpha and omega of their religious practice. They sing the most often to the accompaniment of drum prayers an hour in the morning and an hour at night. This song to the drum, following teaching Japanese Nichiren prophet is himself the supreme good, the giver of peace one who sings it and around it. This song is for my
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Japanese friends what is commonly called p. 761 a prayer". The meaning they give him, according to Nichiren, and with their "tutor" live Fujii Guruji, is that of an **act of respect** for the person to whom it is addressed, and through it, to all living in the universe - as being promised (according to the Sutra of the Lotus Flower) to become Buddha incarnation perfect wisdom. These seven syllables are also used as a greeting to any other person, or even any one would like to greet with the connotation of respect for what is essentially divine in the other. They are also ex officio action of grace before the meal. Indeed, it seems that there is little used, whether in moments of surprise or emotion, or of contemplation, which is conducive to

a follower of Nichiren to say the sacred words. As for me, without sharing the religious belief of my Monks friends ³⁰² (*), it is with joy that I join them when the opportunity arises, to Odaimoku - singing to the drum they call "Prayer". It is in their memory, and act of affectionate respect ³⁰² (*) I do not feel a member of any religious belief. Through education received by my parents I was an atheist (With anti-religious tone) until the age of fourteen. A remarkable account of my teacher of natural sciences on the history of the evolution of life on earth, then made me understand without the possibility of doubt, the presence of a creative intelligence at work in the universe. This understanding, which then remained at the intellect alone, widened and was refined during my subsequent maturation, continuing after my departure from the mathematical scene in 1970.

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vis-à-vis their master Nichidatsu Fujii Guruji, I have also included "Prayer" in my daily life, in the singing before each of the two main meals of the day, at least when I'm at home, or at friends, or with people who I know that they will be not impaired ³⁰³ (**). This is one of the things great prices I am indebted to Fujii Guruji and those of his disciples that I have known and who have given me their affection, without tiring of my reluctance to associate myself in any way to their missionary activities. There are several million in Japan nichirenites Buddhists, dividing into many sects faces very different. The Nihonzan Myohoji group is one of the smallest in number, comprising hundreds of monks, nuns and active supporters. Yet it is well known in Japan and elsewhere, distinguished of all traditional religious groups

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by an unequivocal political commitment, including

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the main focus is the struggle for peace, anti-militarist action and, in particular, anti-nuclear. the time of the Vietnam War, it was the only Buddhist group (I believe) that clearly took part against the Americans, and struggling against the presence of US bases in Japan (which served logistical support to the continuation of the war in Vietnam). In recent years, Fujii Guruji was also in close contact with the leaders of the Indian freedom movement in the US, AIM (American Indian Movement). Nihonzan Myohoji of monks participated in organized march by Indian of America, besides other Marches for Peace in various locations worldwide. Indian leaders were obviously attracted and impressed by the unusual personality Fujii Guruji. The fact that this man an indomitable energy, approaching its centenary, was great missionary figure of a religious faith different from theirs, seemed not disturb. On the contrary, the religious dimension in the options "Un-American" zinc strand revered Master was surely, in addition to age, one of the causes Guruji has made welcome as they would have welcomed one of them, as a father or a grandfather very respected and in which it is recognized ³⁰⁴ (*).

Surely, this religious dimension has played for me in the same direction - it made me Fujii Guruji more close, while yet I claim myself to any religious faith well defined. If I wonder what I was most attracted and hit him, I see several things. The most obvious is a **joy** inside. this joy appears spontaneously flow from a **unit** in himself, or rather, perhaps, a **loyalty** to himself. We feels that this man is happy because all his life he did without hesitation what he felt he had to do. He ... not seems to me not without contradictions, but unambiguous. The meaning of some of his actions or his omissions escapes me,

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but at no time touched me doubt on total human integrity. if

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so, it is not the result of an analysis of what is known about him through intermediaries. he enough to have met him once to know that this is a man who knows no ambiguity, a man in profound agreement with himself. This is what Indian leaders of AIM have the feeling, for him instead they made him among them. It is in this also lies surely his extraordinary influence over those that claim him, men and women whose ideological and philosophical options cover a range from pure Marxism-Leninism and hard to conformism staunch the CEO of a chain ³⁰³ (**). I abstained including singing prayer weekly meal that I took at the Faculty, along with some students and colleagues, not being sure that any of them did not feel a kind of constraint, I him would impose thanks to my senior position or "boss"

³⁰⁴ (*) To give a sense of trust and respect between the Indian chiefs to Guruji person, I note here that during the largest annual celebration of initiation, making around the "sun dance", it was the participation of monks followers Guruji, beating the big drum prayers from sunrise to sunset, the haunting rhythm of *Na Mu Myo Ho Ren ge kyo* ! These large drums, dug in a trunk integrally tensioned beef hides, are a sound output bit common, and (presumably) much to bear for twelve hours straight. (I've experienced for two hours at the inauguration of the temple in Paris, experience that was inconclusive. . .) Still, that Robert Jaulin (who was with the monks, among the few non-Indians invited to join the party) told me that the Indians have endured stoically the drum sacred Grandfather Guruji, from beginning to end of the initiation, the drums Guruji has been one of the many events. . .

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department stores. What unites them is not the worship of some Sutra none of them has perhaps had the audacity to read ³⁰⁵ (*), or a certain prayer of Pali origin, restored in Japanese through Chinese translation, and who professes veneration of this sutra. What unites them (or should we say: what had gathered?) this is a **man**, carrying them upward he has not sought to exercise more, the Sun has sought its planets.

I also saw that the man was **alone**, and that solitude did not weigh him. It was his condition nature, forever perhaps. This loneliness, and integrity, and this agreement with itself, appear to me as so many different aspects of one and the same. Yet another aspect of the same thing is that of **strength** - a strength without violence, and do not care to be or appear "strong". It's her the sun again, which is just being himself that is created around him that force field, and these orbits that the planets travel.

Surely, this is also the force that more than once I have spoken in Crops and Seeds as " **the** force "in us - with this difference, that in such a man is fully exposed and sensitive to all those who approach, and in some other it is buried more or less deep, sometimes to the point that we could believe nonexistent. But if such monks of my friends seem to deny themselves, yet this Sutra they profess to revere and

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they sing the same prayer every day, clearly proclaim that ^{p. 764}

such force lives in every living thing in Creation, as promised them, and as their revered teacher Oshosama himself, the fate of the Buddha.

18.2.12.5. (E) Prayer and conflict

Rating 161 (January 13) ³⁰⁶ (*) For four more days I did not have time and quiet to work

- to continue the notes, I hear. The main reason is in pretty incredible difficulties I

to be typed to the net this third part of Crops and Seeds. For over thirty years

I used to do the typing work, I have never experienced anything like this. Obviously, having

the hands that strongly personal nature of text, not to say intimate, triggered in

people in charge of minting reactions (probably unconscious) of a considerable force, going

each time in the direction of a true sabotage of the work entrusted to them. Within a few months,

it is three times that the same scenario is repeated, with variations, with three consecutive Secretaries

which however have not given the word ³⁰⁷ ! This third time in addition, this is added a sordid note

because the secretary, Ms. J., pretended to use the unusual manuscript that had been entrusted to his care,

³⁰⁵ (*) More than one of the followers of Guruji made me understand that it would consider a presumption to pretend to read

Sutra of the Lotus Flower, even though it exists in a Japanese translation. Only a man of great depth es-

took as his master Fujii Guruji himself, would be fit and worthy to read this sacred text that exceeds infinitely far intelligence

the profane. Obviously, the faith of these men and women are directly door, not on such a historical figure more or less

deified as the Buddha, or the perfect Bodhisattva Nichiren and prophet, but Fujii Guruji himself.

³⁰⁶ (*) (23 January) The entire first part of this note was written against strong resistance to mention the disruption

from interfering with my work. They took face vaguely ridiculous, and only an equivalent mention

little graciously provide the yard to make me fight! On the other hand these disturbances, "which you can saw literally

ment ", had become so much creaking and invasive in my work, for a week or two especially, it

was a kind of cheating, an inauthenticity in the testimony, that ignore them as if nothing had happened.

I just returned from elsewhere on my setbacks ten days later, in the note "Jung - or the cycle of" evil "and" good ". "

(March 7) This last note, the first in a series of "reading notes" on the autobiography of Jung, was

ultimately rejected in the last part of sowing crops and formed part of the discussion aroused by this self-

biography.

³⁰⁷ (**) Those who wish me well here have beautiful game to tax me delusions of persecution - after the Brotherhood of movers,

here's one of the secretaries-typist who is mobilizing to want to hurt me! See, for previous, the note "massacre" (the

note name already says enough along to me. . .) P. 538, about the move of my friend Ionel Bucur. . .

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as blackmail to extract a sort of ransom. It is a former executive secretary,

having a large

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Usually the trade. The first eleven strikes pages were immaculate and without fault

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strike almost, just to show what she could do; and nothing in the following fifteen pages,

there were eleven skipped lines - it's rare that I have seen a crippled much text! I did not ask what

the ransom was requested (beyond the agreed price for the text already hit) to retrieve my manuscript and

typing, having no desire to encourage this process. That means I'll be reduced without

probably to resort to legal means.

Fortunately I have left a manuscript of the draft, that I can use if needed. do em-

Fishing this kind of circus, especially when it becomes repetitive, can you "saw" literally. When I

pictured difficulties and antagonisms was going probably raise my humble self and meditating pad biographical, I certainly did not imagine that it's that side, of the brotherhood of the secretaries-typists (the instead of that of my fellow mathematicians honored) that went ahead early troubles, and in nature a kind of war of attrition! Here I am not very hot to entrust the same text (once recovered) the hands of a fourth secretary, while nothing allows me to provide that it will be more commisé-ration for him as she would later. And make myself ask the secretary work a good time investment a month that I am absolutely not willing to provide. Perhaps will I be reduced to give up a hit to the net of this third part of Crops and Seeds, I entrust to the publisher in the form of draft-manuscript. (I do not even plan when the same kind of trouble with protes responsible for the composition of the text for printing!) This would mean especially that I renounce include this third part in the limited pre-edit Crops and Seeds to be made by the care of my university, the USTL, to be distributed among personal colleagues and friends. Or maybe I'll shoot later if I end up finding a secretary who makes a okay job. I will not send this part (surely the most "difficult" of the three) at the express request of those really interested to receive, among those who have received the first two parts. I really have eager to take them and send them (although I feel less pressed for the third party). The typing these two parts is finished for months, she had been assured (without problems) by Care secretaries of USTL. They could have been taken long ago, if I had wanted to include a table of contents of all three parts of Crop Seeds and, while more than three I think month

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I'm about to end this interminable third party. Here I'll give myself

p. 766

until the end of this month to complete, or otherwise take care of the draw of the first two parts (and Fatuité Renewal and Burial I, or the dress of the Emperor of China), without including a table of contents complete and final third portion (L Burial II, or the key of yin and yang).

And now, after all these unpleasant incidents, I must somehow find the thread of a reflection that was cut short.

The death of Fujii Guruji his hundred-first year, 9 January, had an opportunity to discuss, with his person, an aspect of my life that I had not touched before. Not having the possibility to see Guruji on his deathbed, and participate in a funeral vigil in the company of his family, I spent the night after his death in a lonely vigil until morning noted some reminiscences and thoughts aroused by the event. Afterwards, I thought it would be good if I also try on this occasion, say what brought me the meeting with Fujii Guruji, and those of his disciples that I attended familiarly.

In the notes to it five days ago, I mentioned the song Na mu myo ho ren ge kyo, which for many years came into my life, and that is a blessing. There is also the affection received by Fujii Guruji himself, and

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by many of his followers, young and old. It is this condition, surely, giving its price and its beauty to the song that I received from them, which is itself an act of respect and affection for all living things of creation, including themselves and mine.

Also, my contacts with the monks and nuns of Nihonzan Myohoji were my first and only close contact with the men and women whose main investment or total goes to task religiously motivated (as long my own investment going to work mathematical discovery). This was an opportunity for me to realize that, as elsewhere, beyond a affinity by a common vocation (called religious) and allegiance to the same strong personality and engaging, differences in temperament, packaging, and even **choose** deep, remain all as marked, and also all the acting in person to person relationships. In other words, some effort to **shape** following some religious ideal (he of the "Bodhisattva", the infatigable propagator of Buddha's teachings) DEBOU

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Chent on **attitudes** more or less flower p. 767

skin, and not to a process of **transformation** inside, on maturation. Moreover, the adoption of a "Creed" (sublime be He) and investment background in a business called "religious" seems irrelevant essential to the game the usual egotistical mechanisms. The conflict is no less present in the monastic teria, monasteries, temples and other religious communities of all faiths, in that everywhere else world. And often the religious vocation is taken as a means, among others, to remove the conflict, by convincing himself that he disappeared under the credo.

It is also true that in different occasions in as my guests monks there was peace and joy Interior that radiated from him sensitive to me as to everyone who approached them, and beneficial to themselves as to all. Obviously, such a state of harmony and fullness of deep agreement is foreign any effort to be this or that - it is an "effortless", a perfect natural state.

For four of the monks with whom I felt such radiation, I feel that this was their state

customary, for many years, even decades. This is particularly the case for Fujii Guruji himself. For two of my friends, I have seen on other occasions and also tied as torn as anyone. It was as if this state of harmony which I had known, and some spontaneous understanding things that was one of the signs had become null and void - as if they had left no trace them. I am convinced however that there is indeed a "trace" indestructible deeper than just mark registered in the memory - a trace in the nature of **knowledge**. Like everyone, these friends are free at any time to take account of the knowledge deposited in them in the creative moments their existence, let it work and grow; as they are also free to ignore it, bury it, to "make idiots" in short. This is, after all, the most common thing in the world...

The thought came to me that this state of perfect natural, deep agreement with oneself, and this radiation that accompanies it, are **not** things so common, by cons. It is a remarkable fact that the relatively small group of monks that I could welcome home, whether for a few days or a few weeks, there has been so much in that I have found this state of inner harmony, force full sense, one in which unite humility and fortitude, gentle and incisive. Would not that, in end of the committee, indeed the action of a creed, or prayer that expresses? This,

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so obviously it p. 768

alone can create a state of grace, perhaps it tends nevertheless to **foster** the emergence of such a state, and its renewed day after day? After all, the only fact to sing a beautiful song by putting it entirely, is ever so slightly a "state of grace" - and the only beauty of a song (or prayer) encourages us already "we put a whole. "

It is also true that the most beautiful songs, when we resassons with the mind also remains inactive, fault
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for us to open it. Or rather, what we resassons and **is not** the song that we believe sing, and our soul is nourished point no more than a pink paper or plastic is a rose, and a bee would come to plunder.

18.2.12.6. (F) Belief and knowledge

Rating 162 (January 14) In closing the discussion of it a week ago, I had the feeling of having "put doigt "on something important. That night, I wanted to express tersely that " something " in the name named in the note, "The cause of violence without cause" (note ° 159). I also knew that this sudden flash of understanding was not an outcome or an end point, a reflection since over a month 308 (*) just revolved around the mystery of "violence without cause" or "violence free. "Rather, this" perspective "new suddenly appeared is rather akin to a new starting point. The "displacement" mechanism of bitterness or resentment for faults and damage in ancient days, to a "target" **acceptable** instead of lead real, or perceived as reaching out as "taboo" - this mechanism there, I had first recognized sporadically, in such and such cases isolated in my life, and tacitly taken for a sort of aberration strange and erratic of the unconscious, is finally recognized as a "basic mechanisms of the psyche human. "At the same time, it appears responsible for numerous and troubling events "violence without cause"; as well that which prevails between husband and wife, between lover and lover, relatives and children, the "anonymous" violence that culminated in war time or large social convulsions.

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I do not know if those links then have long since entered the Baba of psychological science or psycho-
p. 769

chiatrique (assuming that there is such "science"), or if what I say here is going to figure fantasmogories of "dilettante psychoanalysis". As my intention is not to present a doctoral thesis in psychology, or even to break lances for any old or new theory, but to understand my life across situations in which my person is involved, I do not care the "status" of that on which I happen to pinpoint, or "perspectives" that I suddenly see open here and there. I know anyway, if I want to understand the least thing I can do without thinking personal, whether in mathematics, or in my life and in those to which my life is bound one way or another. And this is so especially when it comes to understanding seems to em- bly defy reason, and I see everyone around me and also to avoid like the plague, with blows reassuring cliches. (And it seems to me that professional psychology there are no more than all other, the moment at least, that their person is directly involved.)

I went well that "sudden conviction" appeared at the bend "a final point on a last i" namely that "I had just put his finger on the common spring all situations of" gratuitous violence ", " does not dispense anything from the task of examining on parts, and from every angle, this new insight arrival into the conscious next to the field, not yet clear of the diffuse halo of what has emerged mists. On the contrary, this was just the first work to do, I could already see a rise host of new questions, such as in special case, that general. If there was any certainty in this "belief" to the punch, or rather, a certain knowledge of core celle-

it does not say to me that the wording that I had to give this conviction was "real", "correct" without reservations or significant alterations perhaps; instead, I had much to put your finger on a **completely new** (for me) and **key**, **a new perspective** on violence had well and truly 308 (*) Specifically, since the note of December 7 "Velvet Paw - or smiles" (n ° 137).
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to establish 309 (*). The precise and nuanced sense of what is new and this new perspective, scope and also exact., perhaps, its extensions and unexpected impact, they can not fail to be released, since I will invest the necessary work. The "knowledge" that had appeared telling me, especially, that the time was ripe for such a job, to enter deeper into an understanding of violence, in any case, in that of "gratuitous violence"; every hour and every day that I would dedicate to this task to go through what had appeared, would make me penetrate further into this comprehension. I do not remember such a sense of the appearance of something new and essential (Even though it would still diffuse and rough) and firmly believe they can enter more forward in understanding this thing, ever wrong. If my research there was a guide sure to "put" my investment in that direction or another, is to sense the onset the **new**, and this inner conviction that tells me when the time is ripe to go further in this "new" and glimpsed to know the 310 (*).

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This does not mean that, whenever the time is ripe to launch me in that direction, and p. 771 know such things, I launched myself indeed! It was already impossible from the time when I invested all My energy in mathematics, when gradually, I found myself with ten irons and with a hundred both in the fire! 311 (*) And it was the same in meditation, that is to say, in the discovery of myself. At a conscious work, we can not, alas, do one thing at a time (which is not bad yet, when we take the trouble to do it well. . .). This work on **one** of the "irons in percent fire" may, it is true, following the mysterious ways of the unconscious, also benefit all other, or at least many of them - can the "warm", make them more welcoming to hammer on the anvil of conscious attention, from the moment we turn to them. It is also necessary to know choose from the outset "good" iron among the hundred - one whose shaping will also advance work on others are warming up like him.

309 (*) By writing these lines has become mine comparison with "standard conjectures" on algebraic cycles that I presented the Bombay conference in 1968. It seemed to me then (and still appear to me today) as being, with the resolution of singularities, one of the most pressing problems in algebraic geometry. in reaching these conjectures, I felt that a "new perspective... had to be established", this time on algebraic cycles, their relationship Hodge theory and the Weil conjectures. What struck me most of all was that I could watch a approach to the Weil conjectures would be "purely geometrical" I mean, without (at least in appearance) to pass through a cohomology theory.

As I already pointed out elsewhere (in the sub-grade n ° 106 1 of the note "The muscle and guts"), the reality of this "perspective new" and scope, is entirely independent of the question (which remains in limbo the future) if the conjecture prove true or false. A guess, for me, is not a **bet** (that win or lose), but a **straw poll**

- and whatever the answer, we can not get out as "winners" I hear, with renewed knowledge. (Compare with reflection in "Error and discovery", n ° 2) Assuming that the conjecture is false, I can already see sight nose two or three alternatives, "less optimistic" that once the refined, and whose lower is practically equivalent to the existence of a "reasonable" theory of semi-simple patterns on a body.

Identify these variants, for someone so little in the shot, is an exercise in an afternoon or two (and starting point perhaps for a long journey into the unknown ...). Remove the first statement (by inspiring me, as usual, a Serre idea, outlined in his article "Analogues of Kählerian Weil conjectures"), was not an exercise, but actually well a **discovery**; or (in the words of the letter of Zoghman Mebkhout, cited in note "Failed an education - or creation and conceit", n ° 44') a **creation** And that was an understatement when Zoghman ventured. timidly to say that "my students do not quite know what it is that creation" - or rather, I would say they knew but have forgotten long ago, they were engrossed in pushing the wheels of a funeral carriage. . .

310 (*) compare with the note "The child and the sea - or faith and doubt," n ° 103.

311 (*) See note "Hundred irons in the fire, or Nothing serves to dry!", N ° 32.

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18.2.12.7. (G) The most burning iron - or rotating

Note 162

In thinking about the burial, I met many "irons" who demanded that I work more or less hot depending on the case. It seems to me they are all warmed over work, some more, some less. The first of these "chains" was the question of **self-contempt** in If my own person, placed first as a matter of conscience, on the sidelines of the first embryo

Crops and Seeds 312 (**). He remained rather lukewarm, to the reflection of 13 December (a month ago and one day), in the note "The violence of the right - or the emotional release" (n ° 141). It was the first time in my life, I think, that I devoted a reflection, if brief as it is, with a few cases in my life where I myself exercised and inflicted a "violence without cause" violence "beyond belief." I found it come to think about it over the years, but always in passing, without stopping, and above all without devote a written reflection.

Yet violence-who-says-not-his-name had deeply affected my life - it was one of the things crucial, if not **the** crucial thing between

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all, that I had to understand as deeply as I

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could, to understand my life and "life" in general, human life. But that is indeed the case, something Yet obvious as soon as I take the trouble to think about it, remained hidden. This eventually emerge as by chance, on the sidelines of the reflection in the days that preceded that of 13 December, continued in all four notes together under the name "The claw in the velvet" (n ° s 133-136). It is in these notes for the first time in Crops and Seeds " **violence** " is named, and becomes subject of attention. It remained the center of attention so far, at least, to the note of 7 January (there's one week), "The cause of violence without cause."

This promising title may give the impression that the last note is a kind of culmination of the re-bending on violence, continuing throughout the past month. And it is true that it is a major fruits. Yet I know that if there were a sudden onset of this new perspective, and this feeling intimate conviction on a link suddenly glimpsed, it is because **my own person** was she also directly involved in what had appeared among the "crowd of fragmentary impressions and assorted stored everything in my life. "The latest and coolest of all these impressions, then felt as though "piecemeal" and insufficient in fact, precisely this reflection remonait 13 December on the **violence in myself** . This reflection, which the casual reader may seem like a digression among many others in the investigation of the burial, appears against me, now, in retrospect, as a focal point and a crucial turning point (potentially at least) in my thinking about myself. The same day also, I felt that I had to begin, finally, the first step in a direction that I had previously avoided, which would lead me straight to the heart of the conflict in me. This "lukewarm iron" that had been placed there as a reminder for ten months now, suddenly was heated red - it was enough for me to dwell and to blow hit, so that it becomes red white and reveals me form and a message. And this is so even today.

But it is clear that this is not the place to work this iron one. Of all emerged during harvests and Sowing is certainly it is most hot for me, and after him, he appeared with closely bound "The cause of violence without cause," if the child was on the back a terribly adult boss stubbornly riveted to the long-term tasks and

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"Priorities" that they impose, it is in this direction surely

p. 773

leading me to the core of the conflict in myself and others, I élançais me now, without me sound! But as the name suggests, is the boss in most cases, not the child, which commands and decides investments. The "mystery of evil" So wait for the best time would be when the boss 312 (**). See Note (n ° 2) Referring to the (June 1983) "Infallibility (of others) and contempt (of course)" (n ° 4). 630

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on holiday (the rarest thing), or when it will not be too cluttered "priorities" advanced, as that of finally finish writing Crops and Seeds!

18.2.12.8. (H) The endless chain - or placing (3)

Note 162 "

But before returning to the burial, I would at least note an association of ideas aroused by the thought of it a week ago - one combination may be less obvious than others, and for it may vanish without a trace if I do note now. It is linked to the Hindu idea karma, and goes in the same direction that the organization appeared in the note "The enemy Brother - or placing" (n ° 156) in the direction of the thin intuition of a kind of " **conservation law of karma** ." This grudge original broadcasts in a person, which results later in the aggressive impulses and violence in "free" appearance, is not born from nothing. It is the answer to deep fine assaults and many suffered, especially those experienced in early childhood. It can be considered, it is true that many these assaults, repressive, are not "acts of violence" in the strict sense, that is, say, from an intent to hurt or harm, particularly among vis-à-vis their child parents. It is also true that such an intention (almost always unconscious) is yet present in many more If it is admitted by common consensus. But perhaps in the context of a creation or Karma transmission, the question of **intentions** or **motivations** (overt or covert) Is accessory when "violence" has indeed held that inflicts "evil", causing "injury". I would not know how to say it.

Still, in most cases, a superficial glance can have the illusion that such "evil" suffered is null and void, it is collected and cashed once he "disappeared" without a trace. And that's a fact it is not so common as those sown in their children their anguish and helplessness to be themselves, end up reaping direct

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lies in the hands of these same children, once they have p. 774

sown; or at least it seems that they are reaping a small part! Or to put it differently, grudge broadcasts they have brought in their children, there is a small portion that condenses a grudge "hard", directed toward them - and they complain to body and cries, as the blackest ingratitude, it's a done thing! But the rest of this grudge or that "karma" accumulated, is not lost, however. It is to use it effectively, and so may seem inexplicable by this mechanism of the "displacement" of bitterness to makeshift targets; Target erratic sometimes, and sometimes also specially assorted targets attirées, pampered, so to speak, broods a long lifetime!

For ordinary times, this intense work of karma, like a deep abscess implanted in the lives of men, is in the twilight, and each is committed to ignore, not to agree to the view that as "blunder" casual here and another there, compared to what is considered normal and sitting up.

It is through exceptional times, when war or poverty rage (or in exceptional places as prisons and asylums), this underground work broke and spread freely in the full light of day in a frantic outburst of scorn and amok, exalted by the grandiloquent flags above the graves and heroic nude and cold cities. . .

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Fourth part .
THE BURIAL (III)
or the Four Operations
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The Funeral Ceremony (continuation)

18.3. The last homework (or visit)

18.3.1. (1) Duty accomplished - or moment of truth

Note 163

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(16 February) Today there is exactly one month since I started impromptu thinking, p. 775 triggered by the reading of CG Jung's autobiography. I thought to spend a few days there, the time of throw the first strong impressions of reading on paper - and today I have not finished going around more of these impressions! They are enriched and transformed into reading lessons, by the virtue of work triggered by it and by writing my reading notes. I just had time to go around impressions arising from the first four chapters on Jung's early years - the written chapters of the Jung's hand himself. I was about to confront these impressions with others, not always concordant with first view, aroused by later chapters. But while I was going to get started today, I realized that this digression (which is already approaching a hundred pages ...) is really out of place in this other "digression", already long enough by itself, that I called "The key of yin and yang". (A digression I had thought it a month ago, it approached its end 313 (*).) It is true that my reading notes on Jung fit well into the dialectic of yin and yang, and that they led me too, without seeking it, to specify many things that had barely been touched before, both on my life, and on life in general. This does not seem to me to be enough, however, to open a parenthesis of dimensions as prohibitions within another parenthesis, placing itself in the ultimate chapter, "The Ceremony Funeral", a long reflection on my burial. It would be time finally to resume this reflection and bring it to a successful conclusion

In the end, I will not include these reading notes in "The Key of Yin and Yang", or even in the Burial, with which they have only a tenuous link. These notes can be considered as a illustration of what I have tried to express, in general terms, in the notes (among others) "The surface and depth" and "Praise the writing" (n ° s 101, 102). I hesitate whether I will include them in Crops and Seeds, as a fourth part, or I'll make a separate text in Volume 2 of Reflections 314 (**). he

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While this thinking on Jung's life as it actually took place, is part p. 776 inseparable from the long reflection that I have been pursuing for a year, and which for me is called Harvest and 313 (*) (March 26) In writing this line, I was still under the impression that the note that I was going to begin to be part of "The key of yin and yang". It was only during the following days that I realized that another stage of reflection had already begun. "The key" therefore ends with the previous note "The endless chain - or placing (3)" (n ° 162 "). 314 (**) (March 26) Finally, these lecture notes will form (not the fourth, but) a fifth and final part of Crops and Semailles, which will undoubtedly be part of volume 3 (not volume 2) of the Reflections, with other texts of a more thematic. All the notes on the Burial which form the "third breath" in the writing of Harvests and Seeds, beginning September 22 last year, together I was thinking of doing a third part of Harvests and Seeds, will be divided into two separate parts, under the respective names "The key of yin and yang" and "The four operations", forming respectively the third and fourth parts of Harvests and Seeds.

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Seeds - and I'm directly involved, just as much as I'm everywhere else in these notes. It would be therefore artificial to separate from Crops and Seeds this part of the reflection, for the sole reason that it has hatched without warning in the middle of a Burial, and that it "overflows" a little too much on the central theme of it.

For the moment, I will take the opportunity of this break in my reflection on the autobiography of Jung, to return to my sheep, and finally to bring to a successful end, if do this, this Funeral Ceremony!

It is now time for me to give a brief account of my friend Pierre's visit to my home. last October. I note his arrival in the note of October 21 ("The Act" n ° 113), while

had just arrived the night before, with his daughter Nathalie (two years old). After the departure of my visitors (in the note "Paradise Lost" October 25, n ° 116) I write: "It will be time again in a few days to do point on what brought me this visit - a visit on which I did not count anymore. . . "These" few days " have become almost four months - but here I am at last!

I would have liked to make a narrative "on the spot" of this meeting, which represents for me an important episode in the adventure that was the discovery of the Burial, its reality and its meaning. But this time, I feel restrained by a concern for discretion, to deliver as it stands the totality of the multiple impressions and vivid that my friend's passage left me. It is true that I did not have such hesitation, to make to enter into my reflection one of these impressions (in the note of December 26 "Disavowal (2) - or the Metamorphosis ", n ° 153). But to mention a certain impression we had of such a friend at such a time, and make a quick description of the precise "moment" when such a diffuse impression suddenly became manifest, irrefutable - these are two different things. The second is a bit like taking a picture of a friend in a moment when he does not feel observed, and in addition, the

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circulate without having
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assured of his agreement. This is why I will confine myself to giving some impressions that this visit left me, and refrain (as elsewhere in Crops and Seeds 315 (*)) taking intrusive pictures!

First he would take me **locate** this visit. I had intended at first to see Peter at his 316 (**)
to make him read Harvests and Seeds, including the Burial. In early May, I wrote to him, for him saying that I would like to see him soon and have him read a text, especially for "my old friends and students of yesteryear in the mathematical world ", in which I had put myself whole "- I do not think I have never treated a text like this. "I thought then that the strike would be finished during the month, and proposed to come and see him in the first half of June. Finally, because of delays in the strike, not to mention the work to put the finishing touches to the Burial (as it was then planned, that is to say, essentially, which is now part I of the Burial), my visit was handed over several time, and in July and August Pierre was not in France. He had not shown any curiosity at the announcement the work that I wanted so much to give him in person and to make him read before any other. Finally I sent him during June the first part of Harvests and Seeds, "Fatuity and Renewal", thinking that it would be a good thing for him to take note of it, before taking the Burial to him - sometimes that my reflection on myself "makes tilt" at home and triggers something - you never knew! L was got sick for ten days, and it was not any more question for me to go to Paris soon.

I was impatient however to make him read the Burial, where Pierre was involved in a neuralgic way, and 315 (*) There is an exception though - namely the "photo" I took JL Verdier during a telephone conversation in notes "The joke - or" complex weight "" (n ° 83). I also remember that to make the description "on the spot" of the small scene, I had to silence a certain reluctance in me - I had the impression of having extended a sign to my ex-student, something that is absolutely not in "my style". Of course, I was delighted too, and very happy with myself, engulfed in sails deployed in this panel, yet larger and more apparent. Well done for him!

316 (**) I expressed this intention at the beginning of the note "Friends" (n ° 79), and in the first footnote on page one.
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18.3. The last homework (or visit)

I would have liked him to come and see me at home, before he left on vacation. It's in these provisions that I sent him the complete Introduction towards the end of June, as well as the table of contents of the Burial - I thought it would shock him, and

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he would be keen to come see me before his departure p. 778
to know in detail what I had to say about this famous burial and about the role that was devolved to it. Instead, I did not have any sign of life from him until late August - to the point I wondered if he had received my shipment. It was the big suspense! In his second letter after his return (dated August 25th) he finally said a few words about the introduction and the table of contents, in terms that seemed to me most evasive. "I had the impression that you did not know much about the love were surrounded by your "orphans". . . ", he writes, and he encloses a commented bibliography in support, a sign of manifest goodwill to dispel what he seemed to be feeling like a sorry misunderstanding. In his next letter (from September 12th), he announces his move to Princeton for the 7 October, and told me that he would try to make a jump home by then. Not receiving any more sign of I thought he's gone to Princeton - and no, calling IHES I learned that his trip had been delayed. And a week later, when I did not expect to see him for a long time, here he is. flesh and bone, in the company of little Nathalie!

(February 17) The meeting took place in an atmosphere that, according to all appearance, could not have been peaceful and friendly. A superficial observer who might have been around would have sworn that Peter was

in the process of writing a mathematical manuscript, and that from time to time he submitted to me his observations and constructive criticism of mathematician well "in the blow". For Pierre himself, he had to be well understood that he had come running (out of respect for me who had been, after all, his "master"), making the sacrifice of two precious days of a man who is very much taken, to contribute his best to dispel an unpleasant misunderstanding, Alas, who had crept into me, by some unfortunate coincidence of circumstances. As well good faith that mine were certainly above suspicion and there was no need even to report, so much was self-evident. Its role, on the other hand, was to enlighten me on all material details that seemed not entirely clear in my notes, or on which I could have made a mistake. He made a list of his observations as he read, and he submitted it to me the day he left - I had the good sense to take good note on the field, by key words. He has indeed been able to read, two days, the biggest of the Burial I, and in any case, all the notes (marked on the table of contents, and internal references to the text) which directly concerned his person. A beautiful

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performance, if p. 779

consider that I had two full-time months to write these notes ...

Little Nathalie during these two days was the wisest of the wise little girls. It hardly if I can say that I heard the sound of his voice - whether to speak, to cry or to cry. She does not I did not seem to like it at home, but did not show much. As for his dad, he was the real daddy model - always available at the right moment, to make eat, to walk or to bring to sleep a little girl not demanding nor contrarian for a penny. He had brought it, he told me, because after the big ones preparations for the move to Princeton, the mother was too busy cleaning again from Nathalie. But beyond this practical reason and force majeure certainly, I thought I felt another reason, which remained in the unsaid, surely, the presence of the little girl put a note of sweetness in the atmosphere of a meeting that my friend, without perhaps wanting to recognize it even in his heart, apprehensive. And this presence was at the same time the living sign, radiant, of these tacit dispositions in which he had rushed, in the scramble of moving to the United States - provisions in good faith patente and good will just as obvious.

On my side, I did not have the slightest intention to shake my friend, to make him approach whatever
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it was - I was at his disposal to go deeper with him on such an issue in which he would feel prompted to enter. He found he was holding above all not going **into the merits** of any of the numerous situations examined in my notes, where his probity as a mathematician (or his probity quite simply) was clearly cause. An observer who would have heard our conversation, which sometimes even turned to the theme (something that had not happened between us for over three years ³¹⁷ (*)!), would have suspected that in the text that my friend was commenting on, there could have been anything that put him in question so little bit personal. As for me, I felt that my friend clung firmly to this fiction, painfully maintained, of the best faith patente in the best of worlds. He carefully avoided all that could have broken it, by showing that this tacit "consensus" that he would have liked to establish between us, against all, was not a reality, but a fiction precisely, playing the role of "straw" to what to hang on. . .

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During these two days, I felt how false the situation was, filled with anxiety under these
p. 780

peaceful outside and good child. It was like with the rope in the hangman house, which nobody talks about while everyone thinks about it! I ended up making a remark in that sense - I think it was day of departure, after lunch. I said, basically, that I was pretty blown away from the a tea room that our meeting had; after all, in those notes that he was reading, and in the introduction already that he must have received almost four months ago, I had expressed myself in fairly clear terms and enough highlights a number of **acts** of his own. Did he really have nothing to answer me about it? He had me replied, with fuzzy eyes and a pale sourrire, a little miserable, that he was trying his best to "get preserve" - without specifying (as far as I can remember) what he was trying to "preserve", surely, my inquiry was to be felt by him as a violent intrusion into a life that had hitherto seem more peaceful and without problems - where everything was itself sound surprisingly **docile**; at such even docile, perhaps, that he had finally forgotten that it could be otherwise. **Assume** the position in which he has placed himself, that is to say, simply confront himself with it, examine it as it is - it would represent such an upheaval in his vision of himself and the world, such a collapse of the rigid structure of the ego, that most will prefer a thousand deaths and put the world on fire and by blood (if they can), rather than take the risk of such a leap into the unknown. That all of that, surely, that my friend had (and no doubt still holds today) to "preserve himself". I should not be surprised, having seen this kind of scenario recurring hundreds of times, expression the great fear of the reality of things and above all, beyond this, the risk of renewal

inside. I should not be surprised, and yet, every time again I am surprised, when I see the most glaring evidence, and suffer and inflict a thousand torments, for the sole purpose of avoiding what I know well, and of sure knowledge, to be the greatest of blessings. . .

Still, after this unsuccessful attempt on my part to "leave the rails", the conversation turned short. These minutes were I think the only ³¹⁷ (*), during the two days, where our conversation took a person turn

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- or something was said that went beyond the fiction of "consensus", maintained

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despite the evidence to the contrary! I fear that, as often, I did not have the opportunity to "roundness" affectionate, and yet without detours, that could have helped my friend, by dramatizing an atmosphere which, in spite of appearances, was stretched to the extreme, and this already for months. While I am limited to going about my household, gardening and writing, leaving my friend to read, and also during meals, taken together, there was in me a silent **expectation** vis-à-vis my young friend - the expectation of a **response** to what I told him, through this text in his hands.

³¹⁷ (*) On the cessation of all mathematical communication between me and Deligne, see note "Two turning points" (n ° 66).

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18.3. The last homework (or visit)

This expectation, he could not not feel it - and he knew well, basically, that it was not his few poor material precisions that "answered"! surely it would have been a relief to him that I take the lead one way or another, even starting with a neat shouting and he had not stolen it either, and finally makes **contact**, where there was none.

It is true that in the past fifteen years, every time I tried to raise with him personal thing and that was close to my heart, I had run into complete silence, or (when it was voice) with astonished inflections of rigor, in the purest style "velvet paw". I did not want to, of course, to play that game, I was also left without thought of return since the "turning point" of 1981 ³¹⁸ (*). But he is also true that this time there was a "moment" visibly unique in the relationship between us, and that would have maybe deserved a sprain of a rule (or a habit, become second nature ...), not to go against the reluctance of others to approach this or that. Sometimes it can be good (and in some limits) to "force the hand" so little, a bit like a kid that would bring to the dentist despite the fear (irrational) that he can have. . .

I do not say all that, just to pity poor friend Pierre who has not received from me all the benevolent encouragement he might have wished to find, and what more! After all, it's normal that I have my limits, like everyone else, and moreover it is not necessarily my role and even less my obligation to cushion shocks for those who have put themselves in situations (even if they were not aware of them) who risked to fall back on them one day or another and one way or another.

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Besides, after Pierre and Nathalie escorted to the station Orange, 22 October in the evening, I had ^{p. 781} not at all the feeling of a "meeting for nothing", an "opportunity missed". I did not have naivety to expect me to do wonders - it's so rare for two people to come to the bottom of a question which deeply concerns them both! There was no dialogue, it's something heard - and yet I felt that I had learned many things. There had already been these "material details" of course, of which more than one was very interesting, and that put last points on last i, with regard to the question of the only "scenario" of certain operations that had taken place, and their contexts. I will come back, in continuation of the note ³¹⁹ (*). What was more important was that during those two days, I observed my friend with new eyes, in light of what I had learned from him during my reflection on the Burial, I can say that I "rediscovered" with him - in his relation to me, to things, to his daughter. . . This chapter remains a reserved area - this is where the natural reserve that I mention at the beginning of today's notes.

But in the context of an understanding of the Burial, there was another reason especially, more subtle than the previous two, for which it was important that this meeting take place. I think I had felt this importance from the moment I decided to go to Paris to meet my friend, but I would not too much to say then why, apart from the fact that it is always important to speak in person with the person concerned, if you can do it when there are things of consequence that involve both. Yet we did not not talk about these things, precisely - yet I had the impression of having learned about the **reality** of the Burial, which I still had to learn.

I could say that too. Before this meeting, all the circumstances and the facts and constitute the Burial seemed so **improbable** point zany, wacky, that despite all the tangible, undeniable, material "proofs" that had accumulated over weeks and months, and despite some three hundred pages of notes I had already devoted - somewhere deep inside me, I

³¹⁸ (*) See note already cited "Two turns" n ° 66.

still can not believe it 320 (**)! This

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is not the first time that such a thing happens to me,

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far from it - that a tenacious doubt is maintained for some time, tenacious remnant of the resistances against the setting from an old vision, a vision that is often more comfortable, or more consistent with consensus currents, than the one that took over. Sometimes this doubt is not the expression of the only inertia against a creative change in the vision of things, but it is also a reflection of a healthy element, valid in the old vision of a **real** aspect of things, which was perhaps dropped a bit too hastily by Above board, with the rest! Still, as every time a doubt manifests itself, the good thing to do is to become aware of it (which is not always obvious, given the inveterate reflexes of "silencing" the unwelcome doubts), and, this fact, to examine it carefully. I do not remember one time where I would have examined a doubt carefully, without having learned anything of interest (or even me), and likely more to faint doubt 321 (*). Any doubt is the unmistakable sign of a job which needs to be done.

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In the case in point, to know that of my unspoken doubt, perfectly irrational, about the very reality

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of a so-called "Burial", I must admit that before this meeting with my friend, I was not even arrived at this first prerequisite to all work: I had not really realized it. He remained in the state of a single diffuse **discomfort**, and does not say his name - blame me to question! I noticed after blow of the discomfort and of its meaning, at the moment when it had just dissipated, by the virtue precisely of the meet with my friend. I believe that this effect would have occurred, whatever the attitude by him - that it is that of a kind of collaboration eager to provide me with all the "material details" missing (as it has been), or, on the contrary, that of a vehement, furious denial perhaps, the most obvious facts. In all cases, the **psychic** reality of the burial could not failing to appear to me, this time by direct perception (and not by "induction" from documents, and by subtraction from other facts to my knowledge etc.), seeing my vis-à-vis purely **ignore** and simply the ubiquitous absurdities of the version "the best of the possible worlds", absurdities of which the enormity itself had just made me doubt, first of all, in my heart, the reality of the Burial!

To give just one example: I had to learn from Deligne himself that he did learned the "theorem of the good God" from the mouth of Zoghman Mebkhout himself - but that he did not want

320 (**) This **disbelief** at the evidence of our healthy schools when they jostle too violently consensus currents or ways to see that we hold dear, was already mentioned in the note "The Chinese Emperor@robe" (n ° 77) Obviously, the writing of this note was a way, for me, to get beyond (at least partially) this incredulity before the evidence, by putting your finger on this inveterate reaction. In doing so, however, I **distance** from this disbelief, presented as that of ordinary mortals (adults), identifying with the "little child who believes the testimony with his eyes" ("even though what he sees is rather unheard of, never seen yet and ignored and denied by all"). my subconsciousness in writing this note - taking my distance from an attitude of disbelief towards my own faculties, and in relation to a gregarious instinct of "doing like everyone else". Such attitudes and instinct exist well and truly in me as in everyone, but (as with everyone else) they remain mostly unconscious. So it was as an attempt to exorcise that in me that alienated me from myself - and this attempt will have mostly the result, I think, to **delve deeper** into the unconscious what I wanted to distance myself. Insidious doubt, acting as a secret breach in my knowledge of things, was not eliminated so far, nor "outdated" ("at least partially", sic) the unfortunate disbelief!

I realize again that in this moment of reflection, it remained below what I call "meditation"

- which is a reflection in which dark and delicate inner movements (such as this secret disbelief, and the true one motivation in me writing the note, which was to "exorcise" this annoying disbelief) remain constantly the subject of a watchful attention.

321 (*) It would be more accurate to say that doubt turned into **knowledge**, which has taken its place. It has nothing in common with what happens when we hunt (or "go over"!) a doubt, which has the effect of making it disappear from the gaze, while took refuge (or was exiled ...) in invisible, deeper layers. It is farther than ever to be resolved (and transformed informed), and continues as ever to act in the manner of a secret **flaw**, a malaise, a sign of work remain evaded. Compare this with the comments from the previous footnote.

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refer to it in his article with Beilinson and Bernstein ³²² (*), **scruples** (!) vis-à-vis Kashiwara, being not sure (as a layman) what was the part of the one and the other in the said theorem ³²³ (**) - he will I had to hear

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Deligne speak in these terms, so to see me this strange combination p. 785 a good faith of detail, and a bad faith phenomenal and radiant in the substance and in the essential. I did not think it would be useful to draw the attention of my friend to the curious way (highlighted in the note "The Conjurer "(n ° 75)", that started off well read!) He it was taken for this result "which should have find its place "in its article, to give the appearance that it was none other than him (or at least, one of the three authors of the prestigious article) who was the brilliant author! He also had no explanation to propose to this strange fact, that this Colloquium which I called the "Pervers Symposium" was done, essentially, in the wake of the works and philosophy developed by Mebkhout in previous years (something Deligne that was not mine also contesting ³²⁴ (*)), but his name is yet rigorously absent from the Conference proceedings published in Asterisk ³²⁵ (**). He seemed to consider this a kind of unfortunate **coincidence**, when he nor anyone else were for nothing. In short, what I called the Burial is reduced to my friend Pierre to twenty or thirty such "coincidences".

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I found the game I knew well at home - not just at home; a game where we fooled p. 786 with the most innocent look in the world, with the certainty of never being stuck. And it©been a while in effect that I no longer waste my time trying to convince anyone (for example) that some so-called "Coincidences" are not mere coincidences. It can be helpful sometimes to point out things obvious, but once done, it©a waste of time to try to convince anyone that they are of **things** , in fact, not fantasies, qu©iez you so look there! It©a waste of time to wanting to convince bad faith, that it is conscious or unconscious, is the same, and to take the face of idiocy, or of finesse - it©the same again.

³²² (*) See notes "The unknown service and the theorem of God" (n ° 48 ©and "The Iniquity - or meaning of a return" (n ° 75) and the notes that follow it, forming with it the Procession "The Symposium - or harnesses Mebkhout and perversity."

³²³ (**) Of course, there is no more references to Kashiwara Zoghman Mebkhout in Article Beilinson, Bernstein and Deligne, developing the formalism of the said bundles "perverse" (not to call them "bundles Mebkhout"), from philosophy Mebkhout-ever-appointed. Deligne also knows better than I the role of Kashiwara in Theorem of God (aka Mebkhout): the constructability Kashiwara theorem allows Mebkhout set up the functor a triangulated category coefficients "continuous" (complex differential operators) to another formed coefficients "Discrete" (Plot) - something that nobody in the world had thought of doing before him, and even less, we suspect have an equivalence of categories. It was then the "missing link" in precisely the duality formalism that I developed for ten years (1956-1966), and my cohomologistes students Deligne head, hastened bury after I left in 1970.

³²⁴ (*) Deligne has merely pretending to be qualified somewhat my vision, saying that in his opinion the influence of ideas MacPherson in the Symposium Luminy June 1981 (called "Perverted Symposium") was even more important than Mebkhout. I was not quite in the game to discuss the matter on parts, and it was obviously a point of detail, which hardly mitigate the enormity of what happened. Deligne has not disputed that neither the Symposium in question or the renewal of large scale in the theory of cohomology of algebraic varieties, it was a sign, would have occurred without the Mebkhout pioneering work in the years prior, and without that philosophy was developed in complete solitude.

I grew to understand that the idea of MacPherson of the "intersection cohomology" varieties developed by independent him ently Mebkhout ideas, was a little dead letter until the "philosophy" of Mebkhout has lit new light and unsuspected (thing discovered by Deligne). It was the strong start of the theory of bundles Mebkhout (wrongly called "perverse" in lieu of a Symposium...). This starter is **Event** principal said Symposium and (seems it) a turning point in the history of our understanding of the cohomology of algebraic varieties. The keystone for this new understanding seems well theorem of God, who "was in the air" since the beginning sixties and neither I nor (later) does Deligne had arrived to clear.

³²⁵ (**) The term "strictly off" is true to the letter, at least for volume 1 of the Records (formed of the Introduction and Article Beilinson, Bernstein, Deligne), which is the master portion of the Symposium. There are two references to inch Mebkhout in the bibliography at two articles of Volume 2 (one by Brylinski, the other by Malgrange), none of which regarding the paternity of the theorem of God.

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But what had changed however when we met, and that put in my friend a note of anguish he was doing his best to control and conceal is that this time that game no longer limited to small sports inconsequential between four eyes, neither seen nor known - and with a **late** , again! This time the cards are open on the table, and it©a **casual game** . The paris are open, what will endorse and condone famous Congregation. It is true that much has already tolerated much endorsed, for ten or fifteen

years, and it will probably continue, who knows? As my friend Peter, it is perhaps not twenty or thirty "Coincidences" near ...

(18 February) When I finally escorted Pierre and Nathalie at the station of Orange on October 22 evening, I felt very silly. Pierre looked a who fulfilled scrupulously and meticulously everything duty, according to the timetable it had set - and I felt a dull frustration that nothing had been said nor discussed during the meeting which had taken place at last for months it was mentioned.

It was night, the small (in the back seat) had to sleep - there were for a minute quarantined car to the station, conducting dry. We stayed a long time without speaking. It is I who have broken silence, under the pressure of this dissatisfaction in me seeking some outlet; discontent with myself surely, rather than anyone else. It remains that I had gone there to tease just my friend. I told him that I was not yet clear with myself if I was not going to bring legal action against the house Springer, to force him to withdraw from circulation

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the volume-pirate SGA 4 1
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p. 787

published in Lecture Notes 326 (*). I would even say too knew when I had been touched by this idea, I ressentais there just in case, as a way also to probe a little my friend ("ihm auf den Zahn fühlen", as we say in German). He did not react too actually, it was a monologue rather I did, by taking a "thread" that I had dropped there was a long time ago, in April or May probably. I realized, then the following, a simple test of legal force does not rhyme with much at the bottom - that the thing would have little meaning, remove SGA 4 1

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Traffic in its title and presentation

current, if the initiative came from someone other than me - or the Springer or, better yet, who knows, Deligne itself. I had to chain it did not seem like a luxury, that he makes such Deligne public gesture, as an apology in fact for some vis-à-vis acts of me. it would clean an atmosphere that needed it!

My friend followed my monologue in monosyllables, placed here and there. He suggested that Springer would perhaps not so delighted to sell off its entire stock of copies of SGA4 1

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- is what I

retorted that it was sufficient that currency hedging, as he had done on another occasion and without Problems 327 (**), it had not have cost him dearly. Even assuming that the stock sold off - a title of Lecture Notes on more than one thousand, you talk if it would pass to the profit and loss! Not considering Deligne him, assuming there really yours, he had a few million old francs it needed to cover the shortfall. . .

I did not have to say, but it was understood (and surely heard) what was at stake, it was perhaps more value than one or two months salary of one of us. I had to still end up saying that in this stuff, what matters in the first place, it is not to see **how to** do something (or, Instead, list the **obstacles** to do so), but to be clear first on what we **want to**

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do .
p. 788

326 (*) On this volume, see in particular the four notes "The accomplice," "The clean slate", "Green light," "Reversal", n ° s 63 " ©67, 68, 68©

327 (**) It was during my first misadventure with the Springer publishing house, which published the notes of Hartshorne (On a course where I had developed the formalism of local cohomology), specifying the author Hartshorne. It was volume n ° 41 "Local Cohomology" of Lecture Notes, where we had to change the covers. Springer had the house courtesy to apologize then the maldonne, and work diligently to fix the error. The mores of the house have changed since. . .

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Once done, the rest is housekeeping matter, and "follows" (when she wants to "follow" indeed). Blame it on my loquacious interlocutor to explain his true feelings, I took as much heard that he was well aware that it would be good to "clean", in short, a situation who needed it - but simply remained undecided on what he was able to do it, history "Keep face" without doubt, things like that. I was "next to the plate" in fact! I ended up myself see, when we were already on the station platform waiting for the train. That was when Deligne is Income thing, a look a little sheepish to say that eventually he would prefer it be **me** who

contact Springer about SGA 4 1

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. Obviously he did not want to interfere or even, at this time, only to forward an opinion on the fate in the book which he was nevertheless the author (with it is true, my "collaboration" 328 (*)).

It was only then that I realized that my thinking decidedly for our way was a monologue - and to my friend Peter, it was still not clear that there was something perhaps not very "in order" to some "APG 4 operation 1

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- 5 USG "It is surely no coincidence, too, if it is on this theme there between all that I branched, seeking outlet for my dissatisfaction. It is this operation related massacre rule a great job where I had put the best of myself 329 (**) that had me most affected - by a blast of violence (in the massacre) and quiet impudence (vis-à-vis what had been massacred). And I was hit again, by this (that I knew only too well my friend) in short it was nothing to do it, to him, the "ideas" that I could get about of this and that.

The train was soon to arrive, and it was the first time I aillais get in a few words, **in the bottom** of something that was close to my heart, in favor of **emotion** that finally surfaced. It was not long, to say in person what I felt about it. They were true feelings of someone injured in a sense of decency, by someone he affection and who has played with him - it was not the some literature on the edges, we conscientiously annotated with pencil in hand.

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He was puzzled suddenly, marking still somehow keep his unflappable composure. p. 789

I had to tell him something like: "So, you think that it was a beautiful thing as" SGA 4 1

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to suggest that it is the things that come **before** SGA 5 - where you had learned before eleven, math who served you every day until today still! ". He said the tone of someone reciting a lesson, that if he had called SGA 4 1

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It was only to indicate a relationship of dependence **logic** , and not prior art.

So he gave me was to hear my ears and mouth of the person himself, this "Stuffing" for such a huge point that I had hardly believe the evidence of my eyes, when I had read black on white, in his first pen (in "SGA 4 1

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"), Then under that of Illusie (in the volume called SGA 5, which followed, as it was "logical" that of my predecessor. . .)!

I had to tell her that he knew just as well as I that SGA 5 is "held" fully, without pre-guesswork of any kind, and that it depended neither logically nor of any other kind contributions later. I looked him straight in the eye when speaking to him, and as he told me. He repeated the lesson of the same weak voice, SGA 5 well logically dependent on SGA 4 1

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- but I saw in his eyes flickered he knew as well as me what it actually was. His eyes were more honest, despite themselves, his mouth.

So he ended up between us, the "moment of truth" - but no, camera or magneto

328 (*) See note on the subject "The reversal" already cited, n ° 68.

329 (**) See footnote "The Massacre" (n ° 87) and the two notes which follow it.

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phone, could not detect it. There was then that he and I to know what was happening. The train arrived in the minutes that followed, I think. Anyway, for that day, there was nothing more to say.

18.3.2. (2) Points on the i

Rating 164 (20-21 February) To complete retrospective of the last visit (in October last year) of Deligne home, I would like to review here the clarifications he has kindly bring me some number of points, which remained vague in my reflection notes on Burial I, even erroneous. it will be an opportunity for me to also bring some additional details, prompted by those provided by Deligne.

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I Reasons (volume "Lecture Notes 900").

1. Deligne I said the main purpose of the volume LN 900 ³³⁰ (*) was to develop a "theory body abelian classes **Motivic** "over a number field $K \subset \mathbb{C}$, finite extension of \mathbb{Q} . In other words, in determining the "motivic Galois group of K over K , made Abelian". In this regard, I remember that I was the first (and for good reason!) to raise this issue, in the late sixties. The issue has a specific meaning for a term chosen pattern, using the "free functor Betti" on category of motives over K , with the inclusion of K given in the body of the complex \mathbb{C} . In fact, I had asked a little more general question of determining the **motivic Galois group** " **métabélien** " K / K deduced from the motivic Galois group by making full Abelian, not all proalgebraic group but only its neutral component. We had to get a completely canonical extension of profinite group $\text{Gal}(K / K)$ by the pro-projective limit of the torus (toroid on \emptyset associated with) multiplicative groups L^* sub-
The finite extensions of \mathbb{C} / K . I remember that Serre was very intrigued by this question, but neither he nor I (nor Deligne, of course I had put in it) did manage to improvise a "candidate" plausible. That question then fell into complete oblivion, like yoga reasons which it originated. this silence is broken only in 1979 by Article Langlands (that tells me Deligne in a bibliography commented reasons, in its letter dated 05.28.1984) ³³¹ (**) article where my idea of motivic Galois group would be first explained in the literature. As I have not had the honor to receive a prize apart from this article, I do not know if there is made allusions to my modest person. The next appearance of the grounds in literature seems LN 900, where all referring to myself as having something to do with the theme and the main problem of the volume, is missing ³³² (***)).

2. Deligne me clear that, contrary to what I had grown recognize

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(After a certain "style May-

p. 791

his "...), Article Deligne-Milne in LN 900, taking" ab ovo "Galois theory classes

tannakiennes (***) developed by NR Saavedra, was written almost entirely by Milne ³³³ (*). Line

also explained to me the error that was found in the work of Saavedra, which required (if we wanted to have the

³³⁰ (*) For details on this "memorable volume", see the two notes "Memories of a dream - or the birth of reasons"

and "The Burial - or the new Father", n ° s 51.52.

³³¹ (**) It is Article RP Langlands "automorphic representations, Shimura varieties and motivated. Ein Märchen Corvallis", in Proc. Symp. Pure Math. 33 (1979), AMS, vol II P. 205-246.

³³² (***) (April 8) I recently learned that the patterns are used in a Deligne 1979 article (published in the same volume as Langlands cited in note b. p. former).

(May 12: this "end" became the sub-note "Pre-exhumation", n ° 168 (iv))

³³³ (*) About this article Deligne-Milne, see note "The Burial - or the new Father" (n ° 52), and also comments in the subsequent note "The clean slate" (n ° 67).

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formalism of Galois theory Poincaré functors fibers) to reinforce the definition of a Saavedra category called "tannakienne". Work in the Deligne-Milne©article is limited to this adjustment,

Obviously once the identified error. It also raised the question, interesting, characterization

handy internal \otimes of categories that are "true" tannakiennes categories (might be called more

suggestively, \otimes -**categories Galois Poincaré**, as it is for them that we can develop a theo-

a series groupoid Galois Poincaré ³³⁴ (**)). This issue was not discussed in the article,

and has also not yet received a satisfactory solution. Obviously he was not performing or

solving interesting mathematical questions, but to provide a substitute for reference

Article Saavedra. (On this subject see the end of the note "The clean slate" (n ° 67).) ³³⁵ (***)

3. On several occasions in the Burial I, I highlighted the fact that the theory of Hodge-Deligne, developed by Deligne in the late sixties, was a first step towards a theory of "coefficients

Hodge-Deligne "on a scheme of finite type over \mathbb{C} , and to a" formalism six operations "for such

coefficients. I was (and I am) convinced that, if it was a deliberate among Deligne against

some of the key ideas introduced by me (such as that of formalism of the six operations), the theory of

Hodge-Deligne would arrive today "full maturity". Deligne has already stressed that the only definition

coefficients of a class of Hodge-Deligne on a scheme of finite type over \mathbb{C} , ran into difficulties

Serious

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his, he would not have been able to overcome. (There have been even more imperative to **make** clear that p. 792

issue from the beginning of the theory, as well as closely united, the formalism of the six operations

for such coefficients thing Deligne has always kept to.) According to him, the point of view of Meb-

khout and beam Mebkhout ³³⁶ (*) should provide a means of approach to the right definition.

(And if there had not been this deliberate, Deligne would certainly not expected to develop Mebkhout

philosophy that it has developed (against the current of his older), and to use for work visibly
ment fundamental that for fifteen years rest on the floor and still not only reported in the
literature, except by me in Crops and Seeds!)

4. I thought, wrongly, remember that I introduced the "filtering by weight" of a pattern, reflecting
(For all l) in the corresponding filtration on achieving l -adic of this motif (defined in terms filtration
of absolute values of eigenvalues of Frobenius). In fact, Deligne reminded me that I had worked
with the concepts of "virtual" weight (returning to work with virtual patterns, elements of a
"Grothendieck group" suitable. . .). This is Deligne who discovered this important fact, that the notion vir-
tual I worked with should correspond to a **filtration** canonical, by "increasing weight" ^{337 (**)}.

334 (**) The term "groupoid" (Galois-Poincaré) has the advantage of suggesting the close relationship with the concept of fundamental
groupoid

mental of a topological space or topos. Technically speaking, however, the name of "wreath" (Galois-Poincaré)
would be more appropriate. This is the sheaf of "fiber functors" defined not only on the basic body of the k \otimes -category
considered, but any objects on the site fpqc diagrams k (with particular attention to objects
this site which are of the form $\text{Spec}(k)$, where k is an extension of k , or even an extension **finite** k).

335 (***) (May 12) Having considered the book recently quoted Saavedra, it now appears that this one, and the same name
("tannakienne category") of this notion that I had introduced around 1964 and which gives its name to the book, is a **hoax** .
I disassembled in detail in the remainder of notes "The Sixth nail (in the coffin)" (n ° s 176 1 to 176 7).

336 (*) These are the beams that Deligne was introduced as the "perverse sheaves." (See about the two notes "The Iniquity
- or meaning of a return "and" perversity", n ° s 75, 76.) It was not annoying and kindly, in our conversations,
called "bundles Mebkhout". . .

337 (**) The heuristic reason Deligne convinced of the existence of such a filtration (necessarily unique) of a pattern,
is that there are non-trivial extensions of Abelian varieties by tori (including H_1 motivic thus provides an exten-
nontrivial sion weighing unit 2 by a weight pattern 1), but not vice versa. This may seem thin - yet I was
convinced myself more or less on the field - it was too attractive to be true! One reason more serious level
 l -adic representations from patterns on a K finitely, would be to prove that any extension of a module
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This discovery (just as "speculative" the "conjectural theory of motives") provided once the key
a shape defining **Hodge-Deligne structures** (also called "mixed Hodge structure") on the
body complex as transcription "on Hodge" structures "already known" about the reason and its
Hodge realization

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Technically speaking, the influence of my ideas in the definition of the Hodge-Deligne structures is
p. 793

double. On the one hand, via the concept of weight of a pattern, properly specified by Deligne in a structure
of " **filtration** by weight". Moreover, since the fifties, I emphasized the importance
the **De Rham cohomology** algebra of a smooth algebraic variety X , not necessarily own,
as a richer invariant than the cohomology naive Hodge (direct sum of $H_q(X, \Omega_p)$), which is
connected to the first by the well-known spectral sequence associated with a canonical filtration (**filtration by**
Rham) of the De Rham cohomology. I was the first to define the cohomology of algebraic De Rham (in
a time when no one would have thought to look at the overall hypercohomology an operator complex
differentials, such as the De Rham complex), and to emphasize its graded structure **filtered** , in contrast to the
bigraded structure of the cohomology of Hodge, who since Hodge was at the front of the stage. In the
If X clean (so that where one has the Hodge theory, implying that the previous spectral sequence
degenerates into a car. zero), and the main body C , is recovered bigraded structure on cohomology From
Rham filtered from its structure, taking the "intersection" of this filtration and filtration of the complex
conjugate (via the "real structure" of De Rham cohomology isomorphic to the cohomology Betti
 $H^*(X, C)$). I proved later (when nobody except me still believed in the cohomology From
Rham in the non-clean case), as a scheme X smooth over the field of complex cohomology
De Rham (which makes sense "purely algebraic") is canonically isomorphic to the cohomology Betti
complex (defined by transcendental channel).

That said, once postulated the existence of a concept of reason (not necessarily semisimple) and C
a motivic cohomology of a C -scheme X (not necessarily own, of course), and a concept of "rea-
lisation Hodge "(suitable and find) a pattern on C , which (according to my ideas) was associated with the
motivic cohomology X smooth a "generalized Hodge structure" (to be defined), having as a whole
base the De Rham cohomology $H_{R \& D}(X)$, the first structures you read on the latter, namely
filtration Rham (made by me from the fifties) and filtering by weight (introduced
by Deligne from my ideas about virtual weight, adding the ideas of Serre themselves from the
Weil conjectures), it falls exactly on the concept of "mixed Hodge structure" introduced by
Line.

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Of course, this filiation of ideas (164 1) was well known Deligne. It would have been consistent with p. 794

professional ethics (which I was not able to transmit) it makes clear in his work where he introduced Hodge structures mixed 338 (*). He preferred to ignore in this work, which is also **his thesis**, as he saw fit, on this particular occasion, to ignore also the name of one who had been his master.

5. In the annotated bibliography on the grounds (attached to its letter of 25 August), states that Deligne "One reason why we [!] hesitated to build on [on the few" classics " 339 (**) weight Galois i by another weight j is trivial if $i < j$. I do not remember if Deligne or I have demonstrated this statement, which would prove the existence of a canonical filtration "by increasing weights" for the l -adic Galois Module associated with a pattern (already pretty close object pattern itself...).

338 (*) This is the article "Theory of Hodge It" (Pub. Math. IHES 40 (1971) pp. 5-58). By cons, Greenhouse and I mentioned in the same line in the ad "Hodge I" at the Nice Congress (in 1970), as I point out in the note "Victim" (n ° 78 @page 308). See, for comments on this, the subscores n ° 78 1 , 78 2 to the latter.

339 (**) These are some sporadic texts ("classic") on the grounds, by Kleiman, Manin, Demazure published until 646

18.3. The last rites (or visit)

on the grounds] is the use that is made of the existence of algebraic cycles conjecture - conjecture for which we have no real evidence, while the patterns themselves are unmistakable for me. "

I will answer this explanation that these "classics" are by no means representative of the "state of art "in the late sixties, it takes the same lot, and it **not** on the texts that he, Deligne learned this "state of the art"! He knows that my "standard conjectures" were a possible approach, among many others, for a temporary "shaped construction" of a concept pattern (semi-way) on a body, which limited the scope in any way and the internal dynamics of the ideas he had from me. (See in this regard the subnote n ° 51 1 of the note "Memory of a dream - or the birth of reasons" n ° 51.) Making of a two-stone blows, he strove after my departure, both to discredit the standard conjectures as "unaffordable" and uninteresting, and discredit a certain approach patterns that would have been mine and would have represented a dead end, inseparably connected it would have been (to hear) these conjectures without hope - so much so that he was more charitable to me in the LN volume 900 where we finally did the job he was really do, spend my name

0 modestly silent. . . 340 (*)

p. 795

6. In the same "annotated bibliography" I read:

"From this point of view" classic " 341 (**) there is a regrettable gap in the literature: your des-conjectural scription of tannakienne \otimes -category of motives over F_p , single equivalence nonunique isomorphism - with these various fibers functor (crystalline and l -adic), cf. Tate, isogenic classes of abelian varieties over finite fields, Sem. Bourbaki 352 (1968). "

These are crocodile tears over a "regrettable gap" which is due to no other (except me ...) that my friend Pierre Deligne himself, seen that besides me, he would be the only mathematician in the world who was aware of the "conjectural description" in question ... It was up to him to include it in LN 900 the same, for good measure! This description was also nothing conjectural, provided I remember now, except that it had to assume that we have a category called "patterning F_p @satisfying some reasonable conditions, one would expect of a class meeting this name. If I remember correctly, the reference cited Tate-Honda meant that the category in question was multiplicatively generated by the pattern of Tate (and its inverse) and abelian varieties defined on F_p . There were beautiful things (and I many passes), I had entrusted in the hands of my brilliant former student and remained carefully buried until today. . .

II spreads cohomology ("APG 4 1/2" APG 5, SGA 7, Riemann-Roch discrete).

1. One of the first comments made me Deligne about

0 the Burial I relates the vicissitudes p. 796 the conjectural theorem I had cleared in SGA 5, as the "theorem Riemann-Roch discreet."

I speak at some length about it in the sub-grade n ° 87 1 to the note "The Massacre" (n ° 1970. They hardly go beyond the basic idea of motive, and can not give any idea of the delicacy of "yoga" I had developed, and I had tried to communicate to anyone who would listen. Notably, there is no mention of the group motivic Galois, although it had been an essential initial motivation to develop yoga. (See note "Remembrance a dream - or birth reasons, n ° 51.)

340 (*) Deligne took the lead on any question I could ask him about it, from the first day of his stay with me, telling me with his best smile: "Do you really think that everyone does not already know that it is you who

have introduced the reasons ". The amazing thing indeed, is that despite all that my friend could do to forget I found that it is nevertheless still generally known. But for lack of written references for my ideas, Deligne was free to create the impression that my contribution had to be limited, as usual, to offer a vague idea General (also unusable as such, given its dependence conjecture "as unaffordable today they were the never "...) - even if vague, it does not really deserve a serious mathematician, doing real work, take the trouble to make only one reference pure form. . .

341 (**) See the penultimate note b. p.

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87). Deligne precise me that when notified MacPherson my conjectural statement, he considered as having a role of "factor" intermediate. He did not add to my statement a new ingredient - the idea of translating my statement in homological language to make sense for singular spaces, is due to MacPherson, not Deligne. He said he was surprised by receiving the print of the Mac Article Pherson proving my guess in the analytical-complex cases and in the context homology (by arguments transcendent), to find the guess by the name of "conjecture of Deligne-Grothendieck". He had thought to write MacPherson to rectify the misunderstanding, but (he would himself have said why) he did finally not. . .

2. Contrary to what I assumed, and I suggested, Deligne had not made a commitment to upon oral seminar SGA 5, write one or more presentations of the seminar, such as exposed the cohomology class associated with an algebraic cycle (he ended up writing eleven years after the seminar for inclusion in the volume of his composition called "SGA 4 1

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"Without further ado ³⁴² (*)).

Incidentally, I asked if he did not think the privilege of being able to learn "on the fly" in SGA 5, the basic techniques that served him throughout his later work, did not require him **obligation** or responsibility to do everything possible to these techniques are made available mathematical public, rapid publication of SGA 5. Deligne replied **I thought not** .

I refrained from asking him the same question about the philosophy of the grounds, which was his main inspiration for the cohomology of algebraic varieties (which is the central theme of his artwork. . .).

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3. It is Deligne who took the initiative to ask Verdier agreed to include in "SGA 4 1

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" the
p. 797

famous "State 0" Verdier work on derived categories. Verdier had initially objected, saying it would be meaningless (I do not remember the exact phrase). This is Illusie who eventually convinced Verdier to agree. The first reaction Verdier seems more natural and consistent with simple common mathematical sense. Moreover, Verdier had for years decided to bury the derived categories, under the as a "work room" wingspan, which was a day supposed to be his thesis - it would therefore have a zany air published a preliminary sketch, long ago, was widely covered by the literature. I understand why Deligne and Illusie held so publication

0 of that State, where my name was not mentioned. As for the reasons of Verdier to return to his first common sense reaction, I increased the feel and express myself on this in the note "credit and insurance all Thesis risks "(n ° 81). 4. In the note "The clean slate "(n ° 67), I noted the ambiguity of the phrase "this semi-nary "in the passage of the Introduction to SGA4 1

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where it says (p 2.): "For the application functions L,

This seminar contains another demonstration, it complements, in the particular case of the morphism Frobenius. "This ambiguous term, given the context and spirit, had any chance of being read to mean

"APG 4 1

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"So to suggest that the mother seminar SGA 5 did not contain a demonstration" complete " rationality functions L. Deligne me clear that in his mind, "the seminar" wanted to say "SGA 5". Actually, this clarification does not specify anything for me. I know Deligne knows as well as me in SGA 5 there is a demonstration "complete", but yes, a trace formula, which overflows

342 (*) This act of dismantling (among many others) the seminar SGA 5 in favor of the volume called "SGA 4 1

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two functions, from one and the other in the direction of a "reversal" of roles me to pass as "collaborator" of Deligne and substantiate the claim of precedence (already suggested by the misleading name SGA 4 1

2 , and explained "between the lines" in

introducing both SGA 4 1

2 by Deligne, that SGA by Illusie 5) of "APG 4 1

2 "on SGA 5 (where references GAS 4 1

2 , via

said hacked exposed SGA 5, abound). See also about the comments in the note "Reversal" (n ° 68 © where I finally discovered the meaning of the strange name given to the volume-pirate, and the presence in this volume of my presentation on cycles

Algebraic.

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also by far (contrary to what the name suggests) "the particular case of morphism Frobenius. "But it is not by chance that the pen Deligne abound vagueness and ambiguities, when it is not even against patent-truths, which all point in the same direction: to suggest an impression, about my work or that of Mebkhout and others related to my person, likely to discredit, while enhancing its own credit, or creating from scratch 343 (*).

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5. I take this opportunity to add a few comments about SGA 7 II (seminar presented p. 798 as directed by P. Deligne and N. Katz), on which I was already expressed myself at some length in Note (unnamed 344 (*)) n ° 56. A review some more detailed showed me that on this occasion, N. Katz is not private to quietly push the wheels of the van Funeral smoothly conducted by Deligne, and this in many ways.

Katz agreed to appear with Deligne as co-author of the volume and the seminar, which corresponds not to the reality of what had happened during the oral seminar, four years before the publication of the volume. The overall design of the LMS 7 seminar (which continued over the two years from 1967 to 1969) had I, and the seminar was presented as a seminar led jointly by Deligne and me. N. Katz is listed as a collaborator-speaker among a number of others. But the moment N.

Katz agreed to sign as co-author of the volume (including five papers are written by him, but none the main results is due to him), it is normal to consider it jointly responsible, alongside Deligne, general holding volume, and the retraction that is done of me.

I think first of all to the retraction made in the introduction to the volume (signed by Deligne), where nothing to suggest that I have something to do with any themes or results presented in the text, while one of the two "Key Results" seminar featured (ie, the theory of Lefschetz pencils) Was developed by me even before the seminar SGA 7, and had also been one of my motivations to consider doing a seminar on the theme of the monodromy. In the stated Katz having this theory (Exp. XVIII), named "Study of cohomological Lefschetz pencils, by N. Katz," my name not appear in the title as is customary ("after A. Grothendieck"), but is in a terse notes footer after the name of N. Katz, "According to notes (brief) of GROTHENDIECK". looks that the "brief" qualifier was added to minimize the fact that these misguided "notes Grothendieck "have played a role here. They were beautiful yet be" succinct ", they nevertheless represented less the culmination of a several days on the job, not obvious a priori, to transcribe in technically an entirely different context, statements and results demonstrated by transcendental way.

As the duality or spreads

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Nielsen-Wecken theory 345 (*), the classical arguments were p. 799

as is unusable, and had to redo everything, taking the **results** classics like a thread and completely forgetting their "demonstration" (if you can call it that) traditional. It is normal, even helped by my circumstantial notes, Katz had to make an effort to get into the bath, as I have done before him - but this does not mean (at least, not according to the rules generally admitted) whether the author of the Lefschetz theory brushes in étale!

Continuing its momentum in the introduction to the same presentation (p. 225), Katz pretends to introduce Ms. 343 (*) In particular suggesting his paternity on the main ideas of the reasons that the étale, and that of the "theorem of God "and the philosophy that goes with Mebkhout.

(March 26) for the case and "seminar", see also the sub-note "Double-sense- or the art of the scam" (n ° 169 7).

344 (*) (March 26) Meanwhile, I filled this gap, including this note in the table of contents as "Prelude to a massacre".

345 (*) Having less restraint than his friend N. Katz, Deligne had not seen fit to also mention that I was for some thing in what he called "the method of Nielsen-Wecken" - see about the sub-grade n ° 67 1 to the note "The clean slate" n ° 67.

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Raynaud as the author of structure theorem moderate basic group "first to p" of a curve algebraic coach. p. If I remember correctly, that theorem (demonstrated by me in 1958, before even met my future student) who, with the "cow Lefschetz theorem" is the ingredient deep technical theory, and I was all happy, in the proof of irreducibility theorem, having to use full force.

In the introduction to the exposed XXI Katz (p. 364-365), after describing the main theorem of the former posed, concerning complete intersections in projective space, it says:

"There heuristic arguments due to A. Grothendieck and based on the yoga co-crystalline homology, that make plausible the general statement for all X smooth projective by essentially the same method. "

This comment suggests that I would be inspired by the text method (due to an unspecified author, which can hardly be that one of the two authors of the volume), to embroider above "heuristic arguments" that can generalize the result proved. I seem to remember that it is just the opposite - that are my "heuristic arguments" (which I had developed in my corner before the seminar, following my reflection on the Griffiths theorem and the Lefschetz pencils 346 (**)), which are "walk"

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(Without ingredients conjectural what is more) if X is a complete intersection. Moreover, in p. 800

the previous presentation (Katz also) dedicated to said theorem Griffiths, it is said in the introduction that " **The demonstration given here** (due to GROTHENDIECK) is the translation in purely algebraic terms the original demonstration, more or less transcendent, of GRIFFITHS ". This comment can give the impression that we are spoiled for choice between several demonstrations Griffiths theorem coach. any, and that did me the honor of choosing my own. In fact, there are none else provided I know. Also from the work that I had been forced to stuff, I doubt that this demonstration is a simple "translation" of the Griffiths, nor demonstrate any of the great theorems Key in étale was the "translation" of an already known demonstration, or (for that matter) that control the étale schemes was a matter of "translating purely algebraic terms" the familiar theory ordinary cohomology.

I have reviewed **the** three references to my person in the explanatory texts of N. Katz (there is a one in all eight presentations Deligne!). They seem to me to reflect all three of the same deliberate. Finally, I note that in the text of the final presentation of the volume, by N. Katz, devoted created the "mod congruence formula. p" of a function L bus. p, my name does not appear 347 (*) - not even for the ordinary cohomological expression of the function L. In fact, similar expression in terms of co-crystalline homology (that remained speculative), led me to conjecture since the congruence of formula several years. I communicated this conjecture Deligne, who had found a demonstration astonishingly simple, thanks to its formula Künneth symmetrical (exposed in SGA 4 XVII 5.4.21). I suppose Katz, who was perfect in the shot of this stuff, knew him as the source of conjecture, without judging the worth mentioning. (He presents the text in a different demo that of Deligne, and much less elegant.)

346 (**) It is these reflections, as well as my thoughts on the theory of vanishing cycles in geometry abstract algebraic (another of my "purely algebraic translations of transcendent theory"!) that were originally AMS 7 seminar.

347 (*) It is not entirely accurate - it appears there (so it is a fourth reference to my person) in a breath with Deligne on page 410, to thank us for having explained to author various equivalent reformulations of the form in which it This matching of formula. Comically, three numbered references indicate that for these brilliant variations, none exists in the presentation, so these are thanks figure amiable hoax! (This is not the first I encounter in the Burial. . .)

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Comically at the end of the introduction of this ultimate presentation SGA II 7, we read that the demonstration Deligne "should be included in the reissue of SGA 5" (SGA 5 which had not yet had a chance yet to know his

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first edition"). This may suggest that five years before the operation SGA4 1

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- SGA p. 801

5, Deligne still intended (as it was normal) to include in future published version SGA 5 supplements he had made since 1966 to the theory of étale developed in APG 4, SG4 5 348 (*).

III Philosophy Mebkhout (Symposium Luminy June 1981 article on "beams per-to "Beilinson, Bernstein, Deligne).

I repeat here for the record that I reported on this in the previous note.

1. Deligne said he had learned "theorem of God" ³⁴⁹ (**) in conversation with Mebkhout Bourbaki at a seminar - it was in any event before the summer of 1980. This overlaps with what I would like to Mebkhout, that the theorem in question had been communicated by Deligne to Beilinson and Bernstein in October 1980, soon to be used by them in their demonstration of the conjecture Kazhdan-Lusztig ³⁵⁰ (***). Deligne added that he had not mentioned in his article Mebkhout with Bernstein and Beilinson, not being sure what was the share due to Kashiwara in this theorem ³⁵¹ (****).

2. Deligne does not dispute that the Symposium of June 1981 Luminy (which itself appeared as the great Featured) would not have happened without the work of Mebkhout in previous years. He only held adding that the role McPherson ideas seemed "more important". He did not suggest that there would be something strange or unusual that the name of Mebkhout not in the Proceedings of the Symposium.

IV Formalism duality in cohomology, derived categories ("The good reference," "State 0 "derived categories).

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1. Deligne says that he is not aware of Article Verdier ³⁵² (*), taking on his own (between p. 802 others, without naming me) formalism of homology and cohomology classes associated with a cycle (I had developed in SGA 5 in 1965/66) that **close** the publication of SGA 4 ¹

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in 1977, so a year

at least after the publication of the article in question. This seems to contradict the impression that I had had, the brilliant operation made by Verdier in 1976 was a kind of "trial balloon" for operation considerably larger Deligne and others, which followed the year after.

Deligne told me it was clear to him, crossing the article Verdier, that it was not exposing

some of the ideas I had developed in SGA 5. He was still happy that Verdier is

finally loaded to provide a reference. (The idea that the publication of SGA 5 would have provided perhaps a reference more adequate does not have the touch. . .) To a question from me in that sense, Deligne said he had

³⁴⁸ (*) I presume it is the absence of any reaction (any of the people who were in it) to escamotages

which are made in SGA 7, which must have encouraged Deligne to the next step in his climb: the large-scale scam the SGA 4 operation ¹

2 - 5 SGA.

³⁴⁹ (**) See footnote "The unknown service and the theorem of God", n ° 48.

³⁵⁰ (***) See footnote on page 28 May in note "The Iniquity - or meaning of a return" (n ° 75), and also the note "A sense of injustice and helplessness "(n ° 44").

³⁵¹ (****) View comments on this in the previous note "The accomplishment - or the moment of truth", especially p. 784 and footnote page about "Kashiwara."

³⁵² (*) This is the article cited in note "The good references" (this was definitely the name that was needed!), N ° 82.

(May 12) To comment on this hardly believable version of Deligne, see note "Glory galore - or ambitions guous "(n ° 170 (ii)), pages 930.931.

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not noticed that my name did not appear in the article Verdier - adding that he admitted he had not thought even to ask the question. I felt it was heard, tacitly, that these things was the last of these concerns and does not deserve some attention. . .

2. In Article (repeatedly cited in the Burial I) Beilinson, Bernstein, Deligne, written by Deligne care and presented by him to the Symposium Luminy ³⁵³ (**), the duality in étale (I had developed in 1963) is called "Verdier duality" ³⁵⁴ (***).

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I questioned Deligne this strange name. He replied (with a peak of embarrassment this time)

p. 803

it was because "everyone" was called like that. I have not asked him to tell me who this "Everyone", or how it was a reason, while he, Deligne, perfectly knew that this was due theory.

This reminds me of one thing that struck me long ago. Speaking with me at least, or by writing to me, Deligne never used the term "derived category" without adding "Verdier". it made me an uneasy feeling every time, without my ever stops me (before the discovery of the Burial) to probe the meaning, let alone to put the dot the i. I should have probably stopped if I had bothered to take a look so slightly curious about "SGA4 ¹

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"And on" State 0 "from the" thesis "

Verdier who finds unearthed there. (For details on the latter, see II 3 above.)

V Praise Funeral

1. The Jubilee plate of IHES where my praise of Death ³⁵⁵ (*) was not composed by its founder and first director, Léon Motchane (as it seemed to me). Regardless of the way, here ©identity the author of the wafer, that Deligne taught me. He confirmed that it was he who wrote the passage me about, and that this passage, like the one concerning him Deligne (payable to the author of the plate), has received the "green light" before being sent to the printer. The text he had dedicated myself was initially more long, and was (with his consent) truncated by the author of the wafer. Deligne was also reviewed and corrected the text concerning himself. These texts therefore represent well the views of Deligne concerning his work and mine.

2. I asked Deligne if I was wrong, assuming that in any of its publications, he has hinted that he could learn something

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through my mouth. He confirmed it with one
p. 804

Reserve. It concerns the biography he had written for the National Research Fund Scientist (Brussels), on the occasion of the award of "Five Year Award". This prize was awarded (in 1974 I think) as a reward for his proof of the Weil conjectures. It is true (he said) that

353 (**) See, on this "memorable Symposium" and the article in question, the note "The Iniquity - or the sense of a return," n ° 75.

354 (***) This was done in several movements. At my suggestion, Verdier had developed a theory after 1963 duality "six operations" in the context of ordinary topological spaces, following the supervisor that I had developed the coherent algebraic context and spreads. This duality was baptized by my cohomologists students, as it should, "Verdier duality" or "Poincaré-Verdier", without mention of my modest person. In the "good reference" 1976

Verdier takes other hand, in the analytic context and without naming me, part of the formalism that I had developed in the coherent framework in the fifties (without having nothing to change). So this duality in the analytical framework, takes the name yet "Verdier duality", or sometimes "Serre-Verdier", still no mention of me - even

Mebkhout follows the general movement! But (by a stroke in great trip) it is clear that the algebraic coherent duality is only a "purely algebraic translation" of transcendental analytic theory as well as the spread is a duality

such "translation" to the transcendent topological theory. It was therefore necessary, therefore, to baptize also "duality Verdier" (Serre and Poincare being forgotten for the occasion, as they are below). From what Deligne told me is really what that "everybody" was quick to do. Curtain. . .

355 (*) See the two notes, "In Praise of Death (1) - or compliments" and "In Praise of Death (2) - or force, and the halo", n ° s 104
105.

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18.3. The last rites (or visit)

this biography is not in a mathematical publication and dissemination remained more limited. For my part, I did not know existed. At my request, he made me reach a photocopy in the days that followed, and I think back to this notice in the following note.

The systematic denial of my person that confirmed me Deligne did not seem to bother him. he did not seem to find there anything strange, worth some attention. Given these provisions, I am not felt prompted to ask him any question in this regard - I do not think I would have drawn nothing more.

To conclude this retrospective, I just add that to everything related to the "material facts"

in the strict sense, I have no doubt about the good faith Deligne, which struck me as obvious ³⁵⁶ (**). The only exception to this is his assertion that the seminar SGA 5 (from 1965-1966) logically depend on

results SGA 4 ₁

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357 (*) (developed in 1973, alongside the exposed Deligne on its demonstration

Weil conjectures). It is true that "capturing" some of the presentations of the seminar SGA mother-5 (and especially the one on the cohomology class associated with a cycle), with the connivance of Illusie (who was responsible publishing SGA 5) and many others, he got this brilliant result that SGA 5 is peppered with references

GAS 4 ₁

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So as to give the impression (to a reader who is very attentive, and very good in it)

that SGA 5 depends indeed SGA 4 ₁

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Which appears in all respects as a "prior" text. It is there sleight ride probably unique in the history of our science, and that seems distinguish seventy years of this century among all other times mathematics has known.

Rating 164 ₁

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Concerning the "philosophy of weight," end of the Weil conjectures, the "descent" seems p. 805 be summarized as follows.

a) As stated in the sub-grade n ° 46 ₉ of the note "My orphans," Serre had contacted me, as

part of the "philosophy" behind the Weil conjectures, a sort of "yoga for weight **virtual** " at the l-adic cohomology of finite type pattern on a body. He had not tried to give a formulation explicitly states, and the relationship between what was happening for the individual remained entirely mysterious.

b) One of the two main reasons that guided me from the beginning of the sixties, to develop a "yoga of reasons", was precisely to link the "virtual weight structures" for s different. (See the note about "Memories of a dream - or the birth of reasons" (n ° 46), and more particularly p. 208.) Therefore, it became clear that this structure had to be on all the "achievements" possible of a pattern, not only the achievements -adic - including (on the main body C) on the realization of De Rham-Hodge.

c) When informed by me of this philosophy virtual weight, whose ultimate source is the motive, Deligne Yoga brings to this great accuracy, with the presumption that the virtual weight structure on a pattern is linked to a **filter** (necessarily canonical) **by increasing weights** . This at from filtration should find out all the achievements of the reason - both the achievements -adic that (over the field C) of the De Rham-Hodge.

This "presumption" Deligne was the starting point of his theory of Hodge structures "mixed" (that I call "Hodge-Deligne structures"), and one of the two essential ingredients of technical definition 356 (**) (May 12) Looking back are nevertheless appeared certain reservations about this impression, like those to which refers a previous note b. p. (*) P. 802). It appeared also that Deligne had failed to note for me two coarse material errors in my notes, which have hardly gone unnoticed by him. (He had escaped that reveals part of the "yoga of weight" in Hodge I in 1970, and had spoken of the grounds in 1979).

357 (*) It is true that this statement came not by the spontaneous initiative from Deligne bring me "information material "to enlighten me and to burst its absolute good faith, but under unexpected pressure need to" save face " while I had to express in person my feelings about the incredible operation SGA 4 1

2 - 5. Ensure SGA

about the last part (February 18) of the previous note "The accomplishment - or the moment of truth."

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shaped them (the other being the filtration Rham, which I had brought from the fifties).

It is the success of his attempt to describe a "cohomology Hodge" for separate schemes finitely any C, which can be considered the main (if not only) "evidence" we have to present on the validity of the "presumption" of the existence of a filtration weights on the grounds. Of course, it was part of my great work program around the grounds, which was Deligne informed first hand and from day to day, to explain a concept of "coefficients Hodge" on a diagram of finite type over C, so that a pattern on an X match "Hodge realization" and that for smooth and clean patterns on X (e.g., those from

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a clean and smooth scheme X taking

p. 806

his "motivic cohomology X dimension i"), there is the notion (more or less already known) of "Families of Hodge structures" (including studied by Griffiths in the sixties). In addition, for X variable, the categories of "coefficients Hodge" had to meet a formalism of the six operations reflecting the same formalism at the grounds - the contribution of Deligne is a first step To the accomplishment of the program - knowledge (essentially) a description of the category Hdg (X) X reduces to a point 358 (*), and that the functor "realization" ie, essentially the construction of a cohomology theory on C-scheme finitely separated, with values in this category structures Hodge-Deligne.

18.4. The Skeleton Dance

18.4.1. (1) for a skeleton wave Requiem

Rating 165 (22 February) since his visit last October, and even already from its letters of late August 359 (**)

My friend Peter is with me ex-pupils cream and good boys, filled visibly good touching desire to dispel the unfortunate misunderstandings that have crept us, and for me take its good intentions and good faith. It was understood that it would hold confidential until Pre-publication provided Crops and Seeds by my university care (the USTL), the content of readings it made my notes, and even their existence. I do not know whether he has fully kept his word - always is it that I have a feeling by various echoes that came to my 360 (***) that he has had to have a word at one and the other, to suggest that it might be time to give some consideration signs the master (the one he happens to talk in small groups, but we carefully refrains to appoint public. . .).

358 (*) Ideally, it would complete the definition of Deligne by introducing a category **triangulated** suitable Hdg * (Is also the category derived from Hdg?). That he failed to do so seems to me one of the first signs (among others subsequent) of the alienation overlooked yoga derived categories and six operations which lasted until "turn of Pervert Symposium "in 1981.

359 (**) See footnote "The accomplishment - or the moment of truth" (n ° 163), where I "is" this visit, and the two letters end of August (received after the silence of nearly two months, had followed my sending the introduction and table of contents Burial).

360 (***) So, I received a preprint of Illusie, undated (I guess he must be last minute), a presentation of a seminar not appointed (corresponding statement does, is it clear, in no oral presentation of the seminar). In the title, unbelievable but true thing,

My name is yes: "Distortions of Darsotti-Tate groups, according to A. Grothendieck", by Luc Illusie! And in the introduction there is still the "Grothendieck" long as your arm - I grew dream. Certainly something must have happened. . . There was a letter in which he asks me my lights on homotopic algebra Grothendieck point style, wonders why "people (ie Quillen et al.)" K-theory work with beams rather than complex (Pseudocoherents or perfect) in the range that I had introduced there over twenty years. One wonders indeed why. . . In my reply, I had to suggest that it was not in it, nor any to my former students ask me such questions. I have been more sign of life from him since.

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I feel also that deep down, my friend does not believe (or want to believe, at least) that I will p. 807 publish indeed the burial, along with the first part of Crops and Seeds. This is conformed to the image of the "sugar daddy" qualms doing is to appoint someone who might have the penalty, and quite willing to acknowledge in public the various shortcomings of his own grown that come in mind. Reading this part "Fatuité and Renewal", which I had a brief echo before departure holiday my friend and before I send him an introduction to the Burial, did not care for a penny, quite the contrary - she would rather stimulated self satisfaction of air that became me well familiar home - this air condescending suspicion or at least with respect to the protective decidedly deceased master. It©not at all the same thing with the Burial, which suddenly cards are put on the table altogether!

I suspect that reading the introduction had to shock him - and it is a pity that I was not present at that time, maybe something would have happened. Still, he was given time to regroup before coming to see me, breezed five minutes before moving to the United State. And he came running with such good provisions, and the meeting took place in such a family atmosphere, so "cake", it sounds eliminate, so to speak "by contradiction" that said sugar daddy can itself even take seriously a text that does not look like him (do not say more about this text, best forgotten. . .), Or even distribute it among people just as reasonable and "good" in all reports that my friend Peter himself and the former deceased as he has always known. . . 361 (*).

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As he had promised, and the same days that followed his return to Bures, my friend made me p. 808 mail this biography he told me, he had written in 1974 (or 1975) for the Fund National Center for Scientific Research (Belgium) 362 (*). This is a short text, two small pages, I then read with interest and I just re-read at the time (this is the third reading, I think). At first glance, I did not feel, however, that this text anything new, and that he deserved me to dwell in the Burial. It is true that the retraction technique, which was already sufficiently known to me at my friend, is shown here in a particularly striking way, a compact one hundred text lines. My name appears four times (like that of Serre, and that of Weil three times) - without nothing can imply that I may have met otherwise than as anonymous listener My seminar (on an unspecified topic) in 1965-66. In three of the four passages where I mentioned, I am in a breath with another mathematician (Serre twice, once Rankin), so as to avoid giving the impression that I could play with him a role so little particular. This is also a technique which had already been proven elsewhere 363 (**). As it will not be long, I would like here to quote verbatim the three passages where my modest person appears to enlighten the reader who does not have, like me, the text of the biography.

The third paragraph goes on with the mention (which just made) for the year 1965-66 increased "in the at-ideal phere of the Ecole Normale Supérieure as a foreign resident " 364 (***):

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"In Paris, I followed the seminar Grothendieck and during JP Serre. Three hours of classes p. 809

361 (*) However, there was no time for hesitation my intention to make public all my notes on the Burial, as well as the first part of Crops and Seeds; and I have, of course, left no ambiguity about it.

362 (*) This biography is mentioned for the first time in the last footnote page to the note "The nerve in the nerve - or the dwarf and the giant "(n ° 148) See also the end of the previous footnote. ° 164 (Part V 2).

363 (**) I think here the terse reference to a line, citing a Serre breath (without naming him) and "conjectural theory Grothendieck motives "in the ad (the Congress of Nice) by Deligne in its results in theory Hodge. For clarifications and comments, see sub-grade n ° 78 1 of the note "Victim" (n ° 78 ©)

364 (***) For some reason that escapes me, Henri Cartan is not named here. Perhaps it is because Deligne, encouraged by a some deliberate in me against him (see note "Being apart", n ° 67 ☹ wanted to carefully avoid any appearance he could be someone the student. The situation of "Normale" immediately arouses the association of ideas "student Cartan", and
Such an association would have been strengthened by mentioning namely Cartan.
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week but despite a happy and hard work, the rest of the week was enough to only assimilate (165 1). Grothendieck, I learned modern geometry technology algebraic, Serre, the fascinating beauty of the theory of numbers (165 2). Courses Serre were devoted to the theory of elliptic curves, which intersect ... "
to continue on the charm and variety of these courses Serre. The player not in the know will think it is these courses, with three per week, which were the subject of "working hard and happy," which says the author (meaning: no need to work to assimilate the "greatest natural generalities" a Grothendieck seminar. . . 165 1).

In the fifth paragraph, about his proof of the Weil conjectures, it reads:

"My most notable achievement is to have shown the" Weil conjectures "(...). I ☹ not probably come to be familiar with both the work of Grothendieck with in a different field, the work of Rankin on modular forms. "

We admire the "probably" doubtful (masterfully placed there!) And "in any other field" (suggested manager that my work has nothing to do with modular forms 365 (*)), and especially "as with" by which I have the honor to be introduced to put on the same footing the vast work foundations that I had made 366 (**), with a technical idea "point" borrowed from Rankin.

Finally, in the following paragraph referring to the work of Deligne on Hodge theory, it is said:

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"Inspired by the arithmetic, particularly by Grothendieck had design

p. 810

deep sense of Weil conjectures, I generalized (non trivially) his theory to the case of arbitrary varieties (with Sullivan) to other invariants of the "form" that only cohomology. The root of this theory is old already, with Picard treaty "Algebraic functions of two independent variables" (1890), but we do know without little doubt now but a vague skeleton. "

It took me to take the trouble to copy this passage, only to realize that "the design had Grothendieck deep sense of Weil conjectures "was how masterfully" inch "for my brilliant former student not to appoint the **grounds** without one can blame him for having gone silent! No doubt that "his [so I] theory," which I do wonder at the instant (everything passage had escaped my attention in previous readings) can only mean the famous theory reasons, he was not about to mention by name for four years now (and do not evoke over eight years again!). The formulation was even such vague points and frankly, incomprehensible except for a small handful of people in the shot (which probably will not have had the opportunity, like me since, reading this pre-Praise of Death), he did not even bother to stress here that this "theory" (he had generalized) was, however, any conjecture! The "generalization" in question can hardly describe the Deligne-Hodge theory, given the context. This is a small symbolic satisfaction that my friend is paid in claiming here (without fear of ever being contradicted, saw the place, and the elusive wave of the formulation) that the theory 365 (*) It is true that the "modular forms" represent a regrettable hole (among others) to my mathematics, as the analytic number theory, which I have never "hung". But I ☹ still sufficient

ciently informed to know that understanding of modular forms is hardly thinkable without the ideas from the algebraic geometry, which gives the theory its contents "geometric" and that the most profound questions of theory modular forms are closely related to the presence (long implied) of **grounds** . As we shall see, these included elsewhere, just as tacitly, in the next paragraph of the biography (aka Funeral Eulogy (3)!). 366 (**) On the schema concept and development of a cohomology formalism spreads, what Deligne care not to hint, if not in the above quotation by the amiable and impersonal euphemism "modern geometry technology algebraic".

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Hodge-Deligne (which is still in its infancy) "generalize" the vast array of reasons I had shown him. In it, however, a "Hodge theory" reached full maturity, figure as a the "planes" of the table among many other 367 (*) As for "other invariants of the form", I was "Well known" since the sixties (as part of my "yoga of reasons") that algebraic varieties

"Arbitrary" (as stresses Deligne) had a "homotopy type Motivic", the π_i above ($i \geq 2$) generalize the fundamental group "geometric" Motivic, and explicit (for a given fiber functor over a number field K) as algebraic pro-affine K .

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As for the reference to Picard as "root of this theory," that is, to me it seems an entirely passing p. 811 ment can, introduced for the double reason to "do good" and to introduce simultaneously paragraph terminal immediately following 368 (*). The term "wave skeleton" also seems the expression of another "Symbolic satisfaction" that my friend will pay, treating in his heart and yet without seeming (Always in the same style "thumb") this broad vision he was inspired secretly while still buried 369 (**), as not being altogether a "wave skeleton".

Eventually these escamotages to all comers were more interesting than I anticipated when I was about to point out in passing, for conscience. What most strikes me, now, it is not not (as in the first reading, quick and superficial) perfect like "thumb", already known to satiety. It is rather that this text, written nine years before Eulogy Funeral 370 (***) foreshadows this way saissante, and this (I think) in two ways. On the one hand by the wave of rigor that must surround each appearance of my modest person (in contrast here with the luxury of technical details that accompany the evocation of the course of Serre). On the other hand, and in the same direction by the complete silence that is done around 0

the étale or -adic as new and essential tool that I developed from nothing, p. 812

and without which the Weil conjectures would probably not demonstrated even in a hundred years again!

In fact, as in Praise of Death, the word "cohomology" is not pronounced in relation to my name - not more than is alluded to the fact that the proof of Deligne conjectures of Weil was simply **the last step** of a long journey, with the longest and also the most innovative was accomplished by a but him, even before my brilliant student appears on the mathematical scene 371 (*).

Rating 165 1

As I point out some lines later, the wording suggests that irresistibly

"Three hours per week" mean "during JP Serre" he just mentioned, and he

will issue another two sentences later. In fact, Serre only gave one course a year (in College France) at a rate of one hour per week. If we try to remove the ambiguity in interpreting the text as 367 (*) (February 27) For details on this, see especially note "The Sound tomb - or sufficiency" (n ° 167).

368 (*) This paragraph terminal will be the subject of the note (n ° 165) that follows this note.

369 (**) The vision of the reasons remained "buried" in two ways. On the one hand vis-à-vis **the outside**, the mathematical public, refraining from any reference to the concept of pattern (except the half-line "thumb" Hodge I, in 1970, see note 78 1) until 1982 when the concept was exhumed "in big bands" under the tacit paternity Deligne (see notes n ° 51 and following). But secondly, even for personal use, I see that this vision was stripped by Deligne whose real **breath** of making was **anything other** than a collection of recipes mat (to recognize it in the cohomology of algebraic varieties) but a **dream force** large enough and deep enough to provide inspiration, line on the horizon, for generations perhaps arithmeticians surveyors.

The term "wave skeleton" by which Deligne refers (always tacitly) to this vision, makes striking the provisions of **gravedigger** in which it holds, in its relation to the dream and the worker whose dream came. That are not the provisions where one can still feel a breath (as he had felt once) nor embody a dream. It does not embody a dream by **using it** for its own purposes (and while denying the...), but only if in **making the servant**.

370 (***) See the two notes, "In Praise of Death (1) - or compliments" and "In Praise of Death (2) - or force, and the halo", n ° s 104 105.

371 (*) The contribution of another is retracted by Deligne in impersonal terms such as "modern techniques [or, Moreover, "powerful tools"] algebraic geometry".

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Referring to the "course" Serre during successive years (contrary to what suggested contexe) we spotted another inconsistency because Serre changed theme each year, but not limited to the elliptic curves (as stated Yet two sentences later).

While the person Serre is used here by my friend to try to deceive about the role that was mine in the crucial years of his mathematical training, it is interesting to note that the single reference which I have knowledge in literature, where it is said that Deligne was my student, is from the pen of Serre, who repairs and (without raise) the glaring omission of the growth of my brilliant former student himself. This is the report by Serre in May 1977 about the work of Pierre Deligne for international the Committee to distribute the medals Fields 1978. This report was made public after the distribution of Fields medals at the Helsinki Congress 1978. The report begins with these words: "The first work of Deligne, directly inspired by Grothendieck which he was the pupil, concern various technical points of algebraic geometry. I merely mention. . . "

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Further, Greenhouse also mentions the influence of my ideas and results in the demonstration of conjectures

p. 813

Weil, and (through the grounds) in the work of Deligne on modular forms, but not in work Deligne-Mumford on the modular multiplicity algebraic type curves (g, v) nor in the idea of cohomology of Hodge-Deligne, whose relationship to yoga patterns and Weil conjectures it seems have escaped. (It is true that Deligne has done his best to hide it.)

The discourse on Deligne on the occasion of the award of the Fields Medal was another occasion following the established practice, to publicly remember the link to my person who had been previously by you the person concerned. For some reason that escapes me, the mathematician responsible for presenting the work of Deligne has not JP Serre, but N. Katz, "co-author" with Deligne SGA 7 II (see this footnote ◦ 164 (II 5)).

Needless to say N. Katz makes no reference to the link in question, although it was well known to him and first hand. (By cons, it repairs the way, no less, a number of omissions somewhat annoying the illustrious winner to me. . .)

Rating 165 2

The selection of qualifiers here ("modern techniques" for me "fascinating beauty" Serre) is certainly not the result of chance. I perceive clearly intends to evacuate my friend (sym boliquement) this **fascination** precisely that since our meeting (and maybe even before it) linked to the myself and my work, he saw happen and unfold before his eyes, day by day.

I have noticed on other occasions even a deliberate look at my friend and my present publications (including EGA ("Geometry of Algebraic Elements") and SGA ("Geometry Seminar Algebraic Bois-Marie ") as a kind of" compilations "of results more or less technical, as "Everyone" has always known, and for which I would do the commendable effort to put black on white, in order to finally provide the missing references and speak no more. He well knows, however, the background what to believe: that each volume of EGA and SGA have ideas that I introduced and which for years I was the sole owner and lawyer, and techniques that nobody had dreamed (except me) and it took me develop, test and refine with untiring patience before they are full-fledged, end ready to enter the field of "well known". He knows better than anyone, but at the same time, it appears that he deliberately

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for more than a decade has finally become a "second

p. 814

nature, "he himself became the first (if not the only) fooled.

I got hit there a few weeks ago, when my friend, thoughtfulness to me since his passage home in October, called me a copy of an exchange of letters with Dr. Heinze (in charge of "Ergebnisse der Mathematik" Springer) about a project Reedit EGA (many of 658

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Volumes are exhausted or about to be) his response, Deligne unreservedly recommend republishing integral, "ne varietur" to pretty much, saying only one exception (the second part of EGA III where the presentation would have been better using the derived categories (sic)), this treaty "has aged very well." His great merit would be to provide the necessary references: "Thanks to it [EGA], in algebraic geometry (as Opposed to analytic geometry, for instance) one can march securely on the ground without HAVING to worry This or That is if Careers in the literature. "(He followed that with a number of constructive suggestions, about possible aprendices that could be added to certain volumes, and mathematicians would be able to provide them. . .)

It is typical of the Springer house relationship to myself, that this correspondence (about a reissue of books I am the author) continued **with Deligne** , and without that Springer has deemed necessary to first tell me about this project. This is more than a month later (in a letter dated 24.1) that Dr. Heinze speaks to me in passing, as a matter of conscience, of the thing - that Mr. Professor Deligne "was kind to give me a copy of his letter of 12/19/84 "(it was really nice...), and" of course, we [Springer] would be interested to hear your opinion about it [the reissue project] "(it really too much honor. . .). I replied that, given the processes in use in the Springer] in publishing (Thinking of publishing SGA SGA 7 and 5 in the Lecture Notes, not only notify me, let alone ask my permission), it seemed perfectly superfluous to inform the Springer Verlag "My opinion," clearly irrelevant. Things are there. . .

18.4.2. (2) The profession of faith - true or false in

Rating 166 (February 23) Finally, I am not come to my true about yesterday, speaking of the biography of my friend Peter. The meeting "skeleton wave" (aka, patterns theory) was a unexpected episode, when I was already getting ready to continue with the final paragraph of the notice, sui

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efore p. 815

Immediately the last passage quoted. Here, finally, the last word in the "biographical note", which

I was getting from the beginning:

"Finally, I would like to emphasize how precious my contact with the work of mathematicians the past (1800 to present), whether direct or relayed by more erudite than me, such as A. Weil and JP Serre. We "are dwarfs on the shoulders of giants", and more beautiful modern mathematical theories are motivated by the hope of resolving some of the problems that we have inherited.

Pierre Deligne "

As is often the case, my first reaction to this, a kind of profession of faith in this case, stopped at the surface, in the literal sense - but I had yet felt, confusedly, that beyond the literal sense there was something fishy. This quote (from a famous mathematician probably, I was supposed to have read, "Like everyone else") did not come back to me. I felt a deliberate modesty or humility, which was all a pose, and that just does not fit the simple reality. At the limit, it deliberately borders on absurdity: if each generation were "smaller" format than previous, it has long been the human species would have died, out of breath, reduced to a paltry mass homunculi! I know that creativity in man is no less today (nor, probably, more large) than a hundred years, or a hundred centuries. I know, too, to speak only of math, that such ideas and Such work of people I knew well, not excluding me from their number, were all the same honor the greatest mathematicians of the past. And I also know that **my** motivation in doing math,

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and not more surely than most of my old friends in the mathematical world ³⁷² (*), resides in "the hope of resolving some of the problems" inherited from my predecessors! If it were otherwise, our science is powerless to renew itself - it would have ceased to be creative.

What was supposed to shock me more in this profession of faith borrowed, or rather, me **pain** is that I knew that above all one who was more than any other person in the world I had known, had received a share of the "means" that had amazed me, and I had known him as a "cool" in his approach to mathematics things, what he was called to do great things, as little math

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maticians had the privilege to do. There was in me a sentence, and also as a p. 816

Despite, for behind the pose of one who claims to have found a humility in trade with major men of the past, I felt an **abdication** . An abdication of this creative force in him, it seemed have forgotten for a long time, and that made him well **anything** that suggested that this paltry image of the dwarf, perched on giant shoulders ³⁷³ (*).

This is the first time since I first read the biographical note, I try to identify what feelings that reading was first aroused in me. In the days that followed and without deliberation my hand, it continued to work. It is especially this last passage that continued to trot in my head, like a decidedly unusual thing, and had not "passed". Behind the apparent absurdity of the profession of faith which closes this short biographical text, I had to sense a **direction** , which was probably directly perceived to an unconscious level, and gradually rose to the surface layers, without yet thinking itself, as far as I remember. I knew, after all, my friend

Pierre had little more than I used to haunt the writings of the past. If indeed read more than me, were not the old books, but the latest reprints and preprints circulating in the media knowledgeable, and which always had the scoop. And I also knew it was not in Picard or other venerable precursors of the last century or even this century, especially my friend had the inspiration that nourished his work, since (and even before) I left the mathematical scene!

And if it is true that he was pleased to "perch on the shoulders" of someone, not in a profession Public faith and rhetoric, but secretly and **actually** , I was after all well placed, since I reflected on a burial, to know **who** was the one who was, somehow, fresh! Instead of He-we-will-never-called ³⁷⁴ (**) (and which is nevertheless always present ...) is replaces verbally "the great men of the past," which in paragraph

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preceding it comes from elsewhere all

p. 817

just tacitly attribute authorship patterns (aka "what is little more than a vague today skeleton ") - and more vivid making **real** identity behind the figure of substitution...

I have observed many times that there is a force in man, apparently universal nature which pushes a voice against all odds, often misused and symbolically, desires and intentions (also aware and unconscious) that can not be manifested openly, giving them an outlet and a satisfaction that can seem trivial (in terms "rational" and according to the current consensus), and which are no less substantial. It is a force, in a way, that drives us, in spite of us,

proclaim the truth of our being the one who will listen (and there are many in all of us, "someone" which has a fine ear. . .), And this **despite the fact** that what is so "proclaimed" would be the greatest secret and would anathema to others as to ourselves. The land of election for the expression of this force is the dream, and this is one reason why the dream is a powerful key of all to bring us into

372 (*) Including, incidentally, Pierre Deligne himself!

373 (*) (25 February) This impression of "abdication" is strongly associated with that aroused by a "third element" in my praise Funeral. See the mention made of it at the end of the note "In Praise of Death (2) - or force, and the halo" (n ° 105), p. 459-461.

374 (**) Or, if you can not avoid it, it affects to appoint "by the band" in style "go!" rigor. . .

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knowledge of ourselves. But the fact of the intimate nature of personal dream, that speaks of ourselves to anyone but ourselves, this medium we by no means sufficient, it is improper to affirm the truth of our being **before others** , even symbolically, to the world. It is thanks to that behind every nonsense that seems to defy reason, hides a "sense" - or rather, nonsense is the **preferred means of expression** selected by the unconscious with infallible instinct, for **proclaim this sense** , both hidden and ostentativeness displayed in front of all 375 (*)!

This is certainly what I felt obscurely, in the days that followed my reading of this "nonsense": the "Dwarf" (yet to be born giant) standing on the shoulders of a "giant" (how to more modest means than the so-called "dwarf", perched on her while denying it. . .). One reason 376 (**)

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for my trouble p. 818

clearly aware of the meaning revealed by this nonsense was probably my reluctance to recognize me in this image to the punch of "giant"; or rather, perhaps, recognize me in a certain pose or brand that has indeed been mine and which, by the unexpected through this nonsense creaky suddenly interpellait me! Only weeks later, in the note of December 18, "The nerve in the nerve - or the dwarf and the giant "(n ° 148), I finally returned to the unusual image of the dwarf and the giant, by working on parts this time, at a time when the context of the reflection on the Burial was ready to welcome him. This image was immediately revealed (the same day) as an "image-force" crucial for understanding the relationship of my friend in my person, and deeply and especially for the beginning of an understanding (Called probably forever remain fragmented) the relationship of my friend to himself, that is to say also: the particular form taken by **the division in his own person** . And since the burial was implemented before any other, by my former student friend and former heir 377 (*) is the same image as that appears to me now as **the** nerve strength stubbornly at work throughout this long Burial, as his real **nerve** . It is central to the thinking within fifteen days following the crucial moment his appearing in the notes, while in the nine notes that follow, between December 18 (with notes already quoted "The nerve in the nerve - or the dwarf and the giant") and the note of December 3, "The enemy Brother - or placing "(n ° 156).

The "validity" of the nerve-picture Force role in my thinking takes this apparent benign image ence, that is to say, too, the question of

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reality in the psyche of my friend himself, such an image- p. 819

strength, expression of deep conflicts and motor for acts irrepressible compensation 378 (*) - this question, it seems to me, can only be decided by a "demonstration", ie by an approach known

375 (*) For another example, particularly ostentativeness, a **sense** proclaimed by an apparent nonsense, see note "The joke - or "complex weight" "(n ° 83). See also the comments in the note "The surface and depth "(n ° 101), including at the end of the notes (p. 440), and in that which follows, "praise of writing" (n ° 102).

376 (**) Another reason, which seems to have been the main obstacle is a certain **inertia** , or more accurately, a kind of **pusillanimity** to "believe the evidence of his eyes, even though what you see is pretty unheard of, never seen again and ignored and denied by all. "I was confronted again recently in the note" The accomplishment - or the moment of truth "(n ° 163). See especially note b. p. (**) on page 782, where I probe this kind of "disbelief" to the obvious. . .

377 (*) It is true that in this "implementation", he acted in close collusion with "the whole Congregation," which he has somehow been instrumental in the completion of a collective will. (See note "The Gravedigger - or the whole Congregation ", n ° 97.) But it is possible that the same image-strength I have seen in my friend was also present at a "collective unconscious" in said congregation finds expression in the unconscious Individual lots among its members, in particular, in some of those who were my students (and not just in the only Deligne).

(May 12) This intuition has come a long way since those lines were written, and now it comes to me with strength the obvious. On this subject the note "The Messenger" (2) (n ° 181).

378 (*) This term "irrepressible" I have no intention to suggest that the presence of this force has become a kind of fatality inevitable, which would have escaped responsibility for my friend. The action of such a force in us is "unstoppable" in Because we like and stubbornly elude the knowledge of it, for the purpose to collect the various benefits and rewards that "buys" by the "ignorance" deliberately. The price is exorbitant, it is true, but also ignore the price is part of the even "deal".

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"Objective" which is supposed to win the membership of any party in good faith and reasonably informed. In my opinion, this fact is no doubt, and my personal conviction is not the result of such "Demonstrative" approach. She is thorough, it is true, in the reflection of the fortnight EVO-Ques now (thinking I will not attempt here to make a "summary" or "balance"). But she was present from day one - from the moment I took the penalty, for the first time in my reading, note black on white that it inspired me, as the dictation of a silent voice 379 (**) that would have me "Reminded" so that at bottom, already, I "knew". I had the "know", by faculties of perception not Extraordinary indeed, but incomparably more slender than those we commonly let go involved at a becoming aware **conscious** of things. These enforcement mechanisms of the is seen "somewhere" in us, and that "part" not with the routine logic received our ways of seeing (or rather, do **not** see) the reality around us - these mechanisms then, is it necessary to say, are as strong in me than anyone. If there is a difference in this respect between me and others is that I finally am realize their silent action in me, especially since I happen to "meditate": I take worth sometimes under the pressure of an indiscreet curiosity, **ask** about these things I want to know, which has the effect of **trace** on the surface of consciousness which was dimly perceived in the deeper layers and make it take shape.

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The initial perception is indeed transformed during the **work**, which gives it shape while causing p. 820

in broad daylight. This work is also a **sedimentation**, whereby gradually conscious translation perception (in intelligible words) emerges from a subjective preconceptions that marred without my knowledge. In this case, one of these a-prioris distorting (detected in the last notes cited earlier) is the mechanism ingrained in me that leads me to "see me yang", and this even in situations where, clearly, it is the yin side of my being, "the woman in me," which provides the key to understanding (or at least **one** of keys, or the "lights", essential for a nuanced understanding). I have spoken elsewhere of the **signs**, any "subjective" certainly yet unmistakable, telling me the **progress** of such work 380 (*), and other also that alert me when I'm wrong, or when there is momentary trampling, which ends as soon as it is detected.

18.4.3. (3) tune to the tomb - or sufficiency

Rating 167 (25 February) The most of the day yesterday was spent writing a long letter to a young colleague, Norman Walter, who seems motivated to engage in the theory of motives, without being impression sionner a decidedly bleak situation. It was this time eight dense pages (machine write), on the "six operations" for the categories of reasons and for the "categories coefficients" more important. This made me realize again with amazement, that for twenty years that the question is posed (not in the literature, it is true ...), no "good" categories coefficients "usual" (Sic) for the cohomology of schemes has not only been defined at present, with the only ex- receipt of "l-adic coefficients" for the first to the base schema X; and yet, this work there in the Of course part of triangulated categories (essential for formalism six operations), made in the thesis of Jouanolou, was never published. I myself have never held hands a copy of the work

379 (**) This image of the "dictated" by a "silent voice" came to me more than once, I believe, in writing and Crops Seeds, and every time as matter of course. This is just not the repetition of some "stylistic effect", but reflects (I think) a common aspect, more or less obvious from one situation to another, the discovery process.

380 (*) See note on the subject "The child and the sea - or faith and doubt," n ° 103.

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thesis that student 381 (**). These are striking signs of the general disaffection of the program foundation that

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I had undertaken in the sixties, and I certainly would not have suspected that he p. 821 not continue the momentum gained, but it would be snapped (or "cut up"...) so soon after my departure mathematical scene. . .

When the first number is **nilpotent** on the scheme X, the category of "l-adic coefficients X"

$Z_s^*(X)$ say 382 (*), should be different from that of "crystalline coefficients", with operation Frobenius F and **filtration** in the key. The construction in the form of this triangulated category, not to mention six operations, always waiting for someone to splint it. As for the "gluing" of the case-adic "ordinary" (Quotientable well!) And if "crystalline" precedent, via a "mysterious functor" I glimpsed from the late sixties, to achieve the definition of the coefficient category Z^*

$\Gamma(X)$ unrestricted

on, it is still not even in the simplest non-trivial case of all, $X = \text{Spec}(Z[\lambda])$ (*)

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As p. 822

coefficients De Rham-Hodge $\text{DRHdg}^*(X)$ 383 (*) for a general scheme, I had no ideas clear how to describe them, and Deligne was unable to identify the really satisfactorily. The idea innovative here is due to Zoghman Mebkhout - and we know under what circumstances adversity he had to work, and what was the fate that was to his person, once the scope of his ideas was (partially) re-known. Still, we finally have a secure thread to address a shaped building

categories $\text{DRHdg}^*(X)$, in terms of finiteness conditions, Holonomy and regularity on complex of "crystals" (absolute - ie related to the absolute basis $\text{Spec}(Z)$), with perhaps given added a "filtration Rham" and another "filtering by weight" - and hopefully we get to

381 (**) Jouanolou of thesis work, done without real conviction (what distinguished it from that of all my other "students before my departure"), has dragged on, and the defense took place after 1970. No more than that of Deligne I do not remember being informed of this defense, let alone have been contacted to be part of the thesis committee. Jouanolou did not see fit to send me a copy of his work. I wrote to him last year to request one. He had me informed (no comment) to regret it none left. . .

(May 12) My memory here misled me - actually Jouanolou thesis of the defense was made in 1969. For details on this subject, see the final score (not yet written at the time of this writing) n° 176 7, in the sequel "The Sixth nail (in the coffin)."

382 (*) The * after the indication of the base ring for the chosen theory (here, the ring $Z[\lambda]$) indicates that work, not with "Building beams" without more (l-adic herein, in a suitable direction) but with **complex** "Building" beams, suitable triangulated categories of objects (including the shape description can be tricky, then Just as the category of constructible beams, ie $Z_s(X)$, is already known). Working with patterns (By which, most often, we hear "iso-patterns" ie the "isogenic patterned closely," forming a Q-Abelian category) the categories of natural coefficients y "achieve" such (iso) grounds must themselves be Q-Abelian, so here it is Q take the (X) , Q^*

$s(X)$. When we want to work with all the at once, the most natural is to work with a category of beams (or complexes such) "adelic" which the base ring is the ring of adeles $Z \otimes_{\mathbb{Z}} \mathbb{Q}$, obtained by "tensoring" the Product categories all coefficients Z^*

$\Gamma(X)$ by Q .

Care should be that when the first number is not the first in the scheme X , then in the description of "coefficients l-adic X , the nilpotent elements of $Q(X)$ can not be ignored - they operate in the vicinity of the fiber $X(\lambda)$. A fortiori, it will be the same for adelic coefficients on X , which brings coefficients (also hypothetical the moment) De Rham-Mebkhout which it will be discussed in the next paragraph. I also feel the two main types of coefficients, the coefficients and those adelic De Rham-Mebkhout (provided you bring the latter of the whole structure of wealth to which it is actually lower allusion), are of "loyalty" comparable, as Descriptions (weakened) or "achievements" of the same **pattern**, surrounded closely by one as the other. About this "Fidelity" I had also advanced in the sixties conjecture, neighboring that of Hodge and Tate (my friend was buried with the rest. . .). I intend to return to the volume of Reflections, devoted to the "wide array of reasons". We feel a strong kinship between the two coefficients (adelic, De Rham-Mebkhout recently taken here "in isogenic near"). The advantage of the latter on the former, which makes them appear as "thinner" in certain respects, is that the ring natural base for them is Q , then this is the ring of adeles (much larger) for adelic theory.

383 (*) (May 12) As discussed below, the name and the notation "in improvised" prove unsuitable. I finally opted for DRM notation $^*(X)$ or $\text{Meb}^*(X)$, dual $\text{DRD}^*(X)$ or $\text{Del}^*(X)$, for the coefficients of respectively Rhammebkhout and those of De Rham-Deligne. They have been left behind by their father in 1970, and adopted by me knowingly in the year of 1985 as one of the basic ingredients (with coefficients Mebkhout) of grothendieckienne range. . .

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do something, again, that takes standing without limiting itself to the characteristic zero, and for given positive feature gives more or less crystalline coefficients "hatibuels" (sic). The thing extraordinary is that I seem to be the only person in the world to feel the task - Zoghman Mebkhout itself, probably educated by bitter experience, seems to have the slightest desire to think not was it a day longer questions the foundations of his philosophy! It would be wrong of me to wonder, then I see Deligne lead by example with Hodge theory, cutting short his own momentum, which had animated the "my time" and brings out a rich approach promises (unfulfilled...). I suspect

formalism (not even still in limbo) coefficients Hodge (above algebraic varieties complex X) should be more or less contained in the coefficients that sometimes I called (following my language reflexes sixties) "De Rham coefficients", or as "De Rham-Hodge" for remember the object link **filtered** De Rham with the object **graduated** partner (known as "Hodge"). But given the role critical philosophy Mebkhout to apprehend these categories coefficients (which are always hypothetical, of course), it would be better probably call them "**coefficients De Rham - Mebkhout**" (no-DRM $\ast(X)$) or, in a pinch, "coefficients De Rham-Hodge-Mebkhout" $\text{REHM} \ast(X)$. when X is finitely generated over the field of complex C is expected to reconstruct the hypothetical categories coefficients Hodge

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 HDG $\ast(X)$ (I certainly do not call Hodge-Deligne, while Deligne p. 823

I seem to have done everything to hide the problem, far from the highlight!), more or less "circular" and the six steps above, from the coefficients De Rham-Mebkhout which one simply adds additional structure (transcendent nature of it) called "Betti". he therefore appears to me that the main issues for the description of "categories coefficients @atural@ the cohomology of algebraic varieties 384 (*) are currently the following:
 1. Description of the category l-adic coefficients $Z_s \ast(X)$, for the first given number and **any** scheme X (not necessarily "first in"), and a formalism for these six operations coefficients. (This appears more or less equivalent to the "mysterious functor".)
 2. Description of the DRM category $\ast(X)$ of "coefficients De Rham-Mebkhout" for any scheme X, or possibly similar categories $\text{DRM} \ast(X/S)$ for related schemes ($\text{DRM} \ast(X) = \text{DRM} \ast(X/\text{Spec}(Z))$), And a formalism of the six operations to these coefficients.

It is possible that for 2) several possible alternatives, according to the richness of structure that decides to introduce in these coefficients. The "theorem of God" (aka Mebkhout) shows in all cases priori (for X of finite type over the field of complex, at least) there must be a formalism six variances for crystalline coefficients to Mebkhout without entering it "the bargain" filtrations to Rham and / or by weight. A third type of significant additional structure which necessarily exist on the crystalline De Rham complex X-Mebkhout ksur associated with a pattern (or "Absolute coefficient") on a scheme X generally will be given for any prime number p of "Frobenius"

$K(p) \rightarrow K(p)$
 Where $K(p)$ denotes the restriction to sub-scheme X (p) derived from X by reduction mod. p, and the exhibitor (P) denotes the "Frobénusé" $K(p)$, ie its inverse image by Frobenius $X(p) \rightarrow X(p)$. Thus, according to the 384 (*) These questions, in a sense, are preliminary (or tacitly assumed resolved) for the development of yoga reasons with all the precision and generality, which lies on him, and I saw him from the sixties.
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18.4. The Skeleton Dance

Additional structures (among the three just named) we can propose to introduce on a crystalline complex, we can predict a priori **eight** variants in total, for a notion of "De coefficients Rham-Mebkhout. "It@a job
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on only parts that will show us which of these variants p. 824
 beautiful, well give a formalism of the six operations. It is also true that for the purpose of yoga reasons, then we propose to find "algebraic" simple objects, which "stick" as close as possible the grounds to describe as accurately and richly as possible the structure, the coefficients are "the richer "which seem a priori" the best. "This is where the vast wealth that lay elsewhere
 The main charm of the coefficients Hodge - even to the point that one could hope to rebuild all Parts category patterns on C if the Hodge conjecture was true), or even, on those grounds every finitely X C.

This brings to my attention that it is possible that some of the structures are "superfluous", they arising from other (but in a way it is true, so hidden, that will be difficult to explain in terms earth-to-earth) 385 (*). For example, the De Rham cohomology (relative to S) of an X-pattern on a smooth Another S, I showed (late sixties) 386 (***) the existence of an (absolute) Canonical without curvature, which I called **Gauss-Manin connection** . As a result, the structure Hodge-Deligne associated Deligne by a smooth scheme X C (and certainly even that associated with any finitely scheme X C) is canonically provided with such a connection, based on the subfield First Q. That is if the motivic cohomology itself already reconstitutes

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 from its "realization p. 825
 Hodge, "it means that the entire structure could be called Hodge" motivic "or" algebraic "

(ie from a pattern), there would be such a canonical connection Gauss-Manin. It would not be difficult therefore, likewise, describe other canonical structures, more subtle, associated with a structure of Hodge-Deligne, and whose existence "follows the pattern": Operations existence of some Galois groups profinite on $\text{Bet}(K) \otimes_{\mathbb{Z}} \mathbb{Z}_1$ (where $\text{Bet}(K)$ is the "network" underlying structure Hodge-Deligne K), and "structure Frobenius" $\text{on} \bmod p$ reductions "(for almost all p). It is this rich multiplicity of structures no apparent link, the link is hidden "**reason**" **common** to all these structures - is this wealth for me represented (and still represents) the peculiar fascination of the topic of cohomology of algebraic varieties, and the fascination of the "reasons" which are like delicate melody town that gives life and meaning to the subject to countless variations 387 (*).

385 (*) As remark that goes in the same direction, I note here the need to pay attention to possible compatibility, more or less hidden, to impose on all structures associated with a type of "cohomological coefficient" given. I am thinking Here, especially, the compatibility (more or less algebraic nature) that are automatically performed in the case of coefficients "motivables" (ie, originating from a pattern). It is plausible that it will impose in the categories proposed coefficients, if we like to have a formalism of "six operations" (regardless even about "identify" the patterns as closely as possible). I refer in particular to the conditions holonomy and regularity at infinity for the coefficients of Mebkhout, and also (if one puts additional structure as a filtration Rham) conditions to Griffiths connecting filtration Rham and Gauss-Manin connection . These examples make it clear enough, I suppose, how the task fundamental to describe the "good" category cohomological coefficients, with the constraint "six operations" will require to explore and full use of all structures considered to date on "the cohomology of algebraic varieties", and relationships that can link these structures. It was also there from the beginning, the main reasons about yoga - providing **unit** behind a disparity, and at the same time, a thread safe driver to recognize this disparity.

386 (**) (May 2) In fact, it was in the year 1966.

387 (*) (March 26) After my short reflection on issues (closely related) of various types of "categories coefficients" (to "Identify patterns"), and "algebraic terms" that must meet a cohomology class "algebraic" (ie from an algebraic cycle) which was discussed at the beginning of the note yesterday (n ° 176), I decided to include a reflection on the reasons, the "coefficients", and the standard conjecture, volume 3 Reflections (containing the last part of Crops and Sowing). I think I now have the principle of a description in the form of "the" triangulated category of motives on scheme, at least in the critical case (which we should be able to return by crossing the border) where it is of type finished on absolute basis \mathbb{Z} As one new ingredient relative to my ideas of the sixties, there is the "philosophy of Mebkhout" (expressed as the "theorem of God"). In addition, I suppose solved the problem (surely already affordable 665

If there is anyone, besides me, who have heard and felt the melody and that is a long left soak while she was leaking and unfolded before him, it is Pierre Deligne. If there is someone who I have given something living, delicate and vigorous thing in which I put the best of myself, nurtured over the years of my strength and my love - it©him. This was something done for deploy to the grand day, to grow and to multiply - something that was seed that was lap, ready to transmit the life that was in it. This short contact yesterday and today was a bit like the **reunion** with something I had long since lost sight of - the reunion with not, words, or concepts, or inert objects, but with a

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thing filled with a **life** intense. And this contact
p. 826

measure also makes me again that this "thing" I had left is large enough and deep enough to inspire the entire life of a mathematician who would give it body and soul, and other mathematicians after him - because his life probably will not be sufficient to the task 388 (*).

It is a strange and welcome coincidence that this meeting will be made at the time I just made another "meeting" just as unexpected: the encounter with this text where my friend is expressed precisely in refraining from naming it, about this thing that had me most at heart, among all those I have put his hands. "We do probably knows little more now than a vague skeleton". . .

These words continued to haunt me during the three days elapsed. I recognize the sufficiency - the sufficiency of one for whom "nothing is nice enough to deign to rejoice." And, without seeking, came back the memory of the "**tomb**" 389 (**). The same impression was revived in me, speaking through this even mute and insistent image. This living thing that was dear to me, I had long ago grown the trust between loving hands - and it is in a tomb cut the benefits of wind, rain and sun it languished during these fifteen years I had lost sight of. Today I find bloodless, "a vague skeleton ...", object disdain patronizing one that was good enough **to use** it, and who has custody never give .

18.5. THE FOUR OPERATIONS (a corpse)

18.5.1. (0) Detective - or life in pink

Note 167

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(April 22) The note that was chained here as had long planned name: "The four

p. 827

operations "(the name that will be explained in detail how early the following note 390 (*)). I thought devote to this "ordering" (a survey that was me then seemed complete) a note or two at any break. For almost two months now that have passed since then, and given the influx of twists unforeseen, I have not finished in time yet to fully around the subject. At one year away, it is as if the surprises scenario of the discovery of the burial was repeated on a different pitch.

Finally, in the table of contents, the famous "Four operations" have come to mean not

not a note or two, but a large set, a dense can I fear, of **thirty** notes and sub

ratings 391 (**). They are grouped into eight parts (1) to (8), names (I hope) suggestive, since (1) "

this!) the "mysterious functor", which plays a crucial role in the description that I see now.

388 (*) (March 26) It seems possible, now that I have overestimated the extent (but not certainly scope) of the task. See to it about the note b. p. Previous, dated the same day.

389 (**) On this impression, strong and long unspoken, that haunted me after the "second turn" in my relationship to Deligne, see note "The Tomb" (n ° 71).

390 (*) (May 12) After four scindage this old notes "Silence" (n ° 168), the "next note" is "The four operations

("ordering" an investigation) "(n ° 167)".

391 (**) (12 May) Since peremptory these lines were written, the number has further increased to fifty and notes

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18.5. THE FOUR OPERATIONS (a corpse)

nest egg "to (8)" The Sixth nail (in the coffin). "Along the way, I was led to revise thoroughly the four notes 392 (***), which had formed the "first draft" of "Four operations" (between 26 February and 1 March). I explained at the beginning of the note "Threshold" (n ° 172) March 22 (there is exactly one month) at about this departure from the spirit followed elsewhere in writing Crops and Seeds.

The four notes in question are: "**Silence**", "**The maneuvers**", "**Sharing**", "**The Apotheosis**" (n ° s 168, 169, 170, 171) 393 (***), devoted successively to make a sketch

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overall each of the four p. 828

"Major operations" retraction and ownership around my work first, that of Zoghman Mebkhout then. I would advise the reader to be limited to first read these four notes, excluding footnotes page (more plentiful here than in any other part of Crops and Seeds), and sub ratings (unusually numerous and also expanded) to which he referred in the "main" text.

It could continue this momentum with the following four main notes: "**Threshold**", "**Album of family**", "**Climbing (2)**", "**The Funeral 'im Dienst der Wissenschaft**" (n ° s 172-175), which, they no longer have anything technical.

The curious reader to more detailed knowledge of how tortuous mazes of these "four operations" may be included in a second reading the footnotes, notes and sub-notes, and even (if did not read the first part of the burial, or if he feels the need to refresh his memories of reading) refer to as you (like myself have often done) to the passages of the Burial I (or "The dress of the Emperor of China ") to which it is widely referred.

The essential content of each Trentes notes that make (or which describe and comment) "The four operations" is, each time, non-technical. I think it can be understood by all interested and intelligent player, even if he is not an expert in cohomology of algebraic varieties, nor mathematician or so little "scientific". For those who nevertheless hesitate to engage and make snap up all the mysteries of the "art of the scam", I would recommend especially subscores following, the substance seems richer, and whose interest visibly exceeds that which can take the "dismantling" of "shenanigans" preposterous and sometimes still mounted with art (to use one that asks only to leave bamboozled. . .). These are the subscores "**Eviction**" (n ° 169 1) and "**The real math. . .**", ... and the "**non-sense**", "**graft and creation**" (forming the first three of the five subscores grouped under the name "Formula"), and finally the four subscores in note "The Apotheosis" (n ° 171), concerning the strange adventure Zoghman Mebkhout: "**Hatching a vision - or the intruder**", "**The Mafia**", "**Roots**", "**Carte blanche to pillage**" (n ° s 171 1 to 171 4). So these eight subscores (from a total of twenty-one 394 (*)) I particularly recommend to the reader.

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The other thirteen sub-notes, the player who will only do their "documentary value" for- p. 829 nevertheless would read in leisure moments, in the spirit in which he read a Roman incredible adventures of police, where the improvised amateur detective (in my humble person) is tracking and gathers the "clues", some tenuous and elusive and other so huge that no longer able to see; which clues eventually assemble into a **table** (manners) colorful and irrefutable, where a "second Monsieur Verdoux (aka Landru), smiling and affable "proceeds to butchering-calcining its candid and in-

nocentes victims under the tender eye (or admiration) of all the good people of the neighborhood. They have since subscores, and no evidence that (as a sea...) it still goes up. . .

392 (***) (May 12) These notes, having taken prohibitive dimensions were finally sciendées each several, in notes n ° s 168 (i) - (iii), 169 (i) - (v), 170 (i) - (iii), 171 (i) - (iv).

393 (***) (May 12) These notes, having taken prohibitive dimensions were finally sciendées each several, in notes n ° s 168 (i) - (iii), 169 (i) - (v), 170 (i) - (iii), 171 (i) - (iv).

394 (*) (12 May) became twenty and seven meantime, not counting the sixth nail in the coffin (which has seven notes and pleasant delectable).

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long accustomed to the smell a bit special, which obviously do not bother anyone. This is even more an example that took on its friendly and astute neighbor, and chimneys and purr graillonment vied for.

The "detective", built entirely, only has to withdraw on tiptoe: obviously, the agreement is unanimous here, and everything is for the best in the best of worlds. . .

18.5.1.1. The four operations - or "ordering" an investigation

Note 167 "

(26 February) 395 (*) I seem to have been around more or less, of the Burial. A lap

Although incomplete and provisional - but for now, I think I will not go much further. I feel it is

a decline that I need now, and it is now time to finish. I still have to take stock of

what I have learned during this impromptu meditation has been writing Crops and Seeds.

This is the reflection on the burial which constituted by far the largest part of my work. this re-

bending continued consecutively on two distinct levels. There was first of all, after "the act

respect "that was much needed double notes" My orphans "and" Denial of inheritance - or the price of a

contradiction "(n ° s 46, 47), the gradual discovery of the Burial" at its best ". I had

much sniffed the air for seven or eight years - "discreet derision wind" vis-a-vis a work and a certain

style, and this "plea" equally discreet and seamless, reserved for those who pretended

yet to be inspired and,

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one way or another, "wearing my name." This is the aspect of the In-

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INTERMENT, by mode and by a "consensus without flaws," which is discussed in note "The Gravedigger - or

the congregation whole "and those which precede" n ° s 93-97), forming the Procession X alias "The

Van Funeral ". This aspect, including the apprehension remained broadcasts over the years, fault

to take the trouble to devote a detailed reflection, has greatly clarified in the

work without making a fortune for me is really new.

The new fact by cons, which I was confronted for the first time on April 19 last year, or the "fact

various "if you will, is some large scale operation which took place around my work, and

that as the only mathematician who has assumed, after my departure from the mathematical scene, the thankless role

perilous "continuer Grothendieck": Zoghman Mebkhout.

The discovery April 19 (Lecture Notes Volume 900, 1982, which unearthed the reasons are,

after twelve years of dead silence 396 (*) and without mention of myself) was the starting point of this

can be called an investigation in the narrow sense of the term: an investigation of the fate that had been reserved for my

work, and first of all by those who had been the first and main stakeholders, namely, my

students. This survey has updated many facts, some more unexpected than others, that the days

and weeks, have assembled an array, somehow outside of what was the burial and

what were the key players. This table is probably not complete, but it is rich enough

detail perfectly accurate and irrefutable, to suffice my curiosity in that direction. This is the

first of two "levels" of reflection, to which I alluded earlier. It is essentially

the "first breath" in thinking about the burial, continuing until April 19 to June 10, and

ending by "illness episode."

This is also, in almost exactly, the "Burial I" (or "The dress of the Emperor of China") of

my notes. We must add more note are "The Eulogy Funeral (1) - or compliments" (n ° 104), which is 12

395 (*) This note, which originally was to be called "The four operations" and take over from "The Sound tomb - or

sufficiency "(note ° 167) is nearly two months prior to the note (kind of introductory) above," Detective - or

life in pink "(n ° 167) I advise to first read it.

396 (*) (April 19) for a correction about these "twelve", see sub-note "Pre-exhumation", n ° 168 1 .

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May, but was rejected (probably somewhat arbitrarily) in the subsequent and final procession "The ceremony Funeral ", part of " Burial II. "I would join in

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this core "survey", forming the "first p. 831

level "of reflection, the note that follows the note quoted, namely" the Eulogy Funeral (2) - or strength and halo "(n ° 105) 397 (*), continuing also still in the comments of the following note" The muscle and tripe (yin yang bury (1)) "(n ° . 106) The last two notes are late September - early October. Also, in the line "Praise Corpse" ie that of the (very few) written documents where Deligne expresses so little about me, you can join this investigation both notes recently raised by Biographical information Deligne, namely "Requiem for wave skeleton" and "The profession of faith - or true in the false "(n ° s 165, 166). Finally, it adds the note "The dot the i "(n ° 164), giving an number of details (especially hardware), most provided by Deligne himself during his visit home last October 398 (**).

After the episode Medicare, ending any intellectual activity for more than three months, the "second breath "of reflection (or" second level "I mentioned earlier) was motivated by an effort to com- take the **direction** of this set of facts, some really big if not incredible, that the investigation of the April and May had brought to light. The central portion of this reflection is "the key of yin and yang "in largely independent of the theme of the burial itself, which relearn nevertheless appears periodically to restart each time a meditation on myself, on my life and on existence in general.

It is obvious also that the two levels of reflection, "investigation" and "meditation" are in no way independent nor clearly separated, but they interpenetrate. In practical terms, this is reflected by the presence, already throughout the first part of the burial of an effort to **understand** the meaning of what I discovering the days, and also by the appearance in the second part yet of material facts in addition to those already obtained in the "investigation" preliminary.

My purpose right now is to do a "check" or a summary in outline, the **facts** appeared daily throughout the investigation,

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facts I have never taken the trouble even to order so as p. 832

is incoherent. This will be an **ordering** of what known me now for this "operation

large scale "to my work 399 (*) and the Mebkhout. Next it the latter or mine

who paid the price, and the next part of my work which was taken as a target, I actually distinguishes **four** main operations ("the four operations" in short), I would first like to review. it

found that the order in which they are reported to my attention during the discussion also coincides (to a mini-inversion about the last two) with the chronological order in which they are engaged, my "start" in 1970 (and even before).

18.5.2. (1) The ape

18.5.2.1. at. Silence ("Patterns")

has 1 . Context "Patterns"

397 (*) This paper was also scheduled the day after May 12, when was written the previous note "In Praise of Death (1) - or compliments. "I realized then that the text that I had to look a little closer was a real

Mine, I was far from being exhausted. . . (for some details of the Funeral Eulogy, see the beginning of the note "The Apotheosis", n °

171).

398 (**) See about this visit notes the "The accomplishment - or the moment of truth" (n ° 163).

399 (*) Based on the facts known to me, this is the only part of my work, placing himself between 1955 and 1970 devoted to the development of my ideas on the cohomology of patterns and algebra (co) homology.

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Rating 168 (i) the operation I "Patterns"

Drawing inspiration from some ideas of Serre, and also the desire to find a "principle" (or "pattern") common to the various "avatars" purely algebraic known (or prospective) for the cohomology Betti classic of a complex algebraic variety, I was introduced to the early sixties the notion of "pattern". Throughout the sixties and especially from 1963 400 (**), and in the margins of my tasks to re-foundations of action, I developed this theme a "yoga" (or "philosophy") both rich and accurate. This broad theory remained speculative and likely to remain so for a few more generations 401 (***), of- fruit yet in the immediate (and until today) a very safe guide to recognizing it in situations occurs cohomology of algebraic varieties, both to guess "what is right in expect ", suggesting that" good ideas "to introduce and sometimes to provide approaches towards demonstrations. I say about this in the Introduction to Crops and Seeds

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("The End of a silent" p. Xviii):

"Of all the mathematical things that I had the privilege of discovering and bringing to day this reality motives still strikes me as the most fascinating, the busiest mystery - in the heart of the profound identity between the "geometry" and "arithmetic". And the "yoga of reasons" which led me this long ignored reality is perhaps the most powerful instrument of discovery that I have reached in this first period ⁴⁰² (*) of my life mathematician. "

Apart provisional sketches of an explicit construction can (among many others) to category of semi-simple patterns on a body, the ideas I had developed this theme in my notes Personal remained at the stage of oral communication. I was too absorbed by many other writing tasks foundations text ⁴⁰³ (**) to find the leisure of months required to develop my handwritten notes, so as to make a "supervisor" of all the inner vision that had developed in me enough "dug" to look me publishable. From 1965 until When I left the mathematical scene in 1970, my main contact for my meditations motivic (and others), and also one that has fully assimilated the yoga patterns and who has felt all scope was Pierre Deligne.

Details are provided subject to the "yoga of reasons" (more detailed as in the part of the Introduction which is extracted the passage quoted) at the end of the note "My orphans" (n ° 46) and especially (about including the genesis of yoga) in "Remembrance of a dream - or the birth of reasons" (n ° 51). For insertion the "yoga of reasons" in the formalism of the six operations (which remains, even today, and since my ⁴⁰⁰ (**)) The year 1963 is the "start" in force étale (developed in the SGA 4 seminar in 1963/64) which finally brought an abundant fodder to motivic ideas, which until then had done little figure speculation. It was the following year that I develop the formalism of "motivic Galois group", whose foundation detailed concept was developed (according to the theory of program I had submitted to it) in the thesis of N. Saavedra only published in 1972 (Springer Verlag Lecture Notes n ° 265).

⁴⁰¹ (***) (April 8) It seems to me now that this theory is not so far "on the horizon" that have seemed to me - for some only that finally eventually make it so! On this subject the comments in the note "The Miser and the crumbling" (n ° 177) of March 27th.

⁴⁰² (*) If I am here restriction on "the first time in my life mathematician" is thinking of the "geometry of yoga algebraic anabelian" which seems to be of a comparable depth and scope, it is discussed, so slightly in "Sketch of a Program" which will be included in the "Reflections" as a result of Crops and Seeds.

⁴⁰³ (**) This is primarily EGA texts (Algebraic Geometry Elements in collaboration with Jean Dieudonné) and SGA ("Algebraic Geometry Seminar Marie Wood), these only last written or together (with particular students ment), following the guiding ideas and project managers of my own. During the years 1959 to 1969, the "speed" means these texts, all without exception have become standard reference texts, was a thousand pages per year. This work foundations stopped dead overnight, since my departure from the mathematical scene. On this subject the note "the Yin Servant, and the new masters" (n ° 135).

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Initially ignored by my students

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cohomologistes, as a fundamental structure in homological algebra. . .), p. 834

see note "The melody in the tomb - or sufficiency" (n ° 167). For the filiation of ideas (fully retracted in the literature) around yoga weight (which constitutes an essential ingredient of yoga Memorandum) and the theory of Hodge-Deligne (directly after the latter yoga), see note "points the i" n ° 164 (Part II 4) and the sub-grade (n ° 164₁) which follows.

has 2. **Burial.** . .

Rating 168 (ii) The operation "Reasons" consisted, first and soon after my departure from the mathematical scene, by e **scamotage** systematic yoga patterns and the very word "reason"; and then, after a pause twelve ⁴⁰⁴ (*), and with the exhumation (in 1982) of a narrow version of yoga in the retraction of my modest and deceased, as having something to do with Yoga said.

The first obvious retraction of yoga as the "yoga of weights" is placed already in 1968, so as soon before I left, in the article by Deligne (to Publications Mathematics) on the degeneration of suites spectral. This is discussed first in the rating "Weight canned and twelve years of secrecy" (written note before the discovery of "memorable volume" exhumation) and detailed manner at the beginning of the note "The eviction" (Notes n ° s 49, 63).

This sleight-stroke sensor in the absence of any reaction ⁴⁰⁵ (**), continues and is accentuated with Hodge Articles I, II, III Deligne, exposing the beautiful generalization Hodge theory developed by him in 1968/69. While this theory comes directly from yoga reasons (as mentioned above) no hint in this direction is made in Hodge Hodge II or III - something all the more glaring that Hodge It is the thesis of Deligne, who had been my student during the crucial years of his forma

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tion 406 (*). p. 835

As for the short "announcement" Hodge I (at the International Congress in Nice in 1970), Deligne it to a terminal Reference inch cryptic half-line "a conjectural theory of motives Grothendieck" (in a breath with a bogus reference in Serre, apparently intended to deceive 407 (**)). The retraction is continues with the presentation of "Yoga weight" at the International Congress in Vancouver (1974), where the name Serre nor mine is more pronounced. In this paper, nor in the Congress I Hodge Nice International (1970), he also breath word of an important part of yoga he held me, 404 (*) (April 8) To a correction about these "twelve", see sub-note "Pre-exhumation" (n ° 168 (iv)), which follows this note "Silence".

405 (**) It was me in the first place that such a reaction could and should have come. So in hindsight dishonesty in presenting this article appears obvious to me (note cited, n ° 63), I did not have my own righteousness (or honesty) to take note, in the presence of a "slight discomfort" when I held the paper in the hands, and I walked quickly. the about the role of complacency or ambiguity in me, that came to me during the debate on the Burial, see Note "Ambiguity", n ° 63 ". At the conscious level at least, the thought of the possibility of a professional dishonesty, Deligne at home or any other of my students had never touched me; or rather, I pushed on various occasions where dishonesty was obvious and pointed to my attention by the "malaise" never identified.

406 (*) There was some kind of collusion between Deligne and me to retract his pupil relationship to me, it being understood that he was too bright so I can claim to have been his "master". I update and review this complicity in note "Being apart" (n ° 67 ☹)

407 (**) This section of Serre on Kählerian analogues Weil conjectures, who had been the "detonator" triggering me the "standard conjectures". "This is a nice article, it is not about wanting to minimize. But I know that Deligne himself would be hard to explain how this article would have been "a source" for his generalization of the theory Hodge - and probably no one ever thought to ask. Having attended closely to the outbreak of the theory Hodge-Deligne, I know what was its source (see this footnote ° 164 1 already cited) - and it☹not in the statement Demazure on Baba defining the grounds that he found! He cites this article as a reference to "the theory conjectural reasons Grothendieck ", so as to give the impression at any reader who is really knowledgeable (and there were no masses to be knowledgeable. . .) Said "speculative theory" is reduced to the statement in question Demazure taking advantage and the absence of any trace published more detailed the yoga patterns.

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the motivic context (which remains strictly you): the behavior of the concept of weight by "six operations" and, first of all, by $R^!$ and R^* . This is one example among many of a become common practice, which Deligne seems to have been one of the first developers: it is reserve the exclusive knowledge of the "big issues" that arise in a given domain mathematics, a small group of "people in the know" (or even, in its sole person), so it ensure total hegemony, instead make them available to the scientific community and allow everyone to be inspired 408 (***). For all I know,

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this problem is nowhere mentioned before

p. 836

is resolved by Deligne in his article "Weil II" in 1980 (in the case of $R^!$), without of course mentioning me (Which was communicated to him the relevant conjecture in the motivic context, the context of the $-adic$ it Trafficking is a reflection, just as would be the context of the coefficients De Rham - Hodge. . .).

To the (fragmentary) where I know the work of Deligne or can I have an idea, I think to say that yoga reasons he had from me was the main inspiration throughout his work. He kept this secret source, maintaining until 1982 409 (*) dead silence around the concept of reason. The only exception (except error 409 (*)) is the "half-line control" of 1970, just as incomprehensible 410 (**) any other than he and I (and rigor, in Serre perhaps) two years early (in the article on the degeneration of spectral sequences) his cryptic reference to "considerations weight "which made me conjecture" a special case "of the result of degeneration (see note cited above "The eviction", n ° 63).

has 3 and exhumation

Rating 168 (iii) Sudden change of scenery with the publication of "memorable volume" Lecture Notes 900 411 (***). The grounds are excavated there in big bands, and part of the original Yoga is finally revealed. In this volume, where my name appears two or three times "in passing" and as the merest chance, nothing could do suspect the reader that I am something to do with the ideas that are developed there.

These ideas are presented in such a way that there can be no doubt in the mind of the reader, the brilliant lead author of the volume, Pierre Deligne has just discover them and present them there all hot. It is true that, any more than Nice or Vancouver it claims not that it was he who discovered Yoga weight therein explained for the first time in the literature, it is said nowhere

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in

p. 837

clear here that it is he who has found all these beautiful ideas developed (apparently) for the first time in volume, also centered around a beautiful theorem which he is indeed the author. This is the style "thumb !" where he is a master, on which I comment first in the rating "Go!" and in "The dress of Emperor of China" which follows (n ° s 77, 77 © see previous notes, written in the emotion of the discovery of the "memorable volume": "The Burial - or New Father", "The new ethics - or 408 (***) On this new mentality, which I have never encountered track until my departure in 1970, see note "Yin Servant, and the new masters", n ° 135, and the end (dated February 28) the note "maneuvers" (n ° 169) (x). It is this mentality that I wanted to enter the name " **The Nest Egg** " given to all notes and sub-notes (n ° s 168-169 s) relating to the first two among the "four operations" around my work.

(x) The end became the note "The Nest Egg" (n ° 169 (v)).

409 (*) (April 8) See, for correction, sub-notes already quoted "The pre-excavation" (n ° 168 (iv)).

410 (***) As explained in Note b. p. Previous, the subject of this reference-thumb was not to be "understandable" or inform, but to induce (doubling) in error. In terms of affiliation ideas from patterns structures Hodge-Deligne (described in the two notes mentioned above), I have every reason to believe that I@ the only person in the world, to himself, who knows.

411 (***) Springer Verlag Lecture Notes in Mathematics, n ° 900, Hodge cycles, Motives, and Shimura varieties, P. Deligne, JS Milne, A. Ogus, KY Shih.

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rat race "and" Ownership and disregard "(n ° s 52, 59, 59 ©

In fact, not only all the main ideas of the volume LN 900 on the grounds were me known since the sixties (when Deligne has had every opportunity to learn through my mouth from 1965), but also the central problem of the book had been raised by me (and of course, communicated to Deligne) in the late sixties. For details on this, see the note "The dot the i" (n ° 164) (in part I thereof).

As I noted in the Introduction to Crops and Seeds (in "The End of a secret," p. Xviii)

Deligne was not the only one that I spoke out in detail the reasons yoga, even though he was the only to do his intimately. If there has been total retraction, for ten years 412 (*), existence even this yoga, and later the role was mine to discover and to develop and deepen, this retraction could be done with the connivance of many mathematicians that I was one my friends, and especially with that of each of my "cohomologistes students" (commutative) 413 (**). This retraction was done for the dubious "benefit" of one, but by the actions and omissions solidarity good number.

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Apart Deligne and my other cohomologistes students is the responsibility of the **co-authors** with Deligne p. 838 the "memorable volume" LN 900 seems to me the most heavily engaged, namely that of **TSMilne , A. Ogus** and **KY Shih** . These are mathematicians I do not know personally, and nothing allows me prejudge their dishonesty. For me, it does not take yet nothing in their sole responsibility as co-signatories of this unusual volume.

has 4. **The pre-exhumation**

Rating 168 (iv) (April 8) I was recently reported article Deligne "functions values L and periods integrals ", published in 1979 (Proceedings of Symposia in Pure Mathematics, Vol. 33 (1979), part 2, pp. 313-346) in the same volume as the article mentioned of RPLanglands "automorphic representations, Shimura varieties and motivated. Ein Marchen Corvallis "(pp. 205-246). The latter article (but not to Deligne) included in the annotated bibliography on the grounds that I had been sent in August Deligne last, and I was under the impression that it is in this article Langlands it is for the first and once question of motives in literature after I left, before the exhumation of 1982 (apart from the exposed Saavedra and Kleiman cited in the penultimate note below).

In fact, in the article cited Deligne figure a "Chapter 0" entitled "Patterns" introduced by "Recall there **part of formalism , due to Grothendieck** , motives "(my emphasis). The presentation given is such that it is clear that the general principle of construction that I had given to a category

412 (*) Based on an "annotated bibliography of reasons" that Deligne was kind enough to give me last August, there was still in the literature two sporadic work patterns after I left, the one and the other in 1972 (in the thesis N. Saavedra, prepared with me, and in a ratio of S. Kleiman). The next reference, due to Langlands, ranks in 1979. Following is LN 900 in 1982. I understand the word "pattern" does not appear in any published text of Deligne, between 1970 and 1982 -

nor does it alludes, in a text published (except at most of the biographical note discussed in Notes n ° s 165,166) to the fact that he could learn something from my mouth. . .

(April 8) About the "I believe", see correction in the sub-note "Pre-exhumation" (n ° 168 (iv)).

413 (**) I think I can say that all my students before 1970, with the exception of Ms. Sinh (who was not there, but working in Vietnam) were aware (without necessarily having similar) my thoughts on the grounds, on which I also made a series of explanatory statements to IHES (in 1967). Those among them who remained connected to the theme cohomology of algebraic varieties seem so supportive of the funeral held yoga reasons, on the initiative of the main "interested" Deligne. This is especially here JL Verdier Illusie L. and P. Berthelot, who have more each reported more actively than a simple collusion in some other three "operations" which it will be question.

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patterns (semi-simple, it is implied) on a body, was multivalent - also in section 0.6 it is stated that " **one of the definitions** units of Grothendieck is obtained by...". In this respect, the presentation is So honest. It is true that the part of "yoga" reasons exposed here is the most basic part, virtually existed in the literature (in exposed Manin, Demazure, Kleiman, Saavedra), and where my paternity

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was therefore particularly notorious. (It would seem that the retraction against my person
p. 839

- and that of Serre - in yoga weights, and later in the motivic Galois group, has passed without hitch. . .)

As I have had occasion to point out already (in the note "Climbing (2)", n ° 174), it seems that there had, after provisional culmination of "Burial operation" in 1977 (with the operation "SGA 4 1

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- SGA 5

), A relative calm until the" apotheosis "of the Symposium Pervert in 1981, which marks the end Symposium any hint of restraint in the dismemberment of a corpse. (See note "The Apotheosis", n ° 171.) Section Deligne, visibly under the sign of this lull. I guess the interest of Langlands motivic yoga had forced his hand eventually "spill the beans" (already stale) units, a Yet that moment psychologically was not yet ripe to move simply as mention the name of the deceased. There has been, in the three short years that followed, a "climbing" striking indeed (in the words of the note "maneuvers" that follows it), between the timid "pre-exhumation "reasons, and the" exhumation big bands "that took place with the" memorable volume "LN 900 in 1982.

(22 April) (mini) discovery discussed in the preceding page was continued and amplified considerable ably in the days that followed. I have indeed learned of the cited article of RPLanglands and and above all the next day, the "sixth nail" in my coffin 414 (*), taking the form of the book (my former student) Neantro Rivano Saavedra, who named "tannakiennes Categories". So there is still a substantial "rest of the story" (from "Reasons the operation"), I developed the following sub-ratings (n ° s 175 1 175 7) grouped under the name that was needed, "The Sixth nail (in the coffin)." It seemed better to REN-voyer that following the end of the investigation "The four operations" as new facts emerged all over the latter, especially in the note "The Apotheosis" (n ° 171), and four subscores 415 (**), appear to me essential to properly locate this "more" and give it meaning.

18.5.2.2. The maneuvers ("Cohomology spread")

b 1 . Context "Weil conjectures"

Rating 169 (i)

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(27 February) I come to the second of the "major operations":

p. 840

II Operation "Cohomology spreads." As for the reasons, it will be helpful to first place in some words context.

The idea of the existence of a theory of "cohomology" of an algebraic variety over an arbitrary field k , which associate with such a wide variety (at least if it is smooth projective) of "cohomology spaces" whose body coefficients would be zero characteristic (eg, a p -adic field), which the pro-calqueraient properties well-known properties of the cohomology "Betti" (defined by transcendent see 414 (*) This is the sixth of "nails" in the order of their discovery, but the first of six, seen in chronological order they were "posed" sensitively by my friend Peter, with included patented material (for the service of science) in Company Funeral familiar Springer Verlag GmbH (Funeral Service "Lecture Notes in Mathematics"). . .

415 (**) (11 May) Since these lines were written, the note quoted split into four separate notes (n ° s 171 (i) to (iv)) and plus eight subscores (n ° s 171 (v) to (xii)).

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when the main body is the field of complex) - the idea is "between the lines" in the Statement of famous conjectures of Weil (1949). It was in cohomological terms, in any case, as explained to me Serre the Weil conjectures, around the year 1955 - and it was only in these terms that they were likely to m © "Cling" indeed.

No one then had any idea how to define such cohomology, and I@ not sure nobody but me and Serre, even if it is Weil, had just firmly believe that it must exist. We had a good direct geometric taken as H_1 via the theory of varieties Albanian and points of finite order (developed by Weil), and through varieties of Albanese or associated Picard to a non-singular projective algebraic variety. This construction of the H_1 suggested that body coefficients "natural" to be the body l -adic Q_1 for the first number **distinct** from the characteristic. For equal to the feature (when it is not zero), the partial results of Serre probative especially in the case of **curves** algebraic, suggested we should be able to take as the basic body the fraction of the ring of Witt vectors k (assumed to be perfect). So we could expect that there have an l -adic theory (with grain of salt for $= p$) for **any** prime l - and in a sense PROP-nable, they were "all give the same result." Finally, when k has characteristic zero, so that has (at least in the case X nonsingular projective) cohomology spaces Hodge (which made sense for any k , since the introduction of Serre cohomology theory "coherent" algebraic varieties) and those of De Rham (which I introduced in inspiring me to cohomology From Rham differentiable), they provided immediate cohomological theories with all pro-properties

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required ⁴¹⁶ (*), and they were still giving "the same result" as hypothetical cohomologies ^{p. 841} l -adic.

These questions were at the center of my thoughts and my mathematical work published and unpublished, between 1955 and 1970 (year of my departure from the mathematical scene). If we put aside my work coherent cohomology (formalism of "six operations" formula Riemann-Roch-Grothendieck), we can say roughly that much of my work was to cohomological clear answers, or major lines answers to these questions. In view of at least Weil conjectures, acting as the main source of inspiration, my reflection on the theme cohomological materialized in four large **currents**, or "**son**", closely entwined to form an even and wide frame.

LAN 1 - I developed (with the assistance of employees ⁴¹⁷ (**)), a formalism of **cohomology** the - **adic** diagrams, for the first to residual characteristics, with all the known properties (And beyond ...) cohomology "discreet" familiar topological spaces. Three open questions nearly ⁴¹⁸ (***), technical, we can say we had "in principle" in 1963 and "in fact" from 1965 to 1966 ⁴¹⁶ (*) I was especially developed since the 50s formalism cohomology classes (Hodge and De Rham) associated an algebraic cycle.

⁴¹⁷ (**) The main contributor to the development of the formalism of étale Artin was. adaptations l -adic developed in the thesis of my ex-pupil P. Jouanolou (which unfortunately did not bother to pub-ram, I@e never held hands, and became not found). I think give details about the development of étale in "historical" account comments I join the Sketch Theme (to Reflections appear in the following R and S).

⁴¹⁸ (***) These three "open questions" are:

a. The "cohomological purity conjecture" (v spreads) for regular subscheme Y of a regular pattern X . Statement relevant is proven when X and Y are both smooth on a regular basic pattern S (sufficient for most cases applications) and also (by Artin, using fully the resolution of singularities) if X is excellent characteristic zero.

b. More serious still is the question of the validity of the **finiteness theorem** for $R_i f^*$ to separate f morphism of finite type noetherian schemes (excellent if necessary) when f was **not** supposed to own. We need this result to define f^* (and two others among the "six operations") as part of l -adic "buildable". I proved the result of finite means ⁶⁷⁵

(with the

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developments seminar SGA 5, following SGA 4 in 1963/64), a **complete mastery**

p. 842

This cohomology, within the general framework of the cohomology called "spreads" - in the form of formalism duality of "six operations". The principle of the definition of étale dates back to 1958, and I proven "Key outcomes" necessary and sufficient to complete the formalities (including theorems Type "weak Lefschetz" and notions of cohomological depth in the context spreads) in February and March 1963.

Over 2 . With yoga of **reasons** , I discovered **the** philosophy that links together the various l-adic cohomology (and others) of a variety, as many "achievements" of a different "pattern" which is common to all and is the "motivic cohomology" of this variety. This philosophy takes born in the early sixties, with a "Yoga weight" directly inspired by Weil conjectures (And an idea of Serre inspired by them, on a notion of "virtual Betti numbers" associated with an algebraic variety ⁴¹⁹ (*)). It is enriched in 1964 in momentum starting the l-adic cohomology, the crucial concept of "motivic Galois group."

Wire 3 . Inspired Monsky-Washnitzer ideas, who had built a cohomology theory (in constant coefficients) "p-adic" for algebraic varieties **smooth** and **affine** coach. $p > 0$, I cleared in 1968 a general definition for "cohomology" p-adic "I also called **cohomology crystals talline** ⁴²⁰ (**). This

0 theory was supposed to encompass "coefficients" (called "crystalline") not necessarily p. 843

constant or locally constant, and lead to formalism "six operations" as theory l-adic. He was acquired from the outset, at least, for varieties **smooth** , this cohomology has relationships was expected with the De Rham cohomology, and it generalizes Monsky Washnitzer- ⁴²¹ (*). singularities resolution assumptions and "cohomological purity" (cf.a)), which currently apply **not** to algebraic varieties since. $p > 0$. I, however, that under the torsion coefficients (as opposed coefficients l-adic), the formalism of the duality of six operations (ie including the Poincaré duality) was established by me in 1963 without finiteness conditions. This meant for example the "finitude" for H_i with constant coefficients or locally constant (torsional or l-adic) for a smooth pattern (not necessarily own) on an algebraically closed.

c. Validity of "dibualité theorem" on a regular pattern excellent. Situation similar to b).

The situation has improved significantly, the elegant proof by Deligne (in 1973?) The finiteness theorem for a type morphism of schemes over S system on a regular size ≤ 1 . This case covers the greater part of the applications (Algebraic patterns on a body type schemes over Z in particular). In the same situation a X-type pattern finished on a regular scheme of dimension 1, and similar simple arguments, Deligne also manages to prove bidualité theorem.

⁴¹⁹ (*) See in this regard the sub-grade $n \circ 46$ to Note "My orphans" ($n \circ 46$).

⁴²⁰ (**) This terminology is now (and long) time-honored, and the phrase "crystalline site." The two new ideas (compared to Monsky and Washnitzer) that led me to this theory, is that of **crystal** (Modules etc.), related to an idea of "growth" at the top of "thickening" (infinitesimal particular) a scheme of Initially, on the other hand the introduction of a structure of **power divided** in ideals increase thickenings envisaged, so as to ensure the validity of a "lemma formal Poincaré" (in divided powers). With these two ingredients, De Rham cohomology of a smooth scheme over k is interpreted as the cohomology "ordinary", with **coefficients in the structural beam of rings** , a "crystalline site" suitable.

Strangely enough, the crucial intuition crystal (like that, with a broader scope, topos) seems to have been left to account for my students, and the thread (omnipresent in my thoughts cohomological) of "six operations". This, I think, the main reason for the unfortunate stagnation that found in crystalline cohomology my departure, and also in the theory (closely related) called "Hodge-Deligne," since the first start-up force the one and the other.

It also seems at least plausible, if not obvious, that in one and the other direction, philosophy developed (in general indifference...) by **Zoghman Mebkhout** would have a key role to play. But his suggestions shy tions in this direction (to Berthelot in 1978) fell visibly deaf ears, coming from an insignificant character. . .

⁴²¹ (*) The thesis P.Berthelot, taking as a starting point my ideas in provides additional justification, establishing a duality formalism for clean and smooth varieties, rich enough at least to write an expression 676

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Wire 4. The unifying geometric concept, connecting by intuition "topological" common cohomology p. 844 spreads and its immediate variations (related topologies Zariski, fpqc, fppf etc.), crystalline cohomology, and finally cohomology "Betti" defined in the transcendental context, and (more generally) the cohomology sheaf of arbitrary topological spaces, is the term " **website** " and, beyond celle-one, more intrinsic and more hidden, that of **topo** . This one, from 1964 and onwards, just gradually to the front of the stage. I speak about the scope of this concept, central to my work, now banished from the geometry in the note "My orphans" ($n \circ 46$), pp. 180-182, which I confine myself here to extract the following passage:

"This pair of concepts [schemas, and topos] potentially contains a renewal wide scale both algebraic geometry and arithmetic, that of topology,

a synthesis of these "worlds", too long separated in a geometric intuition commune. " 422 (*)

The language of the topos and the formalism of étale, are developed in both consecutive Seminars and inseparable SGA 4 (in 1963/64) and APG 5 (1965/66) 423 (**). The first is made in collaboration with

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other 424 (*), and develops, in addition to the language of the topos, the results cohomology spreads, including key-statements start duality (style six operations). The second, which I did virtually alone 425 (**), develops much more detail a complete formalism

Cohomological **crystal** for the ordinary function L of such a variety over a finite field. But, as I point out in the Note b. p. Previous, it is far, even today, a Masters comparable to the one we have in cohomology l -adic, which would be expressed by a formalism of "six operations" for "crystalline coefficients" generals. These (whichever as I said in Deligne lately) have not only been **defined** yet at present, nor indeed that good "Hodge coefficients" (above complex algebraic varieties)! For a few comments about the "problem coefficients", crucial to me for an understanding of the cohomology of algebraic varieties, see note "The melody the grave - or sufficiency" ($n \circ 167$) This issue was clearly there for me throughout the sixties, but was buried (among many others, and the care of my students cohomologists) until today. . . (April 23) See also the note about "The tour of building sites - or tools and vision", $n \circ 178$.

422 (*) I suggest elsewhere (in the sub-grade $n \circ 136$ 1 to Note "Yin Servant (2) - or generosity" ($n \circ 136$), to call the name of **arithmetic geometry** this "new science" still in its infancy, "so vast that until today had I not thought of giving it a name, "born in the early sixties in the wake of the Weil conjectures, whose" yoga motives "is" like the soul, or at least as a sensitive part of all. "By the name, I would suggest "The image of a" geometry "which can develop" above the absolute basis "Spec z , and which admits of" specialized tions "in both the" algebraic geometry "Traditional different characteristics than notions geometric "transcendental" (above the main body $C, R, \text{ or } Q$...), via the concepts of "varieties" (or better, of **multiplicities**) analytical or rigid-analytic, and variants thereof.

(Loc. Cit. P. 637). I write above (same page):

"Beyond the building of the new algebraic geometry, and through to the" control of étale " (And that of l -adic cohomology ensuing) is developing an architect of this new science still evolving, that was for me my main contributions to mathematical my time. "

423 (**) A second edition (in three volumes) SGA 4, completely revised compared to the original edition (especially in concerns language sites and guidebooks, and categorical supplements) was published in Lecture Notes (Springer Verlag) in 1972-73, $n \circ s$ 269, 270, 305. To the vicissitudes of SGA 5, see the details given below. A "Illusie edition" of Version copiously dismantled the original seminar was published in the same Lecture Notes (No. 589) in 1977, **eleven years after** the end of the oral seminar.

424 (*) Language development sites and topos, from my initial idea in 1958, has been mainly spurred and with the help of M. Artin, J. Giraud, JL Verdier. See for details the promised historical commentary, cited in Previous note b. p.

425 (**) The only exception (if my memory is correct) is supplied by JPSerre who made some beautiful presentations on groups finished and Serre-Swan module associated with the driver Artin, I needed to develop the formula General fixed points I had in view. It was expected that such statements be included in SGA 5, but seeing the turn events were taking, Greenhouse has had the good sense to put them available to the mathematical public by posting them elsewhere.

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duality, including formulas of fixed points leading to the cohomological theory of L -functions (which is an important part of all Weil conjectures). I speak about this double seminar in note (n "The body..." $\circ 88$), as follows:

"The set of two consecutive seminars SGA SGA 4 and 5 (which for me are like **one** "Seminar") develops from nothing, both powerful tool for synthesis and discovered green that represents the **language** of the topos, and **the tool** fully developed, efficiency par-made, what the étale - better understood in its essential formal properties, from this time, than was even cohomological theory of ordinary spaces. This set represents the deepest and most innovative contribution that I have made in mathematics, at a fully completed work. At the same time, and without wanting to be, then at every moment everything is going the natural obvious things, this work represents the "tour de force" the largest technical that I have accomplished in my work of mathematician. Both seminars are for me inextricably linked. They represent, in their unity, After the **vision**, and **the tool** - the topos, and a complete formalism of étale. While the vision remains challenged today, the tool for over twenty years profoundly renewed algebraic geometry in its aspect for me the most fascinating of all - the "arithmetic" aspect apprehended by intuition and by a conceptual and technical background,

of "geometric" in nature. "

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b 2 . The four maneuvers

Note 169 (ii)

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The operation " Cohomology spreads " was to **discredit the vision** unifying topos

p. 846

(Such as "nonsense" the bombinage etc.), and thereby also by assimilation and the role that had been mine in the discovery and development of cohomological tool; and on the other hand, **to appropriate the tool** , ie the **paternity** of ideas, techniques and results I had developed on the theme of étale. Again, the "beneficiary" of the operation is Deligne ⁴²⁶ (*), and this is his ascendancy exceptional (probably due both to its exceptional resources, that its implied status of "heir" of my work) who made "pass" an operation of this scale (of débinage and ownership) without apparently doing a wrinkle. . .

This is also in 1965/66, in the oral seminar SGA 5 and precisely by the already written text component

Previous SGA 4, the young newcomer Deligne made his first training, both theory

diagrams of homological algebra (Grothendieck style) and new techniques of cohomology

spreads (born two years before) ⁴²⁷ (**) - so techniques that have been the basis of all his subsequent work.

For all other presentations, I was the only speaker, or if there were other towards the end, they followed the detailed notes

I had developed for the seminar. The task of editors (sic) therefore merely putting straight the notes I had available to them.

⁴²⁶ (*) There are however substantial benefits for **Verdier** , as we will see later: first in 1976, when he gives

the "kick" for the dismantling of SGA 5 with his "memorable article" (see below the "Episode 3" of escalation)

and then in 1981 at the "Symposium Pervert" (which will be first question on this in the note "Sharing" (n ° 170) devoted to "Operation III").

⁴²⁷ (**) This is what I recall to my memory (having almost forgotten) in Note (May 27 last year) "Being apart" (n °

67) © I would add that it is in the same seminar that the young SGA 5 Deligne also learned, in my contact (but "as 678

18.5. THE FOUR OPERATIONS (a corpse)

In the operation (I have elsewhere called the "SGA operation 4 1

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- APG 5 ") mounted by my brilliant f

student, I discern four " **maneuvers** " inseparable.

Maneuver 1. Discrediting the mother seminar

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SGA 4 - 5 SGA as a "matrix of nonsense" and other ^{p. 847}

kindness of the same water: this is done by the band (and "casually") in the various introductory texts

the volume of the pen Deligne, called the strange name "SGA 4 1

2

"(Subtitle: Cohomology spreads) appeared

Lecture Notes in Mathematics of n ° 569 (Springer-Verlag). See for details on the shape débinage

double seminar SGA 4 - 5 SGA where Deligne learned his trade and found his basic tool for all

his later work, the note "The clean slate" (n ° 67).

2. Maneuver Sabotaging a writing all of my oral presentations SGA 5 ⁴²⁸ (*). Normally

it should have been made within a reasonable time (a year or two at most), through the (failing

other reliable authors-volunteers) cohomologistes of my students, who had the privilege of belonging there

take a good part of their work, along with ideas and techniques they have been for

many years with other listeners of the seminar, the only ones who know. It was also the best

way (and quickest) for them to become familiar with a substance and with ideas and techniques,

during oral presentations tended to their spending a little "over the head" (with the exception of always

dashing Deligne, it goes without saying). Still this writing, or rather **non-drafting** has fina-

LEMENT **dragged eleven years** - until the moment (coincidentally) where Deligne gives "green light" to

Illusie to care at the end of the purposes of writing and publication of this unfortunate SGA until 5

there left behind by agreement - the moment when it is acquired it will be published (in 1977)

after a certain amount of his own pen one, compound (in 1973 and subsequent years) to first

needs (at least I had first grown understand) a popularization of "ingredients" ("inputs") of

étale essential to his argument (the last part) of the Weil conjectures, is baptized

for the occasion of the unusual name "SGA 4 1

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. "(The name seems to have yet to date have not yet
aback or surprised, even

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shocked, nobody except me ... (169 1) 429 (*)) For details, see notes p. 848

"Green light" and "reversal" (n ° s 68, 68 ☹ where the sense of volume naming "APG 4 1

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" begins to

show me, and notes "Silence" and "solidarity" (n ° s 84, 85).

Maneuver 3. Dismantle the original seminar SGA 5, the published version (for the "care" of my
Former student Luc Illusie) represents only a "body" outrageously mutilated. I go around this
shameless dismantling, or rather, the **slaughter** of which was given a splendid seminar
the hands of my students, in the note of the same name (n ° 87) - one of the longest and most revealing of
thinking about the burial.

4. Maneuver break the unity of my work on the étale, work represented by
the two parts 4 and inseparable APG APG 5, in the "bisecting", "violent by inserting between the
if he had always known, "it must be said!) the art of putting black on white the description (or" theory ") and a nested position
at first thick, in a form which is both convenient, striking, clear and accurate. This does not prevent,
Twelve years later, having put his hand to ransack the seminar, view vis-à-vis what remained (and SGA component
4 which forms the seat) of contemptuous patronize tunes and disregard.

428 (*) As I noted three notes (b. P.) Above, there have been detailed notes for each of my oral presentations. Their

Writing to the net would have been for me a work of a few months. If I did not, and in the year (1966)

the end of the seminar, it was because in principle voluntary (???) had undertaken a detailed drafting. This has
dragged on until I left again in 1970, when I entirely "hook" to such questions

for tasks that appeared to me (rightly) more essential and urgent. On this subject the note "Green light" (n °

68) I wonder for the first time on the meaning of what happened with "that unfortunate seminar". It was April 27
- and I discovered the reality, the "breath" of the "massacre" on May 12, two weeks later. . .

429 (*) See in this regard, and for clarification of the **meaning** original and true acronym AMS (including my name and person
ended up being ousted) sub-note "Eviction" (n ° 169 1 which follows it ("The maneuvers" n ° 169), and was also
originally scheduled as a mark of b. p. same here.

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two shutters, and a foreign contemptuous text " 430 (**), responsive to unusual name" APG 4 1

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" 431 (***)).

This great name says what it is supposed to say - all were thinking about it! By name alone already, this volume
present as **the** central and fundamental text on the étale, intended to **replace** the "exposed
bushy SGA and SGA 4 5 ", " we may consider a series of digressions, "including" some very
interesting "it is true, but the central text" should allow the user to forget. "

It is not necessary also my former student and friend brilliant compromise here long and unnecessary
speech: name alone lapidary "SGA 4 1

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states and poses unanswerable evidence of a **prior** of this

p. 849

text compared to "digressions" named SGA 5 (which, as it could certainly be otherwise,
have indeed been published after him. . .), And at the same time as she poses as evidence an (alleged)
logical dependency SGA 5 with the text "previous".

This incredible imposture of a so-called logical dependency SGA 5 from the text apo
cryphe is indeed affirmed in the introduction to this 432 (*), where the author announces stride (and
nobody before me apparently - having these days - there is nothing special. . .):

"... His life [that of" SGA 4 1

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"] Will publish soon SGA 5 **as is** " (ie
my emphasis) -

read: in the state of a **body** ransacked and looted copiously. . . As yet I had knowledge
for more than a week of the operation "Patterns" My friend, it took me two days (April 26, with the
note "clean slate", at 28, with the note "Reversal" (notes n ° s 67, 68 ☹) to arrive to grasp the meaning of
this "mystery" that meant to me that obviously absurd assertion of my brilliant student - and
understand also, at the same time, the sense of seemingly innocuous acronym "SGA 4 1

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"On which I myself

not yet arrested the two previous days.

The same sham of "logical dependence" is clearly suggested in the introduction to APG by 5 Illusie (169 2) 433 (**). It is made more plausible for an unprejudiced reader, by the countless References to "APG 4 1

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"Which later writers exposed my 434 (***) (or those of

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least, we well

p. 850

wanted to include in the edition-killing) are longer to cram their newsrooms. Many of these references are also no references cage, but refer to two presentations of original seminar

(written by one Illusie, the other - particularly crucial - by Deligne 435 (*)), which were incorporated without further

430 (**). This passage is quoted in quotes (memory) of the note "the remains..." (N ° 88) - the same one where, for the first time in thinking about the burial, I "ask" to finally realize the place of the seminar 4 LMS - LMS 5 at

"Inside my work fully completed." As deep lived, "carnal", the "breath of violence" is in

taking to this central part, harmonious living of my work, it is revealed to me in a dream the same night following the reflection. He finds his written the next phrase in the note "... And body" (n ° 89).

431 (***) Subtitle: Cohomology spreads - Pierre Deligne. . . The caption also told what he means!

432 (*) I recall that Deligne also confirmed to me verbally, during his last visit home (last October), this

even delirious thesis - no real belief it is true, and without pretending to tell me what my seminar, which formed

a harmonious and coherent without having waited, depend on the work of Deligne made from it seven years later. . . This short scene on a train platform, where we waited (with her little daughter Natasha) the train that was to take them to Paris, told at the end of the note on this visit, "The accomplishment - or the moment of truth" (n ° 163).

433 (**). For details, see sub-note "Good Samaritans" (n ° 169 2) to this note (n ° 169), originally scheduled as a note of b. p. same here.

434 (***) (April 9) made detailed audit, "late editors" in question (and this is an understatement...) Are limited to

dear former students Luc Illusie and Jean-Pierre Jouanolou. The editorial Bucur and Houzel were ready even before my start, and did not push Illusie servility to slip references to a text called "SGA 4 1

2 "which has emerged

a decade later. He and Jouanolou were content to wait for the "encouragement" to write Deligne

which was up to them, eleven years after the completion of the seminar and for the presentations they had written "my time" to cram the cage references to the text-pirate their brilliant friend and protector.

435 (*) This is the exhibition "The cohomology class associated with a cycle, by A. Grothendieck, written by P. Deligne". It is specified moreover that this presentation was "inspired notes Grothendieck, which **formed a 0 state** SGA 5 IV" - whereby it is suggested, 680

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ado in the volume named "SGA 4 1

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"- taking care not to ask me anything or just

let me know, but as something that (in the absence of the late master) they belong right. . .

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This act of brigandage allows more to my former student Deligne to reach this brilliant **reversal** p. 851

roles , to present me on the cover of the book (and in keeping as much to consult me ...)

as his **collaborator** (for the development of étale!) 436 (*) - a bit collaborator

"confused" at the edges 437 (**). It is true, but "collaborator" anyway. . .

As for the text-pirate called "SGA 4 1

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"Besides the two already mentioned exposed, torn from their context

original SGA 5, and also many "digests" of some of the results of USG 4 - 5 particularly SGA

important for arithmetic applications, plus one original chapter of applications are trigo-

nométriques, and apart from finally "State 0" from the "thesis" -SiC Verdier (which will be discussed further with

"operation III"), it consists of a handful of supplements (useful, certainly 438 (***)) to formalism

cohomology

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SGA in developed 4 - SGA 5. This would be enough for a beautiful article, a bit eclectic, p. 852

thirty pages (or fifty, by including the chapter "Are trigonometric"). In

no doubt that this is an act of charity we rid SGA 5 of this sad state (zero), to make the statement that this beautiful in a bright volume. . .

As for the statement which had undertaken Illusie (former Chapter II), disappeared SGA 5 to reappear (as refurbished)

as an appendage to the presentation of Deligne theorems finiteness in étale he developed theorems

finitude relevant for $R_i f_*$ (under assumptions of "purity" and "resolution", see note b. p. (***) page 841), and

theorems like "generic Künneth" and "local generic acyclicity". No one before me had ever thought of **formulating** Only such statements in cohomology In addition, so-called demonstrations "outdated" oral seminar, in addition to dependence principles (for p. ex. to derive a finite statement for the functor Rf_* the similar statement for Lf_* and $Rhom(\cdot, \cdot)$), introduced a technique uniform use of the strong form (at Hironaka) of the resolution of singularities, which has been proven elsewhere - and it is there and nowhere else that Deligne and my other students cohomologues

have learned. She served thereafter, especially in my proof of the theorem "De Rham algebraic" for smooth varieties over the field of complex, and that of the theorem Mebkhout-the-name-named, said "theorem Riemann Hilbert "alias" theorem of God "(which Mebkhout has not yet had the benefit of learning the method in SGA 5 she was gone. . .).

Seven years later (?) Deligne is an elegant method to prove in a few pages the finiteness of f_* and bidualité the theorem (technically very close), under assumptions (if not optimal, at least) little restrictive (see Note b. p. cited). Nothing, either in the statement of Deligne or in the Appendix to his friend could do suspect the reader I am for something in the concepts introduced and used (eg local acyclicity and its variant "Generic"), or in the forward-proven (finiteness of bidualité and Künneth and generic acyclicity), and the links between them. My name missing from both the text, that the bibliography, which consists of four references to Deligne, all occurred since 1970 ie my "start".

I find myself there again, at the turn of this note b. p. Explanatory before deliberation to Clean slate© the source and root of what my brightest students handle with such mastery (as if they had always known. . .) - that is to say the one to **erase the traces of the past**, the past before my "death".

(16 March) For the special role reserved for supplements "finitude" Deligne, see sub-note "Trojan Horse" (n° 169 3) to this note "maneuvers".

436 (*) This staging (where I appear as a "collaborator" of my student Deligne) is even more brazen, it was seven years I had clearly and publicly signified my intention not to publish math (much less, therefore, to As a "collaborator," one might think. . .).

437 (**) In his summary (he sent me a copy) of "SGA 4 I

2 "for the Zentralblatt (in September 1977), is a Deligne

happy to talk about the "state **confused** - although rigorous - SGA 5" (my emphasis), which (one would have suspected) the new text was supposed to "cure". . .

438 (***) These are the results of finitude (already mentioned three notes of b. P. Above and in the cited therein), filling in a few pages of the two gaps mother seminar SGA 5, plus a discussion of the formulas fixed points "modulo" the n and p . The problem to explain such formulas, and relevant conjecture for an expression mod p of the function L Artin-Weil for a finitely scheme on a finite body had been laid by me from the seminar SGA 5, and were surely part problems (unworthy of any mention in the introduction of Illusie GAS 5) posed in the presentation of closing (exposed disappeared

body well, with many others, in publishing-Illusie). Deligne had found a common solution to a large elegance, using the "formula Künneth symmetrical" (it develops, for the purposes of the case, in presentations spurious in SGA 4). He had heard something (and obvious) that these results would be included in the written version of SGA 5, they were directly inspired. It is hardly necessary to state that in the presentation (eight pages) devoted this formula in the said volume "APG 4 I

2, "my name is not pronounced.

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provisions so little decent in my former student shining, it would be self went to include these few supplements, each in its place, in the two or three presentations SGA 5 they were inspired and they completed. Instead, they serve as a pretext for the complete abolition of the presentation II APG 5 (with the blessing of Illusie, which was responsible for writing and y "makes up", transforming this presentation in an appendix in "SGA4 I

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"Chapter on the theorems of finiteness), and also to rename

Dry the bidualité theorem in étale (I was released in 1963 on the model of similar

"Consistent" that I had discovered in the fifties) "Deligne theorem" (*) (as was said Deligne

also generously "give in" to his friend Verdier, four years later, as part of the "package" called

"Verdier duality." . .). 439

b 3 . **Episodes of escalation**

Rating 169 (iii)

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(169 (iii)) The operation "étale" continued throughout the eleven years from 1966

p. 853

in 1977 that elapse between the end of the seminar SGA 5 and publication, in quick succession, volume-blow-de-saw "SGA4 I

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"Followed by the publishing-killing (so-called "Illusie edition ") SGA 5 440 (*). It was fulfilled before all thanks to the joint participation by acts such omissions, my five students "cohomologistes":

P. Deligne, L. Illusie, JL. Verdier, JP Jouanolou, P. Berthelot 441 (**). It is the responsibility of Illusie 439 (*) The **bidualité theorem**, or "local duality theorem" (both names are those I had given him), both in the coherent context in the context "discrete" (spreads, in particular), is in the nature of a Poincaré duality theorem "Local" valid for "varieties" (algebraic or analytical, or "moderate" areas etc.) may have singularities any. This is a theorem of an entirely new type in the arsenal of the "basic facts" in cohomology spaces of all kinds, and it is an important and deep complement duality formalism said "six operations" I developed to express with maximum flexibility and generality all phenomena like "duality cohomological" (like Poincaré). It belongs with the introduction of the functor $Lf^!$ (the inverse image "unusual"), the main ideas innovative I have introduced in the duality formalism of varieties and spaces "of all kinds"; one and the other formed somehow the "soul" of all the yoga of "six operations".

In the coherent case, the demonstration of bidualité theorem is also trivial. This prevents that what I call without hesitation "deep theorem" because it provides a simple and profound vision of things that are not included without him. (See in this regard the observation of JHC Whitehead on "The snobbery of young people who believe that a theorem is trivial, because his argument is trivial, "observing that I take and on which I embroider in the note" The snobbery of young - or defenders of purity ", n ° 27.) In the discrete case, the proof is, too, deep, using all strength of the resolution of singularities of Hironaka.

Attribute authorship of such a theorem to Mr. X (Verdier first in this case, for analytical discrete case, Deligne then spreads to the discrete case, until the two friends agree to award all in one Verdier) under said Mr. pretext that was copied in a neighboring context already known demonstration, or he knew broaden conditions Provisional validity (which I released in 1963) - and without even find it useful to recall the origin, is what we called "My time" a scam. I still have to wait, in fact, that the purity and theorems are relevant resolution demonstrated, that (in étale) I could maybe again claim to paternity as at least the **Theorem** bidualité of (in the optimum setting, this time excellent circuit) - in a time when the major **key ideas** that inspire and give meaning to the theorems have become subject of general contempt.

(May 11) I said that the validity of bidualité formalism in the analytic case I was of course known since 1963 when Verdier has learned through my mouth. I have not failed in SGA 5 always meet in passing the area of validity ideas and techniques that I developed. In the edition-killing SGA 5 Illusie took care to remove all traces of Such comments.

440 (*) (March 12) It now appears to me incorrect to consider that the operation "Cohomology slack" would have ended in 1977 with this double publication "SGA 4 - SGA 5", which would be the "culmination" (as I write two paragraphs below). I am misled here by the deliberate (sometimes convenient but artificial) of wanting to "cut" operation "Burial" (the deceased master and its faithful) in four separate operations - while these are in fact inextricably linked. The truth "culmination", or rather the **apotheosis** of the operation "Cohomology slack" and together with all the Burial, held four years later at the Symposium (called " **Symposium Perverts** ") Luminy in June 1981 (which will be discussed especially with the "Transaction IV "). In this conference, where the cohomological formalism all directions (coherent and spreads) is at the center of general attention,

my name is not pronounced ...

441 (**) This solidarity is expressed, for each of these five former students, first by omission, by abstaining from any effort to help make available all a wide range of new ideas and basic techniques, whereby they

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(Apart from that of Deligne) which seems to me the most heavily engaged, since it was he who assumed Responsibility for the editing-killing, thus making the docile instrument

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Deligne 442 (*).

p. 854

The intention Deligne in the appropriation of the "real" father of the étale can do no doubt. It is attested by the spirit of the whole operation "étale" probably single in the history of our science. It also expresses, quietly at first in 1975, in note Biographical Deligne (where any reference to a cohomological tool I would have put into his hands, and could have played a role in his demonstration of the latest installment of the Weil conjectures 443 (**), is absent), and vividly eight years later, in the brief but eloquent set of texts (1983) I called by the name "Praise of Death" (three-part) 444 (***). They are examined with the care they deserve in both notes "praise Funèbre (1) - or compliments" and "praise Funèbre (2) - or force, and the halo" (n ° s 104, 105) (and resumed, in a more penetrating light in higher note "funeral yin (yang bury yin (4)) ", n ° 124). As for the "Praise "autobiographical (and no funeral) Deligne, I make the turn in the two notes "Requiem for wave skeleton" and "The profession of faith - or truth in the false"

(n ° s 165, 166) 445 (****)

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The operation culminated in 1977 446 (*), with the publication (in order binding) "SGA4 1

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(sic) - SGA p. 855

5 ". This is the culmination (provisional) of a long **climb** to eleven years in my funeral work and my person, each new stage is emboldened by the tacit encouragement found learned their craft and they were the first to qualify for the "launch", but they held for ten years to book exclusivity; and after 1976, by their **silence**, in the presence of very large transactions yet an Verdier (1976) and a Deligne (assisted by Illusie, the year after). Besides Deligne and Illusie Verdier has played an active role in the operation "Cohomology spreads", giving, with "good reference" (see "Episode 3" below), the "kick" to the dismantling SGA 5, showing his friends that definitely the time was ripe for large-scale operation that followed the year after no problem. As for Jouanolou, its active contribution was limited to " **follow suit** " in peppering with pleasure his presentations austerity references to the text-pirate, and doing his best to evade the composer of the theme changes that take place there with a mixed belief. . .

442 (*) Illusie also made the **gossip Verdier** , which covers the deception of the previous year by refraining from any referred, in the introduction to SGA 5 or elsewhere, to my lectures on homological formalism and that of the class of homology associated with a cycle.

443 (**) (March 12) Nor does it is alluded to in the text, nor (to my knowledge) in any other text of his pen, that a substantial part of these conjectures was already established by someone other than himself. On this subject the sub-note "" **The** "

Conjecture "(n ° 169 4) to this note" maneuvers ".

444 (***) In my reflection on the Burial, the meeting with the Funeral Eulogy on the same day (May 12 last year) where a picture of a massacre broke into my investigation, was an important moment. The long reflection "The key yin and yang "(which gives its name to the second part of the Burial) is triggered five months later by an" association of "unusual ideas, which emerged after the meeting. It was prompted by a deliberate (but certainly implied Yet big spread ...) of "role reversal" in both "portraits-minute" I had to look a little more near. . .

445 (****) For details of this autobiographical form, see also the last note of b. p. (dated 29 de-December) at the end of the note "The nerve in the nerve - or the dwarf and the giant" (n ° 148). This leaflet was published by the "National Fund

Scientific Research "(Belgium), rue d'Égmont 5, 1050 Brussels, on the occasion of the award of" Five Year Award "at Pierre Deligne in 1975.

In this autobiographical two-page note, as in portraits minute that constitute the "Praise of Death" the art of sleight-of-hand is exerted as much on "reasons" "as that of the l-adic cohomology. In both texts, written eight years apart, the focal point around which focused reflexes of ownership seems well be "the" Weil conjecture.

(March 12) Even more absolute and more definitive than in "texts - Praise" examined in four notes cited, the appropriation for bursts and spreads in the **Symposium Luminy** June 1981 (see note b. p. of that day, page 853, above). Or rather, an appropriation previously and symbolic **intent** , which previously had expressed in groping of maneuvers (encouraged by the quick support of some and the indifference of all), became when brilliant Symposium (at least in the unanimous consensus of all the brilliant mathematicians assembled this memorable occasion, and for the general euphoria) a **done deal** .

446 (*) (March 12) This is a "culmination" any provisional! View the first notes of b. p. dated today, in this same note "maneuvers" (p. 853).

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in the previous steps, the general indifference and apathy (when it's not a quick welcome...) vis-à-vis their questionable character. I mentioned some of these steps with the operation "Patterns" reviewed previously. I found three other episodes again, more directly related to the operation "Cohomology spreads" and that remains for me to review.

Episode 1 . It concerns the fate of some conjecture like " **Riemann-Roch discreet** " . I had introduced in 1966 during the oral seminar SGA 5, in the final presentation where I had cleared and discussed some number of open issues and unpublished conjecture. This presentation was lost with all hands in the édition-Illusie where no reference is made (and not without reason...) To the conjecture in question, nor indeed any Another of the many questions that were raised. Yet seven years after the seminar, the conjecture reappears in the analytical context from the pen of McPherson, without referring to any seminar SGA 5 (or a schematic context), and under the unusual name of "conjecture of Deligne-Grothendieck". he This is the well-known Article 447 (**) where McPherson proves this conjecture in the analytical context.

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During his visit last October, Deligne me said he had limited himself in 1972 to **communicate** such p. 856

How to McPherson my guess (he had learned with other listeners SGA 5, at the seminar oral). He said he was surprised the name given by McPherson, without bothering to write him about it to make it change course. On this subject the note "The dot the i" (n ° 164, Part II 1), and for further details about the conjecture itself, the long subnote n ° 87₁ to the note "The Massacre" (n ° 87)⁴⁴⁸ (*).

Episode 2. This is the SGA 7 vicissitudes seminar devoted to issues **monodromy in étale**, which was held under the initiative and the common management of Deligne and me, between 1967 and 1969. The ideas of departure and the overall design of the seminar were due to me, and Deligne was made several contributions, the most important being his demonstration of the Picard-Lefschetz formula in the context spreads. As SGA 5, writing oral presentations drags on for several years - it's a little repetition of the (early) scenario (non-) writing his unfortunate predecessor! The publication eventually occur anyway in 1972 and 1973 (in Lecture Notes n ° s 288, 340), through the Deligne, when I disappeared from the mathematical scene for three years. At his initiative, the seminar is **divided into two parts**, the first presented as directed by me, as directed by the second he and N. Katz (Katz which was simply a speaker among others, during the second year of seminar)⁴⁴⁹ (**).

In the first volume SGA 7 I appeared under my name, the detailed theory of vanishing cycles, I had made in a series of presentations opening the seminar is "sabred" a summary of twenty pages Deligne (the other presentations were written within a reasonable time, by myself and others Seminar participants). The volume II appeared under the common signature Deligne-Katz, and the share that I had taken in the development of key themes and findings is less than in the volume

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this share is always retracted. I elaborates on this in the note "Prelude to a
p. 857

Massacre" (where I try to identify the direction of the mini-operation SGA 7) and above in note" points the i" (Part II 5), n ° s 56, 164.

I will confine myself here to remind the biggest retraction. It transposing I made in context of étale, the cohomological theory "Lefschetz pencils" and "theorem

447 (**)⁴⁴⁷ MacPherson, Chern classes for singular algebraic varieties, Annals of Math. (2) 100, 1974, p. 423-432.

448 (*) This conjecture thus appear for the first time, in its original and complete form in Crops and Seeds only, and this nearly **twenty years** after I have recommended to the attention of my students. . .

449 (**)⁴⁴⁹ In the sense that I discern in this **cut**, no mathematical reason no basis, see Note "Prelude to a Massacre" (n ° 56) cited below, and also the sub-note" Eviction (2) "(n ° 169₁) to this note" maneuvers ".
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Irreducibility. "This transposition of classical results, proven (when they are well and truly proven...) by transcendent way, was (as often) nothing automatic. I remember having spent days if not a week. There is not, to my knowledge, on the other demonstration known to date for key facts, as I open then spectral sequences of shots and structure "well known "(I had determined in 1958) of the fundamental group" moderate "of an algebraic curve⁴⁵⁰ (*). This theory is contained in SGA 7 II, in a presentation Katz (exp. XVIII) and according to the notes I him had communicated. In the introduction to the volume, the theory of Lefschetz pencils is presented (with formula Picard-Lefschetz proved by Deligne) as one of the "key-results" Seminar, without no reference is made either to a role that I would have played in any of the themes developed in this volume. The only reference that I know in the literature, which appears so little for such a role the Lefschetz theory is a footnote terse and ambiguous page⁴⁵¹ (**)⁴⁵¹ (after the title ("Brush Lefschetz ") Katz's presentation, and the author's name)" According to notes (brief) Grothendieck ". In the article Deligne "Conjecture Weil I" (169₄)⁴⁵² (***)⁴⁵² appeared

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from the same year (1973) at p. 858

the "Publications Mathematics", this theory of Lefschetz pencils acts as an ingredient important technical of his demonstration of the Weil conjectures. In this article, Deligne is not mine yet to retract my role in the trace formula l-adic (which is another crucial ingredient of its demonstration, whose paternity was still too notorious in well informed circles)⁴⁵³ (*);⁴⁵³ by cons when it takes care of making the results of the theory of Lefschetz he is about to use, no reference is made to my person. He simply refer to the relevant papers SGA 7, and there unlikely that an unhappy player never go unearh the elusive footnote page of his friend Katz. . .

Episode 3. The last episode that I may be known in "climbing" is up in 1976, one year before the "culmination" operation with the "SGA 4₁

- 5 USG "This is the publication in Asterisk (n ° 36 (SMF)

p. 101-151) from an article by JL Verdier entitled "homology class associated with a cycle." Verdier was a cohomologistes my five students, and (as his friends) had attended the seminar SGA 5, taking wisely notes without realizing what he had embarked there. In the ten years that have passed since he finished (as his friends) with navigate. Still, in this article he takes a number ideas that I developed in the seminar in question, far and wide, "to listeners who for mercy, "around the bidualité theorem and especially around the formalism of homology classes and cohomology associated to a ring ⁴⁵⁴ (**). In this article, my name is not pronounced (except once, ⁴⁵⁰ (*) In the introduction to Katz's presentation will be cited, it looks elsewhere generously attribute this to my theorem Former student Michèle Raynaud, who was exposed in the seminar USG 1 of 1950/61.

⁴⁵¹ (**) This note is ambiguous because it is careful to assert paternity, which might as well be due (to failure to state the contrary) is the author of this paper XVIII, or other co-signer of the volume (such as the introduction this one also suggests the omission). Closely following notes ("Concept"!) Grothendieck means not not that there are several demonstrations (some earlier), of which he would have done me the honor of choose mine. It is there (as elsewhere still in the same volume) is a typical example of the style "go!" dear my friend Deligne, which obviously did school. . .

⁴⁵² (***) see sub-note "" **The** "" Conjecture "" (n ° 169 4), from a note b. page right here.

⁴⁵³ (*) From the following year, however, in his autobiographical notes (discussed in the two notes already mentioned, n ° s 165,166) Deligne

can not refuse satisfaction, all symbolic it is, to retract this role. It is true that this was a text in circulation very limited, perhaps no mathematician "in on it" has kept the hands except me. But three years later still, the volume named "SGA 4 ₁

² "destined to become a point of reference current, the same retraction (but implemented with a different fingering yet, given the circumstances. . .) Is mounted, this time for the benefit of a wider audience of "users" not cohomology specialists spreads. For disassembly of this deception led masterfully see subscores group "Formula" (n ° s 169 ₅ -169 ₈) to this note, and the two subscores that precede it, "Trojan Horse" and "" **The** " Conjecture "(n ° s 169 ₃ , 169 ₄).

⁴⁵⁴ (**) The idea of defining the **homologie** a schema (or "space" ...) as its hypercohomology values in a "complex 685

by way of a joke of a very special kind ...) and no reference

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is made at any

p. 859

SGA 5 seminar whose author could be heard. Details can be found in two notes "The good references "and" The Joke - (... always the same weight, no error) or "complex weight" " n ° s 82, 83.

It is from this "memorable article" the duality formalism on analytic spaces complex, for analytically constructible discrete coefficients, reproducing only one I varietur developed (in 1963 especially in SGA 5 in 1965/66) in the schematic context spreads became subreptisement the "Verdier duality" - until five years later (in the euphoria of the Colloquium Luminy June 1981) the same round of sleight also makes for duality spreads. But then I look (as I have just done with the episode of "memorable article" itself) on the **third** big operation, this time with Verdier as the primary (if not sole) "beneficiary" - operation he will be discussed below ⁴⁵⁵ (*).

b 4 . **The impudence**

Rating 169 (iv) This article Verdier threw me an unexpected light on the fate of the SGA 5 hands of some of those who were my students. He showed me what kind of "profit" they could found in the exclusivity they had knowledge of the ideas and techniques I had developed in SGA 5, for them before all others. He also showed me, without doubt, collusion and Solidarity cohomologistes all of my students with this kind of operation. By calling this article "Good reference," I had not grown so name it - it is now (as it was confirmed to me various sides) a standard reference text, no

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of them could certainly ignore. This is what ends

p. 860

win by me in the notes "Silence" and "solidarity" (n ° s 84.85). I knew I did not have to surprised that in publishing-Illusie of what was once the seminar SGA 5, no reference is made, no time to formalism of homology (and homology classes associated with cycles) that I would developed in this seminar - and there was no need to talk about, in fact, since (ten years later) her boyfriend Verdier had already responsible for providing the missing reference to the satisfaction ⁴⁵⁶ (*).

Dualising "suitable dates back to the fifties (in the coherent framework), and had been endorsed by me, with luxury details, as part spreads during the seminar SGA 5. The methods I had developed on the theme of the class cohomology (first) and homology (then) associated with a ring, from the second half of the fifties (in the coherent framework), which I have presented a summary (v spreads) in SGA 5, were "technical boilerplate" is applicable to both "coefficients" continuous (style Rham or Hodge) and as discrete in both the schematic framework analytical or differentiable (among others). The needs of such a theory were also among my main motivations to develop (from the fifties) formalism cohomology "racks" in a closed (with result Spectral useful "passage from local to global") intended to provide a "algebraic" equivalent to the classic (and elusive) "Tubular neighborhood" of a closed subspace. It is on this occasion also that I have developed for the first time (as in the context that coherent discrete) statements of the type "purity" and "semi-purity" Cohomological.

455 (*) See Notes "Sharing", n ° s 170 (i) - (iii).

456 (*) As for the variant **cohomology** (just touched upon in the article by Verdier, that Deligne refrains also quoted), it is awarded (as we saw) to Deligne. As I duly presented as author of the paper hacked by Deligne there had no major reason to shut the disappearance of SGA 5 of my papers on the subject. Illusie mentions "in passing" in the introduction of his pen, not the thing to be deemed worthy of an explanation (one before me and no one seems to be surprised, indeed. . .). On the contrary, in the second sentence of the introduction, it is very clear that "The **only significant changes** compared to the original version on the presentation II [finiteness theorems]" that is not reproduced, and the presentation III [Lefschetz formula "]"..." (my emphasis).

Given the limited and given the context, I do not have to wonder if my former student pretends not to see of **other** "significant changes"

in the living and harmonious body that I had once confided in his hands and those of my classmates, reduces body
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18.5. THE FOUR OPERATIONS (a corpse)

The "good reference" provided by Verdier, like the "memorable volume" dedicating the exhumation partial memorandum by Deligne, is for me the outright plagiarism. It is not yet even text called "APG 4 1

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" 457 (**). Some forms are still kept there, in style" thumb "rigor, which excels constantly **suggest** false, never (or almost ... (169 3) 458 (***)) will advance to the **say** in

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clear. My first encounter with "SGA 4 1

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"And with the particular shape what makes this style p. 861

(the depreciation disdainful 459 (*) is in the note "The clean slate" (n ° 67).

But the operation in question hits me especially, more than a banal plagiarism could do so, for some dimension in **impudence** . None of the other three operations reached in my eyes this dimension end 460 (**). And it affects me more strongly that none of the other three may be because more it me

key as an act of violence, as a massacre "for fun" a beautiful work I had conducted

term and in which I put myself entirely - intended, before all others, even those who

are later in the plunder, to make grazing their sufficiency, and (under the guise of good complexion

People fly high and exquisite company) come and spread a discreet and insolence of these tunes complacent contempt 461 (***)).

b 5 . **the loot**

Rating (169 (v))

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(28 February) The two "operations" that I have to review, as the fourth p. 862

(Called "Symposium Perverts") which will be discussed below, were made with the participation or collusion of many, for the "benefit" (it would seem) of one. This is a common striking three

editing-Illusie to the state of a deformed body! And this is just a "change" not "important", among many others, that

this **share** is two inseparable friends of "packets" of presentations that I had developed with infinite care: the part awarded to Verdier has become, for a year already with the release of SGA 5, " **the** " good reference that everyone

waiting (Deligne dixit) and that Deligne awarded to becoming "the" good reason duly mention the indispensable basic text "SGA4 1

2 "at every turn of the page, and in addition, to present their dead master as the humble (and confused) collaborator his most brilliant student. . .

457 (**) (March 21) The reflection continued in the following subscores grouped under the name "Formula" (n ° s 169 5 to 169 8) me shown that this impression was wrong, despite "certain forms" that are still kept. . .

458 (***) On this subject the sub-note "Trojan Horse" (n ° 169 3), following a note b. p. here which was supposed to explain this "almost...."

459 (*) This is the "depreciation" affecting to wipe out the "ganguer nonsense" amassed by a predecessor "confused"

("Though rigorous"...) And draft wishes. . .

460 (**) (March 11) This assessment is of course entirely subjective. In writing this line, I actually had as a hesitation, thinking of the unthinkable "operation" Symposium Pervers (or "IV operation", which will be still question). This memorable Symposium constitutes a veritable **apotheosis** collective of my person Funeral, by that of a rash follower (Zoghman Mebkhout) interposed. It was on this occasion that I realized that this apotheosis is also a **continuation** natural, and the ultimate **outcome** of the operation "Cohomology spreads", which episode "SGA4 1

2 - SGA 5 "was in reality a" culmination "any provisional In the latter, my former student Deligne do. can help here and there to do even referring to my humble self and my work, even against the heart, and to get stand by scornful epithets. In the Symposium Luminy June 1981 against where étale was at the center of public attention, my name (as well as that of the unknown service Zoghman Mebkhout) is at no pronounced now. . .

461 (***) This conceit and contempt spread out quite clearly in and between the lines of this book called "SGA 4 1 2 "(probably

unique in this kind in the history of our science). They also appeared in the same year of publication of this (but in more muted tones) in the personal relationship of Pierre Deligne me. (See note "Both turning "n ° 66.) I found them in the casualness of such and such other among those who were my students, refraining from answer such a letter telling him about something that kept my heart or had pained me. I found them in keys light and casual, between the lines in the introduction to "Illusie edition" (or editing killing) of a labor of love, and also last year, in the condescending air paternal yet another student (referred to in the note "The joke - or "complex weight", "n ° 83).

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operations, from confirmation of continued reflection in the note "The Gravedigger - or the Congregation whole "(n ° 97).

But I see in the first two operations, made around the grounds and étale, a point more insidious common, about a **spirit** that animated them. This is a certain attitude Interior vis-a-vis the **possession of scientific information** of high level and limited traffic, or in extreme cases, a contained information to a group of several people linked by alliances of interest (or even a single person), and who use their power to **block traffic** as long as they seem advantageous to book in the "benefit" exclusive.

So, after my "start" in 1970, Deligne was **the only one** (except me) to be intimately assimilated the "yoga reasons "and to have felt the full scope. - to make use one knows my five students cohomologistes (Including Deligne), and maybe two or three other former auditors SGA 5 who had the perseverance to really assimilate the substance, were **the only ones** to have at their exclusive disposal and ideas techniques I had developed in this seminar.

In either case, speaking to Deligne in countless head-to-head between 1965 and 1969, or the small group of listeners SGA 5 in 1965/66, it is true that it is "for them before all other "I explicitais and was developing long before them some inner vision is not **not** as representatives of some "interest group" I was putting their hands these things had for me the price. To me it was obvious that I was speaking of them as animated people like me, next to the natural desire to give their evidence and make their contribution to a **knowledge common** mathematical things, by a **spirit of service** , vis-à-vis a "mathematical community" without boundaries in space or in time 462 (*).

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And what I was putting into their hands, I knew

p. 863

that these were not "curiosities" museum pieces, but living and burning things to do grow and branch out - and that was what was sensed immediately by those to whom I spoke 463 (*).

If I spoke to them, it was not as kind to the **shareholders** to whom I have entrusted shares at name I know not what "interest" common but as for **people** who connected me an **adventure common** - people, therefore, who would be keen to act as **relays** for the "information" that I was communicating to them (even do their part as they please, in the echoing around them ...), as myself I was doing over in their favor 464 (**).

With a decline of nearly twenty years I realized that there was between me and them a land misunderstanding - we were not "connected to the same waves." What I had confided as living things hands that I thought loving, was hoarded as a kind of **nest egg** that would hasten bury.

Possession of loot represented a certain **power** (admittedly ridiculous, considering the price...) - be it the authority to retain, to prevent (it was only for a time) a living thing, made to flourish and

462 (*) On the subject of such a "spirit of service", see in particular the note (also cited below) "Yin Servant, and new Masters "(n ° 135).

463 (*) (April 10) That did not stop some of them to do their best, afterwards, to run down what they have hoarded

long, having struggled initially (aside Deligne) to grasp the meaning and scope and to assimilate. I see this débîne tone (which surrajoute the attitude "nest egg", which is discussed below) double **compensation** . On the one hand the wicking malaise (created in their hearts by the diversion of something that is not theirs, but that of **all**), in pretending to **devalue** their own eyes what was hijacked. On the other hand there is vis-à-vis compensation "father" felt like incarnation of a creative force that exceeds the (then they get to take similar force, rests in them as in the one in which they secretly complain. . .). My state of "dead" and the example set by the heir Direct have created a favorable environment for "romp" a secret antagonism, the "father" is now felt to be in a **position of weakness, inferiority** .

464 (**) It is therefore this "mathematical community without borders" that I spoke, the same time as them and through them. I explained elsewhere (see note b. P. (*) Page 847) why I do not charge myself myself, from the year less ensuing seminar, to rewrite the net to put at the disposal of all.

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to swarm, swarming and flourish.

I tried to capture the two attitudes, different essence, that confront this "misunderstanding" 465 (***) in the two notes "Yin Servant,

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and the new masters "and" Yin Servant (2) - or generosity " p 864.

(n ° s 135, 136). I would not look here asking to copy incarnation of "service attitude" opposed to the "attitude of caste": one where "knowledge" is the hallmark of an elite and (to a stage more advanced in the degradation of morals) the average of an arbitrary power over others. As revealed reflection in Fatuité and Renewal (Part Crops and Seeds), the reality is more complex. I have seen in my own person, and some of my actions in my past of mathematical ticien, germs of the general degradation I see today. And it is also this virai " **Service drive** " in me has been a powerful engine of action, particularly in the development of my written mathematical work, especially in the tireless pursuit of the two series of texts foundations EGA and SGA 466 (*).

It seems that I have not known anything communicate to my students of this drive there, or the attitude that the reflects. The company work, since she embodied an attitude and provisions "service" a community, stopped dead after I left 467 (***) - as by a sudden blow

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saw (or p. 865

chain saw. . . 468 (*)).

By echoes still reach me here and there in the world I left, I see that this attitude spon-ous, I had in common with the benevolent elders who welcomed me when I first became (as the same benevolence) an **alien** in this world that was mine.

b 6 . **eviction**

Rating 169 1

(March 9) 469 (**) The sign LMS is an abbreviation for "Seminar Algebraic Geometry Wood Mary. "It refers to (or at least pointed in the sixties) seminars where

I developed between 1950 and 1969 (in collaboration with students and others from 1962) my program foundations of the new algebraic geometry, along with texts (under "Advanced"

465 (***) In writing these lines, and the word "misunderstanding", the association came to me with the letter Zoghman Mebkhout (cited in note "Failed an education - or creation and conceit", n ° 44 ©) which spoke of "a kind of misunderstanding" between my students and I (in yet setting aside Deligne...). I was not sure then that I understood what "kind of incomprehensible hension "he meant Is this the same as this." misunderstanding "I am talking about here - and it would have excluded Deligne by his

deliberate (which surprised me more than once in my friend) not seen that "pink"?

466 (*) The "relentless pursuit" was also often against another equally strong drive in me that to release all the "tasks" that held me and throw me still further into the unknown in front of me constantly called me (and still am...).

467 (**) (April 10) to net retyping these lines, I am struck by a strange irony, the meaning (as that of the Burial in general) is not fully understood at this time yet. The one who has invested all in whole task of "service" for the benefit of a certain "mathematical community," which is ousted from his work Similarly, and with the tacit approval and unreserved said "community", by the very people who made the **denial of service** an imperative of caste and second nature.

The apparent paradox, however, seems to solve a large extent, remembering that the "community" to which addressed the "Service drive" in me was not the sociological entity (with its "caste" notable etc.) that was involved wholeheartedly in my burial; but it was this "mathematical community without borders in space nor in time "which was discussed above. (For comments about the distinction and confusion between these two "communities", see the first note b. p. the subsequent note "Respect" (n ° 179).

468 (*) On the effect of "Chainsaw" cutting short (including almost everyone, from those who were my students) to a momentum alive and strong of a work that was beginning, see the two notes "The heirs...", "... and Chainsaw" (n ° s 91, 92).

469 (**) This sub-rating comes from a note b. p. the main note "maneuvers" (see note b. p. (*) page 848)

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and more canonical style) of the EGA series ("Geometry of Algebraic Elements") 470 (***). these seminars took place at the "Wood Mary" locality (in Bures sur Yvette) which operates the IHES since 1962. Indeed, The first two seminars (between 1950 and 1962) continued at a local fortune in Paris (with the Thiers Institute), before an audience that could hardly exceed ten people, and before whom I was strictly "alone". The acronym AMS date of the years when he was not yet issue of "Wood Mary." I added later this beautiful name to the original name "Geometry Seminar Algebraic ", to make it less austere.

It goes without saying that the result of these seminars, SGA SGA 1 to 7, is numbered chronologically. It was obvious that the overall design of each of these seminars came from me. She was inspired About my overall and long term, ask broad foundations of algebraic geometry, and Increasingly, those at the same time a "geometry" more extensive, I strongly felt from all or less 1963 and following years, and was left unnamed. (I now call named "geometry arithmetic ", synthesis of algebraic geometry, topology

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and arithmetic 471 (*).) The last

p. 866

these seminars is SGA 7, which continued (unlike previous) two consecutive years, 1967-1969, which was hosted in collaboration with Deligne.

The volume in the name sham "SGA4 1

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"Is (as explained above, pages 847 and 851) formed of texts after 1973 so later as the last of the SGA seminars, if we except those looted in SGA 5, and the famous "State 0" of a "thesis" Verdier (which will be discussed with operation III).

All matters of dates aside, the heterogeneous nature of the text component that volume is in no in keeping with the spirit in which I had continued the LMS series, each volume had a **job**

of major foundations on part of my program had yet been developed anywhere

elsewhere - thus excluding volumes of "**digests**" or **compilation** of results already known and well developed, or even new results but sporadic in nature. Strictly speaking, giving the volume

Deligne name SGA 8 (assuming that I give my consent) would have been improper, suggesting a such name the idea (no basis) of a **continuation** of the work I had continued in the seminars

previous USG 1 GAS 7. As for the abbreviation "SGA4 1

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"Chosen by Deligne, it is not only" inappropriate "

but it is itself a **fraud and a sham** . This is one thing that strikes me as

to be **obvious** to each of the many mathematicians who, since 1977, have had opportunity to

knowledge of this volume, and also know the meaning of the acronym AMS, inseparable from my person and my work, and there too, a certain **spirit** . This prevents this sham in the name

even a standard reference text, was tolerated by the "mathematical community" for eight years, without apparently "do not ride". I see with the Pervert Symposium 1981, which is an extension

natural, **the great disgrace** of the mathematical world of the 70, 80, disgrace that seems unprecedented in the history of our science.

There was a precursor episode of this **operation-crowding** , to give the impression that my person would play an occasional role, draft and accessories in the development of basic texts

SGA. This is the "SGA 7 small operation." It about this in "Episode 3" (a

climbing) in note

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"Maneuvers" (n ° 169) and above (of which interests me perspective here) in note

p. 867

"Prelude a slaughter" (n ° 56). It is published in a separate volume SGA 7 II, part of the

original seminar, under the names of Deligne and Katz and excluding myself (and retracting the role that was mine in the development of its main themes and some key-results). I am writing to

470 (***) Written with the collaboration of J. Dieudonné.

471 (*) See note on it b. p. (*) to the P. 844.

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this, in the note cited (n ° 56):

"This" APG 7 "is not a **continuation** of the work continued in the SGA,

but I feel it as a kind of "saw-shot" (or chain saw...) brutal **ending**

the series of SGA, a volume that stands out ostentativeness of me, while

is related to my work and bears the mark as much as the others. "

These volumes SGA and SGA 7 7 I II not yet boast of condescension tunes and thinly veiled contempt with regard to the work which they come, If not then the escalation was able to accomplish yet four years later, it is because the previous steps (including the mini-operation SGA 7 apparently harmless) have "Past", never (to my knowledge at least) raise in the mathematical world the slightest reaction.

I want to close with an uplifting epilogue (probably temporary) to the transaction-crowding of me

LMS, foreclosure implemented by Deligne with the tacit approval of "the whole Congregation". he

This is the answer very "cool" that was made recently by Ms. Byrnes, in charge of "Lecture Notes"

in the Springer Verlag, to whom I had written to request elucidation on a volume named SGA

5 and published under my name in 1977 in the "Lecture Notes" without the Springer house saw fit to me

ask my permission or even informing me of this publication made by him. I learn from her

letter (received one month after) it was all the more pointless to bother with such a formality, **that it is**

wrong I pretend to be listed as author of the volume SGA 5, edited by L. Illusie, as I face

on the cover **and as director** of this seminar! (And you wonder suddenly, in retrospect it

that the deceased director was doing there in the seminar. . .) I wrote just to see, to MKF Springer

person, on various strange experiences I had with Springer since 1972 (the year

SGA 7 I had been published under my name in the same way - it is true that I am not more "author" I

ⓐ the SGA 5. . .). I am still waiting a response. . . 472 (*).

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(March 16) This sub-notes was named that was needed, "Eviction (2)." The sign (2) recalls that there p. 868

has had another note of the name "The eviction" (n ° 63), which I have had occasion to refer recently (with

the "Patterns" operation). The "crowding out" which was mentioned (very quietly...) In this note, there is one that has

took place in 1970, during the episode of my departure from the IHES, which obviously suited perfectly departure

my brilliant young friend, recently installed in the place 473 (*). The affiliation between these two "evictions"

one of IHES and the other of the SGA series, seems obvious. I found a striking increase,

in nature yet an "escalation": the first time, it is simply the eviction of me

an **institution** to which I felt very strongly attached to me of course (I could see myself there end my days,

real one!), but I detached myself quickly and without regret residue. The second time, it is

the eviction of my person of SGA, which themselves represent (symbolically surely, and more

symbolically) my work of mathematician - work to which I remain committed today. he

While my "eviction" of IHES is consumed thing for fifteen years - as I doubt, despite

while, so be the same for my ouster of a work to which I had devoted fifteen good years

and wiry in my life.

I thought the fact that I once facilitated the task to oust me SGA, following my movement

spontaneous submit those among my students and collaborators who have invested full-time, some

moments in the development of one of his seminars, as "leader" of the seminar as well as

me. It was not the custom of my time, and is certainly much less today. I do not know if

472 (*) (April 9) For the rest of the story, see note "The Funeral - - im Dienst der Wissenschaft" (n ° 175).

473 (*) It is about the episode I left IHES (1970) in "The Unfinished harvest" section (n ° 28) and notes

"The peel healthy", "The eviction", "Brothers and husband" (n ° s 42, 63, 134), and finally in the subscore (n ° 134 1) to the last

note quoted.

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I did well. On the one hand it did not correspond entirely to reality, in the sense that there was no symmetry in the role that I played, and that of my staff, even brilliant and investing

thoroughly like me. This presentation will therefore things in the sense of "ambiguity" (or

"Complacency" young brilliant mathematicians) I examine the notes "The Ascension" and especially

"Ambiguity" (n ° s 63 @63 "). If this ambiguity introduced by me encouraged some of those who have

SGA collaborated intensely with at one time or another, to "squeeze me" (more or less partial or

more or less complete), I would be wrong to blame them! I harvest

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just what I myself have sown.

p. 869

But this does not prevent me, also, to make a public statement about what happened.

On the other hand, it is also true that this relationship I instaurais with some employees could be

perceived by them as a mark of esteem and confidence (it was indeed), and encourage the same time to invest fully in the task, as I was investing. But now I tell myself that Such estimates and such confidence can be expressed in a manner equally clear and encouraging, without being however tainted by ambiguity. It was a bit as if I "bought" an investment in measure task, the granting of "advantage", "benefit" besides that (in hindsight) seems doubtful. For it is a false advantage to appear what we are not. And it is obvious that in creating an appearance (if not entirely false, at least) a little wrong on the edges, it was my responsibility before that of any Another of me doing figure eldest, who was engaged.

Decidedly reflection joins more than the note "ambiguity" in the unexpected day of "Kind of situation" which I had not thought of writing it. I realize that just as my relationship to the "young genius" (not unknown) Deligne was false, that by false modesty I refrained to assume the role of elder and "master" who was indeed mine with him, my relationship with other bright young people, investing themselves fully in a task that seemed so "common" ⁴⁷⁴ (*), has was also false.

Reflecting continued in the burial showed also clearly enough that if task "commune" there was, it was for the space of a year or two, time for the young man to (say) thesis (which is not bad). The same year I left in 1970 sounded the abandon of a signal immediate and almost total this large set of "tasks" noticeably hot, and indeed I "burned in their hands" the day before ⁴⁷⁵ (**). Apart from the work on the Deligne conjecture of Weil, it

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was also the beginning of a long stagnation in each of the major themes that had me p. 870

more fascinated - a stagnation (except for the "recovery" part triggered by the philosophy of Mebkhout-the-not-named) continues even today ⁴⁷⁶ (*).

b 7 . Good Samaritans

⁴⁷⁴ (*) I@ starting to realize that this was an illusion, at the end of the note "Green light" (n ° 68), p. 260.

⁴⁷⁵ (**) This immediate abandonment of a program and burning tasks, the very day of my departure is mentioned in Note "Instinct and fashion - or the law of the strongest" (n ° 48), especially in the double note "The heirs ...", "... and Chainsaw" (n ° s 91, 92), where I try to review (from the echoes that returned me) that have become themes that were supported by my various students "before 1970".

⁴⁷⁶ (*) (March 17) This sense of "stagnation" may take a more concrete meaning in a subsequent note, I account make a short list of the most commented on "hot" topics that were on my agenda, and who were left behind account, from my start and with a perfect set by those who were my students.

(April 9) See the note about "The tour of building sites - or tools and vision", n ° 178. 692

18.5. THE FOUR OPERATIONS (a corpse)

Rating 169 ²

(13 March) ⁴⁷⁷ (**) In this introduction to SGA Illusie warmly thanks Deligne among others for having

"persuaded to write... a demonstration of the formula Lefschetz-Verdier, **thus removing a obstacles to the publication of the seminar** "

(my emphasis), in clear the hurdle of **lack of "conviction" of Illusie** to write what he had hired to write for **eleven years** - which lack terminated suddenly, as was said above, the the precise moment when the good Samaritan Deligne gives "green light" to the Good Samaritan Illusie that "there could go" . . .

This is the "true in the wrong." As for the **false** system tries to suggest clearly that passage without the say in clear (following a proven style that made school...) is that the seminar SGA 5 **depend on** the formula in question (which was established at the time of the seminar only with assumptions resolution singularities, since lifted, in the most common cases, by the finiteness results presented Deligne in the "previous" volume having name "APG 4 ¹

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" ⁴⁷⁸ (***)). In fact, as the two friends know just as well as I, the role of the Lefschetz-Verdier formula in SGA 5 (as in my demonstration of formula Cohomological

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l-adic L-functions) was purely **heuristic** , providing p. 871

motivation to seek and prove fixed point formulas "explicit" (ie where the "local terms" could be calculated explicitly). So Illusie chimed in with his friend to create the impression that SGA 5 would indeed (and in a way that is not explained clearly by him nor by his friend)

subordinate to the text, so, can not call that "SGA 4 ¹

For details, see Note "massacre" and its sub-notes n ° 87 2 . In this note and all its subscores, I finally discovered (better late than never) that all this introduction written by Illusie and in general, the overall presentation of the edition-Illusie (or editing-killing) is a model of bad faith, served casually and with such candor tunes that make the charm of person.

This touching impression that strives to create Illusie, that it is **thanks** to the good Samaritan Deligne (and the second good Samaritan Illusie, needless to say) that the unfortunate seminar SGA 5 was finally released (Eleven years later, and in the condition that I know), apparently has "passed" without any problems. I found this version in the Serre report on the work of Deligne, made in 1977 precisely, the intention of the Committee International for the award of the Fields Medal. I have no doubt of the utmost good faith Serre, who had also followed that from a distance the maze of oral seminar - besides water had spent under the bridge since. . . He probably took for granted (like everyone else, and without asking questions) what was said or suggested in the introduction of Illusie, he has had to travel one day to see (And he will not see anything!). . .

Interestingly, the same report Serre is also the only place in literature, to my knowledge, where it is said (in this case, the first sentence of the report) that Deligne was my student. no publication Deligne could imply by cons to any reader that the author could have learned something in my mouth.

b 8 . The Trojan

477 (**) This sub-rating comes from a note b. p. in note "maneuvers" (n ° 169) (see note (**)) on page 849). For a more detailed dismantling of the art "go!" to take bladders for lanterns (a "user"

hurry and just waiting to believe), see subscores "Trojan Horse" and "Formula", n ° s 169 3 and 169 5 -169 8 .

478 (***) On this subject the note b. p. (***) and page 841 (*) page 850.

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Rating 169 3

(10 March) 479 (*) In the sub-notes (n ° 67 1) in the note "The clean slate," I point out two examples where Deligne has ignored his usual caution, and is indeed "Advanced ie plain" wrong. For the curious reader and sufficiently well informed, and that would have to hand the note and sub-rating, I point that, apart from the "kindness" towards SGA SGA 4 and 5,

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and "forgetting" some egregious my humble

p. 872

person around (already reported here and there in the note "maneuvers" and in his notes of b. p.)

Patent scams that I have identified are concentrated in paragraphs 3 and 4 on page 2 (in

"Breadcrumb navigation 4 for SGA, SGA 4 1

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SGA 5 "- admire the beautiful procession that here) These seventeen lines....

are also a model of the art of "fish in troubled waters", and largely deserve analysis by

menu 480 (*).

Suffice it to note here that in the first paragraphs of the cities, we read that to establish "in cohomology spreads a duality formalism similar to that of coherent duality ", Grothendieck used the resolution singularities and conjecture purity " 481 (**). This is also immediately adds that in the present volume (thank heaven and the brilliant author), these " **key points** are established by a different method" (my emphasis added), applies it, "for type schemes ended up on a regular pattern of size 0 or 1" that is to say, therefore, in almost all cases encountered by the user.

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Thus, Deligne strives to create the impression, and he even says clearly that all dualistic formalism

p. 873

ity spread that I had developed was still conjectural (at least in non-zero characteristic), and that "these points-

key "were finally established by it, Deligne, and in this volume, that is to say, by its results

finiteness (those already mentioned in previous notes b. p., results which it refers elsewhere

immediately). It would be nice indeed, like yours!, Such as to create the fiction of the famous " **addiction**

logic "of SGA 5 from the text named" SGA 4 1

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"(Dependence asked by this same name, and the

beautiful procession "SGA 4 - SGA 4 1

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- SGA 5 "), and thereby to justify the incredible assertion (cited

and commentary) of its preamble:

"Its existence [of" SGA4 1

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] Will soon publish SGA 5 as".

Here is the **Deligne release** , slid the tape here and there in the text suddenly saw-called "SGA 4 1

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"And

479 (*) This sub-note to note "maneuvers" comes from a note b. p. to it, see note b. p. (***) page 860.

480 (*) See, for guided details about the second of the two paragraphs cited, the sub-note "The double meaning - or the art of scam "(n ° 169 7).

481 (**) The text moves on "conjecture purity" by "established in a framework [??] in SGA 4 XVI and - Module resolution - the same feature in LMS 4 XIX in a framework "(incomprehensible to any reader who is" The. " already in the stroke ahead) is a way to hide that this theorem was acquired for smooth algebraic varieties in all feature.

(March 17) I note only the moment the charm of the end of the paragraph quoted, which had "gone to as" raw readings: " **Various developments** are given in SGA SGA 5 5 I. III, we show how this formalism [??]

involves very general Lefschetz trace formula Verdier. "(my emphasis.)

We admire the "various developments" without further clarification, whereupon the author (who on other occasions known to be precise)

continues with "formalism" (= various developments?), which "involves very general trace formula"; to do out immediately, the very next sentence (in the following paragraph), that the formula, "in the original version of SGA 5", was "Conjecturally established that."

I just checked in SGA 5 What are these "other developments" in the statement I SGA 5, the title says:

"Complex dualisants" so as bidualité theorem. Why "various developments" instead of "complex theory dualisants "or" bidualité theorem "? Yet it was not longer, and it was still less muddy! This me

recalls that in the famous statement "Finitude" ie the "Trojan horse", the brilliant author demonstrates precisely a "theorem of bidualité "without any reference to my modest person - which theorem is also called as dry (in the Introduction to the presentation I in question APG 5 written by Illusie) "Deligne theorem". Decidedly everything fits. . .

NB. For comments about this bidualité theorem (treated with such false nonchalance...), The long view

Note b. p. (*) On page 852.

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18.5. THE FOUR OPERATIONS (a corpse)

unambiguous in passing the "Breadcrumb navigation" that I just quoted The reality is that I had in the month of March 1963 established as part spreads the **complete formalism of six operations** (going so far beyond the "Poincaré duality" usual) without further restrictive assumption that (obviously essential) work with torsion coefficients "first" to residual characteristics schemes contemplated 482 (*). This is only for **bidualité theorem** in étale my demonstration made use of assumptions mentioned by Deligne. This theorem, which was of a type unknown cohomology ("spaces" of any kind) before I discovered, has also played in Seminar SGA 5 only an episodic role in demonstrating the

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Lefschetz-Verdier of formula 483 (*), p. 874

wherein formula played itself a purely heuristic role 484 (**). In the apocryphal text

Deligne, as said bidualité theorem is also **zero** (except that of be demonstrated under

helpful assumptions, and - under the obsequious feather Illusie and with the encouragement of his friend - become suddenly "Deligne theorem". . .).

It is not a question of minimizing the interest the results of finitude Deligne, which actually fill

although a gap (among many others) in SGA 5, as it is in the nature of things. no theory

intensely alive math is completed! But it is clear that Deligne exploited this

contribution, as useful as it is modest (it was deeper and more difficult, and without evil

still ...) in the **swelling** beyond measure, to make it the "Trojan horse" of a monumental operation

scam: the "Cohomology spreads" operation.

This same "Trojan horse" reappears elsewhere in the "review" already cited volume called "SGA4 1

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presented by Deligne for Zentralblatt (see note b. p. (**) 851 page). In the last paragraph of one, I read:

"It proves that for type schemes ended up on a regular pattern S of dimension one, **the opera-cohomological usual rations** [if not the "six operations", it must above all

to name!] transform any building beam building beam. "(It is I who

highlighted.)

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The thing is formulated to suggest that before the brilliant volume presented by the author, was available p. 875 finiteness theorem for any of the famous "routine operations" in étale 485 (*). I have had the pleasure yet to prove the first theorem as finitude, and most important of all, for the functor 482 (*) Thus, the "six functors" and essential for the formulas, the most crucial is the "dual formula" for a separate morphism of finite type (which can be considered the most general version imaginable to date, the classic Poincaré duality theorem), were established by me, without that at no time in imposing finiteness assumptions to coefficients. Besides, Deligne knows better than anyone, since it is **none other than himself** who made a detailed drafting (My notes 1963) of the statement of APG 4 where it is developed duality formalism (centered around the formula duality in question)!

483 (*) (March 17) This does not prevent that in the second quoted paragraph Deligne connects instantly to emphasize that this formula "Was established only by conjecture," and that "more local terms were not calculated" ("affirmation" that has no mathematical sense, but that helps create about SGA 5 feel "gangue nonsense" for charitable oversight. . .).

I admit that at the first reading of these passages, there will be one year, I was stunned - the meaning of these comments strangely "next to the plate" on a text that was also recommended to forget completely escaped me. With hindsight, and for a "work room" attentive, finally appears an **intention of ownership**, served by a **method** of retraction ("to confuse") carefully and fully developed, behind which prima facie gave me printing a single epidermal malice, speaking on happiness lachance over a complacent pen. For a more detailed review of the methodology, see subscores "Formula" (n ° s 169 s - 169 9) in note "maneuvers".

484 (**) As I noted below (in sub-note "The real math..." (N ° 169 5), this formula was psychologically important, providing a **motivation** for the development of formulas of fixed points "explicit".

485 (*) This goes in the direction of "confused state of SGA 5" which (as was said above in the same review) this Volume was "cured".

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R^1 (cohomology with proper support), and this also in the same day (if I remember correctly) that following my discovery of the **definition** of such a functor in étale (coinciding! with the "commonplace" $R^1 f_*$ when f is supposed to be clean). It was in February 1963 before he had the honor of meeting my future student, and at a time when nobody except me yet (Artin and, in a pinch) was too sure if the étale it "existed" indeed. She began to **be** really in those days.

There remained the question similar to f^* , which proved more resistant, and is also still reread with all the generality that (arguably) deserves. Besides, I had done from that year (if not the same month) the "unscrewing" necessary (the first came today shipped a jiffy ...) showing that from finitude to f^* , it could be proved that $Lf^!$ and $R\text{hom}(\cdot, \cdot)$ $R\text{hom}(\cdot, \cdot)$ 486 (**).

It is true that it has since become the "base folklore" of the étale, and is surely one of "Technical digressions" my brilliant precursor "SGA4 1

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"Is intended to" forget "...

b 9. **"The" conjecture**

Rating 169 4

(March 12) 487 (***) More than once since the publication of the article Deligne "Guess Weil I" (where he established the "final stage" of conjectures, which I had left open), I noted as a strange thing, but without stopping before them all day, that speaks of Deligne's conjecture Weil, where use was previously said **the** Weil conjectures. It is in this form, a series more stunning each other assertions that are presented in the conjecture in question Article Weil (Number of solutions of equations in finite fields, Bull

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Bull. Math. Soc. 55 (1949), p. four hundred ninety seven-
p. 876

508), and thus also that I have learned from the mouth of Serre, the mid-fifties. It is Yes there are in this set of conjectures, eclectic at first glance, an obvious **unity** of inspiration, from first intuitions related cohomological formalism (via the formula Lefschetz), and Also (I presume at least) of Hodge theory.

By creating and developing such a **cohomology tool** for varieties on any base body, I was able to demonstrate a good part of these conjectures. I did it, assisted by Artin, Verdier and others, devoting three years of tightly packed my life working on pieces meticulous, materializing into two thousand "unreadable" pages "gangue nonsense" and "technical digressions," which allowed a Deligne to "cut" the last step in twenty dense pages. . . In addition, drawing inspiration from a remarkable "similar kahlé-nothing" to the Weil conjectures, discovered by Greenhouse, I could clear (what I have called the " **conjectures standard** "on algebraic cycles) while the principle at least a **transposition Hodge theory** on an arbitrary base (or more specifically, a transposition which, in Hodge theory, is really relevant, a point of view "algebraic" for the algebraic theory of cycles varié-

complex algebraic varieties). Left to rephrase slightly (and obvious) in their conjectures original shape (may be too optimistic), they are valid at least in characteristic zero, and are "Probably true" also in characteristic $p > 0$ (as long as the conjecture of Weil are...).

It is surely no coincidence if the same Deligne holding to be "singular" conjectures Weil has also sought to retract the role played in their demonstration by one who was his master, and it is he who has sought (successfully, given the general apathy) to discredit the "conjectures 486 (**)

Of the two remaining operations among the six, namely L^* and T

The \otimes , it is trivial they transform coefficients constructive

patible into building coefficients.

487 (***) This sub-rating comes from a note b. p. in note "maneuvers" (n ° 169); see note b. p. (***) page 857.

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standard "as a dead end, out of reach what is more, and as a **barrier**, to be honest, now exceeded thanks to God (and his humble self), on the way to the demonstration of the conjecture Weil 488 (*).

b 10. **The formula**
(A) The real math. . .

Rating 169 5
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(17 March) famous "Weil conjectures", for an algebraic variety X defined on $p. 877$ finite k , concerning "function L " (so-called "Artin-Weil") associated with X . It is defined as a some formal series with rational coefficients, knowledge of which is equivalent to the number of points X rational over the field k and all its finite extensions. The first assertion of these conjectures is that this formal series (constant 1 term) is developing a series **based** rational over Q . All other statements concerning the particular form and the properties of this rational function, in the particular case where X is connected projective and nonsingular. At the heart of these conjectures is a certain formula, canonical presumed having this rational function as

$$L(t) = \frac{P_0(t) P_2(t) \dots P_{2n}(t)}{P_1(t) \dots P_{2n-1}(t)}$$

where P_i ($0 \leq i \leq 2n$, with $n = \dim X$) are polynomials with integer coefficients constant term 1. The degree b_i , P_i is supposed to play the role of a "i-ème Betti number" X (or more precisely, for variety corresponding X over the algebraic closure k of the field k). Thus, when X comes with "reduction since. $P > 0$ " of a nonsingular projective variety X_K defined over a field K of characteristic zero, then b_i is be equal to i-ème Betti number (defined by transcendental path) of the algebraic variety **complex** obtained from X_K by any of $\text{dip } K \text{ in } \mathbb{C}$ 489 (*). The rational function must satisfy **functional equation**, which is equivalent to saying that the roots of P_{2n-1} are exactly the

$$q^{-n} \xi_{\alpha} \text{ where } q = p^f \text{ is}$$

the cardinal of the base body k , and where ξ_{α} traverses the roots of P_i . (Morally, it had "come" to the existence of a "Poincaré duality" for the "cohomology" unnamed and undefined, variety X .)

I believe that Weil was also conjectured that for $i \leq n$, the zeros of P_{2n-i} were exactly the $q^{-i} \xi_{\alpha}$ where ξ_{α} still runs of zeros P_i (or, what amounts to the same in view of the duality condition **that**

the zeros P_i are grouped in pairs, equal to the product q_i for each). The "reason" here is a heuristic Another important property of the cohomology of projective varieties

0 non singular complex, expressed $p. 878$ this time by the "theorem Lefschetz" (version called "cow"). The last of the Weil conjectures, analogue "geometric" of the Riemann conjecture is that the absolute values of the reciprocals of the zeros of P_i are all equal to q_i

2 (which leads to assertion estimated with high precision on numbers of 488 (*) (16 March) For some details on this double-retraction débinage, see Eulogy Funeral (notes n ° s 104,105), and something about this praise at the beginning of Note ° 171 (x). For a more detailed examination of the art of the retraction, see all subscores "Formula" (n ° s 169 5 - 169 9). (X) (May 11) The beginning of the old notes "The Apotheosis" separated from it, to become a separate note "Jewels"

(n ° 170 (iii)).

489 (*) As Weil was his conjectures, it was not even known that b i defined and were independent of plongement chose K in C. A few years later, it would result from the greenhouse theory of sheaf cohomology consistent, which gave meaning "purely algebraic" the finer invariants $h_{i,j}$ of Hodge theory.
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points X_{490} (*)).

The rationality of the function L generally X variety Dwork was established by in 1950 by methods "p-adic" no cohomological. This method therefore had the disadvantage of not providing interpretation cohomological function L , and therefore does not lend itself to an approach other conjectures, X nonsingular projective. In the latter case, the existence of a cohomology formalism (on a "Body coefficients" R characteristic zero), including the Poincaré duality for projective varieties nonsingular and a formalism cohomology classes associated with cycles (intersection transformant tions in cup-products), so essentially allows "formal" to transcribe the classic "formula Lefschetz fixed points. "Applying this formula to the Frobenius endomorphism of X and its iterates, we would obtain an expression (1) as required by Weil, or P_i are polynomials with coefficients in A . It should be clear to Weil from the moment he had set out these conjectures (1949), and it was in Anyway Serre as for me in the fifties - hence the initial motivation for precisely develop such formalism. This was done in the month of March 1963 with $R = \mathbb{Q}_l, l \neq p$. It was just two grains of salt:

- a) It was not clear a priori (although it was convinced that it must be true) that the polynomials $P_i(t)$, which priori were with coefficients in the ring Z the whole l -adic, were in fact **ordinary integers**, and Moreover, independent of the first number envisaged l ($l \neq p = \text{car. } k$).
- b) The rationality of the function for a non-singular projective X , you could not deduce that for X general, if we had the resolution of singularities.

The problems raised by a) have played a crucial role, of course, for the birth and development of the yoga **units**, and subsequent formulation of **standard conjectures** closely related to yoga. They also stimulated thinking to find a

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theory **cohomological p-adic** (conducted by
p. 879

Following the "theory **crystal**"), as a possible approach to prove all the coefficients P_i , once you can (p. Eg. Through an affirmative solution to the standard conjecture) that they are rational and independent of (**including** for $= p$).

Anyway, so we were in 1963 expression $(L) L$ (but which depended a priori the choice of) the functional equation, and the good behavior of Betti numbers by specialization. he therefore remained to resolve the issue), to prove the assertion for the absolute values of P roots i and finally (for good measure) the relationship "on Lefschetz" on P zeros i . This is what was done ten years later Deligne in the article "The conjecture of Weil I", Pub. Math, the IHES n ° 43 (1973) p. 273-308.

As ingredients of this proof of Deligne, it was therefore in no need of a formula more sophisticated fixed points that the phrase "ordinary", which was available (with nothing "speculative") since the beginning of 1963. The only other ingredient in cohomological Article Deligne, if I am not mistaken, is the cohomological theory of Lefschetz pencils (v spreads) that I had developed around the year 1967 or 68, supplemented by the formula Picard-Lefschetz (proven in spreads by Deligne), one and the other set in the volume SGA 7 II which was discussed (and which my name, coincidentally, has but disappeared. . .).

The formula "more sophisticated" fixed points, called "**of Leschetz-Verdier**" against has played a **role psychological** important to encourage me to clear the cohomological interpretation (L) of L -functions, valid for any variety X (not necessarily non-singular projective). This formula Verdier me reminded that there must formulas fixed points unconditional non-singularity on X (as was well known already in the case of ordinary Lefschetz formula), but mostly, it attracted my attention

490 (*) In this last of the Weil conjectures, resulting simultaneously writing $(L) L$ is a function **single**.
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18.5. THE FOUR OPERATIONS (a corpse)

on the fact that there are forms of fixed points on the cohomology with **coefficients in a bundle** ("building") **one**, performing an alternating sum of traces (in cohomology spaces with coefficients in such a beam) as a sum of "local terms" corresponding to the fixed points of an endomorphism $f: X \rightarrow X$ (when they are isolated). In this heuristic motivation, the fact that this formula Lefschetz-Verdier "remained conjectural" coach. $p > 0$ (because it lacks resolution

singularities

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and hence the "bidualité theorem"), **was entirely irrelevant** 491 (*).

p. 880

As so often, the key step here was to find " **the " right formulation** (in this case for a "Cohomological formula of L-functions"). The formula Verdier suggested to me to involve a fais-CWater l-adic (Building) arbitrary, instead of the usual coefficients beam (which until then remained implicit), namely the constant sheaf Q_s . It was therefore, by modeling Weil definition of The function "ordinary", define a "with coefficients in F ". Once we dream to do so, the definition is self-same: it is the one given in my presentation Bourbaki December 1964 (Formula Lef-Schetz and rational functions L, Sem. Bourbaki 279), it is unnecessary to repeat here. Moreover, "terms local "plausible formula Lefschetz-Verdier (in terms of the coefficients given beam, and correspondence Frobenius) are also needed. Finally (we@ cocky or you do not!), Why not not write the formula here, abandoning even the assumption of cleanliness of the formula Lefschetz-Verdier "orthodox", but working with the cohomology to **own support** ?

Thus, not essential, again, was to identify the "good statement" (ie, **the "good formula "**) **sufficiently general** and thereby, sufficiently **flexible** to be suitable for demonstration, in "on" without problems through recurrences and "unscrewing". I would not have known (and none to date be) demonstrate **directly** "" Formula functions L "ordinary" for any X (or even smooth, but not clean, or vice versa), in terms of l-adic cohomology (to clean surfaces) with coefficients in the beam l-adic **constant** Q_1 , bypassing the sheaf generalization. (No more than I could known in car.p> 0 prove the formula Riemann-Roch-Hirzebruch **ordinary**, if I had not first widespread as a sheaf formula for **applying** clean smooth algebraic varieties - and person, to my knowledge, can not do so today. . .)

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In the statement Bourbaki in question, I confine myself to the general statement of the formula functions L p. 881 "Coefficients" in the beam-adic ordinary, and I show how, by simple unscrewing, we reduce to the case where X is a smooth projective projective curve. I knew that once arrived there, **it was won** - because we "hold hands" of sufficient size one, for the demonstration of the formula in question becomes a matter of routine 492 (*). I@ not busy myself at this time to release a right formula of fixed points in one dimension and prove it seemed that it would be rather Verdier to play. He gave a formula of fixed points, so-called "Woodshole", the following year, which was enough to style Frobenius and application functions L. I took con birth of his statement, which does not really me satisfied, because it seemed that the conditions it imposed on its cohomological correspondence (for demonstration purposes I have not read) were somewhat artificial - I would have liked 491 (*) (March 20) It was to the point that last year, I had completely and long forgotten this fact, and fell naked reading (under the pen Deligne) that the formula of Lefschetz-Verdier "was established only in version conjecturally Original SGA 5 ". I return to this point in the discussion the next day and the day after (18 and 19 March). (In subnotes n ° 169 6 and 169 7 .)

492 (*) If I speak of "routine work", it is not in a pejorative sense. Nine-tenths, if not even much

Moreover, the mathematical work is of this type, both at home than any other mathematician who happens to pass by moments which, precisely, are **something else**, creators times. After Verdier, I myself have spent time turn crank techniques available, delicate and well-oiled, to find and prove a formula of fixed points in dimension one that satisfies me (at least temporarily). This was the work "routine" as had been that of Verdier.

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a formula that applies to every endomorphism of an algebraic curve. The seminar was the SGA 5 first good opportunity to develop such a formula which is to my liking. (It is, I believe, that contained indeed in the statement XII Edition-Illusie, who miraculously survived the vicissitudes that struck the unfortunate seminar.) Weil conjectures were an initial motivation, and a wire valuable driver for me "run" on the development of a complete formalism étale (and others). But I felt that the cohomological theme, which was the focus of my efforts for eight or nine years and was to remain so for years to come until I left in 1970, had is broader even than the Weil conjectures that had brought me there. For me, the endomorphism Frobenius was not an "alpha and omega" for cohomological formalism, but an endomorphism among many others. . .

It seems to me that the Deligne initial motivation for his "operation

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APG 4 1

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- SGA 5 "was the in-

p. 882

tention of ownership of the only trace formula, and by and by "corollary" to that of L-functions, It along the way that this connection was expanded in about an appropriation of "étale" all short. I also believe that both "piece" was too big, and that even today, notwithstanding

"APG 4 1

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"Perverse and Symposium, and many others," people "(even those who are not so well informed) "Know" that it is not he who created the tool cohomological l-adic, and has not proven his own, " **the** " conjecture of Weil. This prevents to finish with the operation "cohomological spread ", I would still follow somewhat by the twirling of my friend and former student Deligne in his presentation of the central theme 493 (*) volume named "SGA 4 1

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"Te," the "trace formula, leading to the cohomological formula of L-functions It is the subject of the "Report on the trace formula" (quoted [Report] in his book, loc. cit. p. 76-109).

It is **four** places of the volume Deligne made kind comments so slightly "historical" the trace formula. The reader said volume that would not already in the know in advance, and it reads or not the four passages (we will review), will derive the impression that a Grothendieck (author or director of a seminary a bit muddy and later the volume "SGA4 1

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"Seminar that recommends especially not venturing to read) seem to have had some idea, a little confused inevitably, on the functions L, before the author of the brilliant volume finally comes to give statements understandable and demonstrations that standing. Throughout the volume the only specific reference this is a typical person exposed Bourbaki (1964), the turning of a "Note 3.7." (Loc. Cit. P. 88), which comes out as end last in a row of three points each more technical than

other 494 (**). It reads:
"If we accept the formalism of Q the -faisceaux... **It is easy to bring proof** of 3.1, 3.2 in where X_0 is a smooth curve and where ζ_0 is smooth. This is clearly explained in [2] §5 (for 3.1; 3.2 is treated the same). "

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(my emphasis). In short, unnamed chap (if not as flattering sign [2] 495 (*)) has (not p. 883

493 (*) It is also said nowhere in "SGA 4 1

2 "as the" Report "much like the" central theme ", nor that it is said that the main purpose is to provide the main ingredients of étale for "" Weil conjecture. At time write the double introduction to the volume, about the ownership of all the cohomology dimensions spreads and -adic must already be present.

494 (**) As I write this, I was under the influence of feeling striking **identity** between the style I probe here, and one that is deployed four years later for the appropriation "with contempt" of the "theorem of God" (aka Mebkhout). I discover twirling in question in the note "The Conjurer" (well worth the capital...), n ° 75 ". There the" sensitive point "was hidden in a remark 4.1.9 (instead of 3.7), even more messy. You can not stop progress. . .

(March 22) He had escaped me that there is actually a second reference in "SGA 4 1

2 "exposed to the same Bourbaki 1974

Reference served with consummate skill in the "Breadcrumb", as explained in sub-note "The double meaning - or the art of scam "(n ° 169).

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not **made** , of course, but) **explained the trivial job** - even so trivial that it is hardly worth mentioning in the remark end position, and still having the kindness to suggest that, for trivial trivial, it is at least explained clearly. (We already know, from other comments the brilliant author that clarity is not so much the height of confused chap in question. . .) To put it another way: this chapter "Report on the trace formula" is intended to **do the real work** , leaving trivial perks to those who are here for. . .

Since I am, in other words at once that the same page is one of four crossings which

I was referring, containing historical comments on "the" trace formula. This is the section 3.8

(Next, just as the previous remark 3.7). It explains that one has "two ways"

to prove 3.2 (ie, the trace formula in the only explicit if it is discussed in this

volume, namely the special case of the correspondence of Frobenius). Needless to say the name of the typical person does appears in neither. There are the so-called Method A "Lefschetz-Verdier" and the so-called B "

Nielsen-Wecken "(that name as yet told me anything...) Let see what he says.:

B.Nielsen-Wecken. A method inspired by Nielsen-Wecken work helps bring 3-2 [the for-

mule tracks to Frobenius] to a particular case proved by Weil; this is what will be explained in the following paragraphs. "

In fact, s. 5 (pp. 100-106) is titled, appropriately, " **The**

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Nielsen-Wecken method . "We were p. 884

previously said that the method was **inspired** by the work of Nielsen-Wecken - so this is surely pure modesty that the author calls the volume "Nielsen-Wecken". This is all the more clear that it is not guys now. If the reader is advised to look at the bibliography in a statement which XII it is never referred (and in a seminar in addition we advise him to forget), he will know that this is the guy who published the early forties. If he even read their fine work (the brilliant author, I bet, has never held hands), they will know that their methods are triangulation techniques. This is apparently not the text. A failure to state the contrary, it is therefore the modest author Volume is also author of the method. No date is given for this, no doubt out of modesty Again, not to say that it is really he who first had typed the job to demonstrate that famous trace formula.

Let anyway method A so-called "Lefschetz-Verdier" what is said. This is not exactly encouraging:

"If X_0 is clean ... the general formula traces Lefschetz-Verdier can express

3.2 the second member as a sum of local terms, one for each point X_p

In the **original version** of SGA 5, this formula was proven that modulo resolution singularities [we suspected that we would meet as seed!]. The reader will find unconditional proof in the **final** [still too modest to remember that

it is thanks to him that the setting was saved - anyway we will be careful not to read the damn SGA 5]. In the case of curves, which if we can reduce (3.7), the ingredients [? ? ? - we abandoned. . .] Were also all available. "

But then, if they were (will wonder perhaps more awake than the other player, if found) why all this blather about a Lefschetz-Verdier formula that was proven that yada

blah? Do we not come to say that the **real** work was done in dimension **one** ? Answer: this is the method

495 (*) Each turn - in 1970 (the International Congress of Nice) is Serre (in communication Deligne "theory

Hodge I ") which, instead of being appointed, was entitled to the symbol [3] in the cryptic line where reference is made to the first and

last time) to "sources" for the theory presented. . .

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called "cuttlefish": eject ink to fish in troubled waters! At the point where the reader is, it is already fully convinced that this is certainly not the good method. This is an extinct eye that travels The following paragraph, which will give him the rest:

"To deduct 3.2 from the formula of Lefschetz-Verdier, we need to calculate local terms

[Pity, what a pain ...!]. For a curve and the Frobenius endomorphism [ah! they deflate!], it was done by Artin and Verdier [and they have gotten in two again!] (see JL Verdier

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the Lefschetz fixed point theorem in cohomology spreads, Proc. of a conf. on Local Fields p. 885

Driebergen, Springer Verlag 1967) and the **final version of AMS 5**) [one wonders a bit What could possibly have to look like the original, poor us!]. "(Here and above, it☺me which emphasizes pure malice!)

It is through charity, obviously, the brilliant author dispenses to refer to the relevant briefing seminar doomed to oblivion, or imply that only "the" formula is there indeed! The player indémolis-sand and curious, who would be advised to dig there yet, would have found XII exposed to unusual name "Formulas Lefschetz and **Nielsen Wecken** in algebraic geometry by A. Grothendieck [always the same chap, My word!] written by I. Bucur [not know]. "Surely the chap and his sidekick have copied the presentation their brilliant predecessor, overloading the pleasure to superfluous details. . .

In the famous "report" anything that would make suspect the reader that there (apart from the formula Lefschetz-Verdier or rather we should say, Lefschetz-Verdier-Deligne, anyway uninspiring, as reflected in the comments of the disillusioned author himself) a formula of any explicit evidence and and all, for **another** thing the only Frobenius endomorphism. Both in the quoted passage, referring to Artin-Verdier in another (lower city) referring to SGA 5 (especially for not naming the typical person), it is suggested that the work was done **only** in the case of the Frobenius endomorphism. We boyfriend with Verdier (and proves it), but for the trace formula, it is a done thing reference inch Verdier agree (in a breath with Artin 496 (*), and drowned in the midst of a technical text and few

inspiring, soon forgotten gone) - but it is well understood and there is no mistake: the formula of Traces is **it, Deligne !**

True said Deligne has more than one string to his bow, and that it is not for nothing that he has scattered those comments historic appearance (sic) in

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four different places, just to catch up in one what
p. 886

could blame him for failing (or overdone) in the other. There it will fall back on introducing the same chapter, everything has been planned! It is an introduction of seven lines worth quoting at length ⁴⁹⁷ (*).

(B) . . . and the non-sense. . .

Rating 169 ₆

(18 March) It was necessary that I stop in the middle launched yesterday, because it was prohibitively later, and it was clear that I do not end with "Formula" the same night! Before the motors on some twirling around the formula, I would take the opportunity of all, in the case ⁴⁹⁶ (*) I had met this proven technology Deligne to drown a fish to retract Doe (here Verdier boyfriend and yet which will be given substantial compensation elsewhere), naming it in one breath with another - suddenly we can not blame him for not being generous! This is the retraction method called "of **dilution** by assimilation." Art in the method is to find the man who makes "pair" with the typical person that it is retracted. For me, it is every time Serre that my friend uses. . .

⁴⁹⁷ (*) (20 March) I return to this introduction in the reflection of yesterday. (See "The double meaning - or the art of the scam" sub-score n ° 169 ₇.)

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the beautiful formula "Lefschetz-Verdier" to put a little "feet in the dish." This formula illustrates how perfect something that seems essential to me, to which I returned emphatically more than once in Crops and Seeds and from the Introduction ⁴⁹⁸ (**), but in terms that remained perhaps a little too "general".

This formula is a striking example of a statement that is **deep**, and whose demonstration is "trivial" (169 ₆ bis). When Verdier said he had cleared and proved Lefschetz formula for "corresponding cohomological dances" (which had not even been defined yet there) on algebraic varieties any ("clean", though) and for "coefficients" any constructible, I was initially incredulous. Perhaps the idea had occurred to me a Lefschetz formula with "coefficients" or more less general - I had to write a whole at least, for a long time, for coefficients "locally constant" ie in a local system, but. **I did not believe** for general coefficients - it looked Too good to be true ! Verdier did not have to take a long time to convince me. Write the formula session tenante and my show, had to take a quarter of an hour - and again, it because I slow, especially when This is to make sure of something so unexpected! This is what might be called a "demonstration **trivial** "in terms of what is" well known ", I mean. And following the wind blowing today (and JHC Whitehead which has already received the first puffs ⁴⁹⁹ (***)), there is therefore a step (blithely crossed by many) to classify the theorem itself as

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"trivial" - a formula from ten or p. 887

percent, which "fall" all the cohomological formalism only - here formalism **full** that I had develop within spreads the previous year (1963): les six opérations, **and** the bidualité theorem. If I say that the theorem discovered by Verdier (following the lead of Lefschetz) is "deep" is not here not for the reason (yet effective) than formalism derives its demonstration is itself even "deep". Moreover this same wind of fashion long ago (and with the unconditional support of Verdier himself, what more!) Formalism ranked among the "big slices Grothendieck" that scans the back side of a hand, while using said tacitly "slices" at every step (unnamed). The question even if this theorem "remains conjectural" (as Doe points with airs of commiseration) or was fully established in any feature (as it is now, thanks precisely to the "theorem bidualité" bearing the name of that Doe) is for me just as accessory, when I say that it is a deep theorem, which enriches significantly our understanding of "theme cohomological" in all kinds (discrete or continuous coefficients and "varieties" or "spaces" of any kind ...). The same thing also could say of ordinary Lefschetz formula in the case say a differentiable manifold (Or the like) compact, and an endomorphism Icelle insulated fixed points: the demonstration "formal", in from a duality formalism in cohomology, held in a page, except in a few lines. In one both cases, however, there has been **created** - something new and substantial, which had escaped all until then, which "did not exist" (again), suddenly appeared. . .

Where exactly is "the creation" in this case? I think more of a mathematician, and more one of those who were my students, yet they have once known what it is that creation and that have since

long forgotten, would do well to meditate on this case, or any other similar, closer to him. I know well if I had proposed to myself, or any of the students or colleagues of those who were so well "in the know" of cohomological formalism ⁵⁰⁰ (*), to clarify a general formula of Lefschetz, for 498 (**). See Introduction 4, "A journey in pursuit of the obvious things."
499 (***) On this subject the note "The snobbery of youth - or the defenders of purity" (n ° 27).
500 (*) There were no masses then to be "in the know" (now nor elsewhere, given the turn of taken the events. . .) - but there had to be three or four, outside Verdier and me. Deligne, he had not appeared around. . .
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any coefficients and "cohomological correspondence" (to them to define ad hoc!) any
Also, on a compact manifold (pardon own)

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any, everyone would inevitably come in there
p. 888

putting a few hours or days, or weeks as needed ⁵⁰¹ (*). Once the problem is posed (Was it so still unclear, while the main terms yet to be defined ...) and seen, the " **fix** " (in this case, finding **the** right wording suggested by the cohomological formalism existing) becomes a question " **routine** " (what Weil calls, in the same sense I think, a "year"). This "routine work" involves flair, a minimum of intelligence and imagination for sure, but (as I wrote more than once) that are then "things themselves that dictate" how to approach to little we know only listen. (And if we do not know listen mathematical things, we should have to choose another profession. . .) It is not in this work-up is where the **e spark** I want to talk, which brings out the new item ⁵⁰² (**).

The creative moment, the spark that triggers a process of discovery, it was here where the **problem was seen**, and more, " **assumed** " - when the idea is born to **look** really, **to go through** to to get to the bottom, to "see" **what** exactly is **the** "real" domain of validity of this formula Lef-Schetz, which everyone claimed it was "understood". What made the spark, it is not a "Virtuoso" or "power" (in the usual sense of brain power to master the technical difficulties or store nested situations. . .). It is an **innocence**: everyone believes to have understood the Lefschetz formula, but me, poor me, I have yet to feel understood, and I would well get to the bottom of what is! In a case like this, once one has started, **it won**: things blow us what to do, and we do it. Go "to the end", it may mean in one case, prove "the" good theorem (in words, in this case, an existing formalism - that formalism itself is "established" or that he "remains speculative" is irrelevant here). In another case, this can

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mean: clear "the" good guess ⁵⁰³ (*); and that it often is itself temporary, it
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may prove to be false or insufficient, and it takes the adjust or expand, is incidental.

This conjecture is one of the steps on the way to a deeper collective knowledge of things (in Here, mathematical things), a step which could not do without ⁵⁰⁴ (**).

Depth and fertility are closely related qualities - it strikes me as a tangible sign of this one. The first sign of the fertility of the formula discovered by Verdier came the same year (if this is in the days and weeks that followed, I can not say): This formula was **the** main motivation, leading me to write a cohomological formula of L-functions " **coefficients** " in a beam l-adic one. The fact that **technically**, I have not had to make any use of the formula of Lefschetz-Verdier, is irrelevant here. What is certain is that without this formula as a guideline, or rather that

⁵⁰¹ (*) Of course, I assume here that the person in question has good "hooked" to the problem, so that the "feeling" that I would have had (otherwise I would not have proposed!) has "passed" and that the student or colleague "triggers" indeed. It is not

at all an obvious thing, that "it happens" - far from it!

⁵⁰² (**). Let alone the "spark" she gushes in such extra work, ten years later perhaps, that would establish the assumptions that are "walk" such a demonstration are indeed verified where we expected. . .

⁵⁰³ (*) The two cases, one where the "spark" (followed "to the end") makes us lead a theorem, or against a conjecture, are not different in nature. "After" means: to be fully realized intuition yet diffused by probing all aspects and by all means available. A theorem is not inherently more "completed" a conjecture. There are obviously preliminary theorems (even lame and lopsided), as there is speculation (Like all the Weil conjectures) that give the impression of a whole fully completed, perfect. This prevents these Weil conjectures were a starting point to other developments (conjectural first as them) broader and include. In this sense we can say that no thing in mathematics, as long as it is alive, is "Finished" or "final".

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blew me that "there must be something," such a thing that a function L "coefficients" in a beam - without the insistent voice, I would not have even thought to clear **the** good concept and formula relevant that goes with it; where I would have probably happened in the following years, but having **first** to discovered on my own that other more general formula, which was "on the way", he **was** discovered.

Psychologically, the two situations are very similar. Just as Verdier had to first clear the notion of "cohomological correspondence" to specify the "problem of the Lefschetz formula" (in beyond the formula "ordinary"), and I had to clear the notion of function L "coefficients" to

specify p. 890

the "problem of the formula functions L" (meaning: beyond the case of the function L "ordinary" associated with a clean, smooth X ...). The "creative moment", the one where a spark passed, is where I **seen this problem** : define such generalized functions L - and I **assumed** , going to the end of this problem there. Once the problem is seen, and assuming I get to the "pass" to any of people around me who were "in the know", it was clear that he could not help solve it, " **the** " only natural and reasonable way, with a few days probably (as has been the case for me), definitions, statements, demonstration and all 505 (*).

It's true of course that the "unscrewing" that lead back to a dimension are "easy" and even "trivial" if we take it. It is not in this kind of unscrewing, the first comer will do as well as me (or deign do), that there is **discovery** . The discovery is a **concept** to which nobody had thought so it is **obvious** : the function L "coefficients". In this concept and formula that is inseparable, there is the possibility (in the context of such schemes over the body first \mathbb{F}_p , or more generally, the absolute basic ring Z) to interpret the "six operations" in cohomology, starting the functor $f_!$ (Thus the operations of "natural **geometric** ") in terms of operations on "fields The functions ", ie in terms of " **arithmetic** ". This was a new step in the direction inaugurated by Weil conjectures in 1949 to espousals between geometry and arithmetic, through the cohomological theme.

What happens to these two discoveries in this text that looks like **the** standard reference book for étale and l-adic - this text due to the most gifted and most prestigious among those who were my students ?

The formula of Lefschetz-Verdier, who had inspired me without I had never "use" has become the **e pouvantail** brandished with timeliness, to hear the reader (which asks only believe!) to which wire tenuous and uninviting (and "speculative", what is more, besides the local terms "were not calculated ") was suspended a seminar

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which ("in the spirit of this volume") we abstain p. 891

charitably never refer (if not solely for the run down ...) recalling anyway discreetly here and there that if said unwelcome formula (and unusable in a word) still has ceased to be "Conjectural", thanks to the modest author of the brilliant volume.

As for the notion of function L with coefficients, which is the central notion of this Report constitutes the heart of the book, she appeared without fanfare in par. 1.6 Report (loc. Cit. P. 80) without the any comment that would indicate a motivation or origin. A definition is a definition after all, one does not have to justify it. The player who pose a question about the origin of this concept, a little preposterous we must admit (especially when you balance like that fasting ...), has the choice between Artin-Weil (but there was still no beams l-adic their time visibly introduced

505 (*) I put here but not the last demonstration, which I had left open (as not to pose a real problem), which might be longer.

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by the author in this volume. . .), And (more likely) the same brilliant author, who is now the nimble lead to a formula called "traces."

It is introduced by. 3 (... Supra p 86), which begins as follows:

" **The interpretational cohomological** Grothendieck functions L is the following theorem: .."

(Follows the formula in question 3.1 - NB this is my emphasis).

Apart from the introduction to the chapter (on which we will return), this is the only time in the entire chapter

where a name is pronounced ⁵⁰⁶ (*). It is the same chap again, which it will be referred both pages further by the [2] acronym (as one who knew "explain clearly" a few "easy cuts") who also Given this "interpretation" preposterous 3.1, balanced out without warning. There was no merit besides, as the reader will notice it immediately (and not surprisingly) as the demonstration held in half a page sentence (on the same page 86) and was also "classic": it is a simple corollary of the famous " **formula traces** "which gives its name to the Report, which is the subject of which, obviously, is the " true theorem. " (3.2). No name is advanced to indicate the paternity of the latter - ie to " **the** " Formula - this always modesty craze among the brightest people exactly! Two pages later (as we have seen

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yesterday) the
p. 892

Lefschetz names to Verdier, Artin, Nielsen and Wecken spoke, a real debauchery modesty for once - all not to say that this is it!

The thing I want to emphasize here, which seems to far exceed this case and these hints scam is thereof. Whether for said formula (correctly) "Lefschetz-Verdier", or "interpretation Cohomological" functions L ("coefficients"), that is **it** just makes their de-covered the **acts of creation** , also, nowadays object of general esteem (when it is not a casual derision), commonly expressed by epithets pejorative connotation as " **trivial** " " **Childish** ", " **clear** ", " **easy** ", " **conjectural** " when it is "soft mathematics", "dream", "pitch", "non-sense" and other niceties, left to improvisation gifts of each. This is the part of the work, by cons, including I always knew (and especially, it seems, never **forgotten**) that it comes "as well" and by necessity, as "stewardship" following for sure (if only we stuck with it), the party **technical** Therefore, one that is often deemed " **difficult** ", which is "to force the wrist," and I sometimes qualified as "routine work" (though without attaching any derogatory sense) - is that part of the work that is valued by consensus in effect today, and blown up to the exclusion of any other.

For me, the notion of "difficulty" is relative: something seems "difficult" as long as I have not understood. My job then is not to "overcome" difficulties sheer strength, but to enter my incomprehension enough to figure something and make it "easy" what had seemed "difficult" ⁵⁰⁷ (*). For example, unscrewing I made for the "formula functions L "as in other circumstances, unscrewing which now pass for" trivial "

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were not more
p. 893

"Easy" for me to treat the case called "irreducible" supposed "difficult". They were steps work, it⁵⁰⁸ (*). This is not because a stage comes after another, or because it is ⁵⁰⁶ (*) (April 9) There is an exception (which had first escaped my attention), with a reference-inch (at p. 90) "One of the uses essential facts by Grothendieck theory derived categories "(to set traces in cases" unorthodox "). ⁵⁰⁷ (*) The reader will note that this is a description of the approach "yin", "women" of a problem - that of "rising sea". I do not mean here that it is the only creative approach - there are also the so-called "hammer and chisel" approach "Virile" - the only one in honor (if not today the only one tolerated ...). See about these two approaches the note "The rising sea ..." (n ° 122) and about current attitudes vis-a-vis the one and the other approach, the marks "The muscle and the filler (yin yang buries (1))" and "providential circumstance - or climax" (n ° s 106, 151) and "The disallowance (1) - or recall" (n ° 152) which follows the latter. ⁵⁰⁸ (*) The case I have in mind, when I made "unscrewing" to get back to the size of situations (or relative size) **one** , apart from that of the general formula of L-functions "coefficients", mainly the two theorems change ⁷⁰⁶

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be longer, it is more "difficult". In one and the other stage, we had **an idea** : the idea of "unscrew" in one case (something we had never thought to do in situations like this, and for good reason when it comes Formulations fixed points for other correspondence that Frobenius!); in the other cases, idea probably more difficult to make, inspired by a formula of fixed points (due to Nielsen Wecken ⁵⁰⁹ (**)) more sophisticated than the original formula Lefschetz, and implemented by introducing a cutting careful coefficients beam, speaking in terms of suitable categories derived ⁵¹⁰ (***).

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The p. 894

second stage was longer, it is: when it came to developing with all the generality incumbent upon it ⁵¹¹ (*) (considering that there are other endomorphisms of a curve that Frobenius), there all had a "carpet" of non-commutative traces "on Stallinge" which eventually was sticking and after that I had to develop with care. It was long and it was "easy" - and it was also something that **had to** be made, was clear. But even find such ideas that make an "easy" job (or simply, possible. . .), Is part of me "routine work". This helps to give the charm to this work, which

in fact something else, more often than just turning crank.

Part **creative** work, by cons, is the idea **child** : that everyone should have seen for years, when it $\text{\textcircled{C}}$ not for centuries or millennia - and yet nobody saw, while she was palpable throughout this time and we had to make a wide detour around at all blows to not knock it!

When you meet such an idea, that is "stumbled upon" (this is the case to say...) Alone, or someone else tells you (as Verdier told me one a day), you feel very silly: it is failed when the same one has not seen before, so it was just the most natural thing base in étale (clean morphism, and by a smooth morphism), which constitute the two set-key that make "livable" (as written Deligne) said cohomology, and the "comparison theorem" $Rf_!$ Between the cohomology spreads and transcendental cohomology (for type schemes over the field of complex). (There is also the theorem Lefschetz (called "low") for affine morphisms.) Psychologically, it $\text{\textcircled{C}}$ once you get to reduce me to Such situations called "irreducible" I felt like it was (more or less) "won", the theorem was expected indeed "come out", and the experience has confirmed each of these: opportunities that this feeling was not wrong. Technically, however, it is the unscrewing representing the step called "easy". It is only by a kind of "Providence" that struck me then, the necessary ingredients to treat both "irreducible" in one and the other base change theorem, had been developed by me (without suspecting anything) in USG 1 for the first, SGA in 2 for the second, three and two years before. . .

509 (**) (April 10) This is my mouth besides, along other listeners SGA 5 that Deligne learned this formula "Nielsen-Wecken" and its transposition into étale, which was exempted from having to ever look at the three beautiful items (in German) of these authors (published between 1941 and 1943), and served it to the rather peculiar way we know

(see sub-note "The real math...", n ° 169 5).

510 (***) The language of derived categories is essential in this demonstration. After my departure, and until about the year the publication of the volume named SGA 4 1

2 "cohomological my students have established a tacit and effective boycott against the derived categories, which had been the key conceptual tool to develop the duality formalism ("six operations" and bidualité), in the context of the coefficients "consistent" and "discrete". Despite its crucial role in demonstrating the formula Lefschetz-Verdier, and in that also "conventional" duality of formulas in the context spreads, this formalism itself Similarly, as a mathematical set and consistent conceptual structure, was subject to the same boycott and lasts until even now (starting with the **name** same "six operations", which is still anathema).

It is possible that it is the needs of the demonstration of the trace formula, which have prompted Deligne in 1977 take a first step towards lifting the boycott on derived categories, for the exhumation in the volume-cracker of a "zero state" Skeleton of the "thesis" Verdier (text in which no mention is made of my name). On this subject the note "Sharing" (n ° 170) devoted to "Operation III", and for details on the comical case of the "thesis", notes "The gossip" and "Thesis in credit and all risk insurance "(n ° 63 $\text{\textcircled{C}}$ 81).

511 (*) (April 23) Qualified Majority, as just, "superfluous" by Illusie in his introduction to the edition-killing SGA 5 (second paragraph), becoming the obsequious echo of his famous friend Deligne, which refers (without elaborating) to "Unnecessary detail" it would be "pruned". This débinage exempts together once and for all to let the suspect drive there in one dimension a formula more general explicit evidence that it exposes to Frobenius, where he not resume not the steps of my argument while giving the impression that it is of his own. See subnote Next "The double meaning - or the art of the scam", n ° 169 7 .

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all the more obvious, the more "con" to drop the word. . . We **should have** it fall on it for a long time, sure, and then not. . .

It seems that these days and more and more, in this situation (and when in position strength, especially. . .) Is compensated by flexibility,

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when it is another (an unknown illustrates perhaps, or such "late"

p. 895

long buried. . .) Who has the misfortune of radiner (or having a cheapskate day...) With an idea like it. But my poor is **trivial** , what you tell me there! And to prove how the unfortunate this is trivial (and back into casually instead ...) we will retoucher him that in less time than it takes to say - you $\text{\textcircled{D}}$ see what it $\text{\textcircled{C}}$ like to do math! We even when something else in our sleeves that those first comers (or what left behind...)! There $\text{\textcircled{C}}$ only shot a little, one breath still pulling Hoppla and abracadabra! And **that** $\text{\textcircled{C}}$ a statement that at least has the mouth I get out of you hat, and now even a theory, not bitten worms, lis is work, yes! Young man going you get dressed, you come back when you know do the same!

I made there, without even thinking about it, the shortcut for the mishap of my "posthumous pupil" Zoghman Mebkhout, modest assistant in Lille where God knows where, to my hands "occult student" Pierre Deligne flagship between all of a select institution (and so on...); mishap occurred in the year of grace 1981 and which

also continues until today. . . That is "the operation IV", called "of the unknown service" (or "Symposium Pervert", not the name) - the most amazing four operations. (See about the notes "The Apotheosis", n ° 171.)

At the same time, writing the previous paragraph, I like a print or rewrite more least something that I had already written on another occasion. . .

I did not take long to remember - it was in the first part of Crops and Seeds, written ago Now one year, in the section " **Sport mathematics** " (the name says what he means), n ° 40 (p. 105). The difference between the episode that I mentioned and of the Symposium Pervert is that this time the role of the "unknown service" was held by "this young greenhorn who walked on my flower beds," and that the boss haughty and "sport" it was not a bad ex-student of mine, but it was none other than myself. It is While I do not think going to call mine (symbolically, in this case) another person's idea. But I can not in good faith to swear, and would have the applicant (twenty years later, but better late than never) make me know how he remembers the episode, which is a little fuzzy in my memory. he had the misfortune to redo things I knew for a long time (among others, construction of Picard diagram of an unreduced diagram "unscrewed" from the reduced case. . .), And it was "wrong" - that's what is me

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rest ; but I do not swear that his approach (in a less general framework that p. 896

mine is heard) was really completely covered by mine 512 (*).

Still, I need right here doing it again the finding of a **relationship** between an attitude that was mine at times at least, in the sixties, and the one I found among some of those who were my students. They referred me to the one I was probably disfigured image - an image that 512 (*) The opportunity has never presented to me to write and publish the net construction "relative" in question Picard by "loosening" on nilidéaux construction scheduled for a later chapter of EGA (which never saw the day). Anyway, when I speak of "ownership" of another person's idea (small or large), it is not necessarily the Plagiarism in the usual sense, when we present this idea (albeit in modified form and perfected) without indicating its origin - something that seems to become more and more common. But ownership may be that by the casual disdain, which breath fades the joy of discovery, as for the pleasure of frustrating, to the tune of "oh, it's just that..." disillusioned. This air then suggests, without having to say that what we just said we knew him, both say, historically, and if perhaps we had not bothered to explain yet is that it really was not worth the trouble. . . For those tunes there (or its predecessor), see (in the first part R and S) in "The power to discourage" (n ° 31) (recovery in Note already cited "Sport mathematical" n ° 40); and (in the atmosphere hardest 70 and 80) Burial I, "Ownership and contempt" (note ° 59) 708

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for years I wanted to challenge. But if Crops and Seeds, which was primarily a reflection on my past mathematician, had a **meaning**, it is also to make myself understood among other things, that even such that among those who were my students are more disown me, it is not for me to disavow none of them. This comes to me through them is one of the crops that I helped to sow as themselves contributed. And this realization that I draw an uncompromising pen for three weeks soon, is not an indictment against anyone, but **finding** just, and that involves me as much none of them.

(C) heritage - or scheming and creating

Note 169 6 bis (April 10) 513 (**) As everyone knows, the meaning of "trivial" word in mathematics is very relative. Here, for "trivial" I mean in terms of what was supposed to "known", ie (in this case): the formalism of six operations, and bidualité theorem (the latter remaining conjectural coach. $p > 0$ in the discrete context spreads before Deligne do not find a demonstration. . .). In terms of this formalism, the principle of demonstration is explained

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so entirely convincing in minutes (the same p. 897

time that the statement). This does not excuse, it is true, to demonstrate shaped, implying checking some tedious compatibilities.

The use in such a case, it was the author of a theorem (especially if it is important) take the trouble to write a demonstration. For Verdier, there is no doubt to me that this is the result most deepest and most significant in scope, all those in his honor (and rightly case) to bear the name (following the Weil expression goes). He has yet to this theorem as he did the theory derived categories as long as the credit was granted to him anyway, he did not see fit to do the job, and put at the disposal of all with a full demonstration.

This is an eloquent sign of a certain state of mind, which I have had occasion to speak here and there, and lately yet at the end (dated February 28) the note "maneuvers" (n ° 169). I could see he did

school. While the so-called formula (with the above reservation) "Lefschetz-Verdier" was indeed an act of creating Verdier, a time when he was still working with me and had a passion for his work, I see a direct relationship between the fact that he never had the respect to show "his" theorem, and one **life mathematician did most famous act of creation like** . The moments we are creators in the moments just where "we are worthy", ie: able to accommodate them. . . This beautiful formula, left behind by a father on the run, has also experienced the vicissitudes strange. She first made the subject of one of my first exposure (exp. III) SGA 5, 1965. Illusie was responsible for drafting it, without judging good for twelve years to give this penalty. She became then, in perfect collusion between him and Deligne (and I imagine, with the agreement of at least tacit Verdier, who Deligne grant substantial compensation) the head of the "Trojan horse" (or "Scarecrow" as I write below), maneuvered with skill, to make the incredible credible sham named "SGA4 1

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."This was fabricated for the purpose of burying the common master all three, that is to say, too, sum, the " **grandfather** " of said formula (which without my humble person and six underground operations with me, would probably not yet written a hundred years before. . .). For table manners, that the table manners!

If my dear cohomologistes former students, instead of wasting in such shenanigans to play the dwarves (They are not) are perching on

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shoulders of giants (that I am not more ...) had during these p. 898

513 This sub-rating comes from a note b. p. in the previous sub-grade non-sense "" (n "and..." ° 169 6); see reference page 886.

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Fifteen years left free play to creativity that is in them just as it is in me, surely theories crystalline coefficients, De Rham-Mebkhout and Hodge-Deligne, with that of the "mysterious functor" to the key would long since reached the "full adult stage" of the formalism of the six operations. And even (I suspect for a week or two ...), the great dream of the man who was their master, " **Motive** " is to be melody and became (in the same hands) stronghold, loot and "skeleton wave", it would as already embodied in a vast symphony (not "speculative" but "fully adult" too) and today is the **heritage of all** .

(D) The double meaning - or the art of the scam

Rating 169 7

(March 19) But we must return to me "twirling" My friend Pierre Deligne in his presentation of the famous "Formula traces". Remarkably, it nowhere states that for the application to themselves Weil conjectures (which were probably covered in the first place, otherwise exclusively, from the practical point of view), there is no need for a formula and a demonstration sophisticated - Lefschetz formula "ordinary" (v spreads) only 514 (*). And this is of course no coincidence that is precisely the presentation on cohomology class associated with a cycle that has chosen to "borrow" GAS 5, to incorporate its digest without further ado - the presentation that contains just the key-ingredient (Apart from the Poincaré duality "regular" version spreads) to establish the formula of Lefschetz @rdinary@n four shots ladle. We say, suddenly, he could well have dispensed to include the "Report" or fish nor fowl, which establishes a trace formula for the only Frobenius endomorphism (while hiding stubbornly player he could find elsewhere (!) of much more general, and also all "explicitites "). If it has yet bothered to write this" report "is probably for two related reasons. On the one First, it was clear from the sixties that the Weil conjectures, suitably reformulated terms of "weight", kept a sense for singular varieties and for "coefficients" not constant. It is true that we can then formulate fully geometric terms, without explicit reference to Shops

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ism functions of L. That is what is done, it seems to me in the article Deligne "Conjecture p. 899

Weil II "(where it is of course made no mention of a role I@ played to release the statement principal to prove it). But nevertheless arithmetic interpretation (in terms of functions L "coefficients") of geometrical-cohomological operations would certainly have a role to play, where the formula of L-functions **Generally** , the form in which I had developed was going to take a crucial place. In an optical long term, it was necessary to provide a reference in the volume called "SGA4 1

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". At the same time, while he was became apparent that the general signs of formulas (Lefschetz-Verdier design) form an important ingredient As the cohomological range, this contributed to the illusion that this volume (as announced) present

although essentially complete cohomological arsenal for the needs of "non-expert user" of l-adic cohomology.

I still have to go through the three passages that remain among the four in "SGA4 1

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"Who pretend

to give historical details about the trace formula. I mention in the order they follow in the volume. The first two are at the beginning of the volume (page 1 of the Introduction, and Page 2 of the "Breadcrumb navigation"), and are clearly intended to "announce the color." These are surely the most read also. The third is the short introduction to the chapter "Report on the trace formula." (The fourth 514 (*) (April 25) It is possible that I'm wrong here, because they have really yet seen the demonstration by Deligne the latter part of the Weil conjectures concerning the absolute values of the eigenvalues of Frobenius. It seems like the use of Lefschetz pencils lead to the introduction of L-functions more general than the ζ functions (ie the function The "ordinary").

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passage, which was discussed before yesterday, is part of the body of the same report, and is probably the least read of all.)

In the bibliography after the "Wire Ariane 4 to SGA, SGA 4 1

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SGA 5 ", the acronym AMS is

explained as "algebraic geometry seminar Bois-Marie", without reference (is it necessary to say)

to my person. I figure still among the directors SGA 4, SGA Director 5. This function has

to be elsewhere platonic: reviewing the main presentations SGA SGA 4 and 5 (and that

speaks more. . .) Discussed presentations Artin to Jouanolou to Houzel, Bucur, but none of me.

In the reference SGA and SGA 4 5 no indication of dates - and I have found no reference throughout the

volume that could cast doubt not already informed the reader that SGA 5 ("forthcoming in Lecture Notes") not

is, as its name suggests, indeed **subsequent** volume called "SGA 4 1

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" 515 (*). When adventure

a reference is made to a presentation in SGA 5 (generally not specified), it is well

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specified by it against p. 900

This is a "zero state" or "original" (meaning: imbitable bushy and, one suspects...). These

References GAS 5 (for an uninformed reader, which is recommended not to consult SGA

4 or 5 above SGA) are therefore (in the spirit of the same player) references to a text **later** than

he is reading. I suspect also that these uninformed readers are by far the great

majority, and (as I have written elsewhere) others begin to get old and will die a

death. . .

I quote the first page of the Introduction, paragraph 3:

"The" Report on the trace formula "contains a complete demonstration of the formula

Traces for the Frobenius endomorphism. The proof is that given by Grothendieck

in SGA 5, pruned of unnecessary detail. This report should enable the user to forget

SGA 5, we may consider a series of digressions, some very interesting. **His**

there will soon publish SGA 5 as such . "(My emphasis.)

This text either direction **opposite** served **simultaneously** with consummate skill. For one who is informed

on the history of the form in question to Frobenius, he might be surprised by the casualness of the

presentation (and this the more so, if well informed about the ins and outs of the seminar and SGA 5

his role in the formation of bright and casual author); but think that the author has at least

said the source of his demonstration. For the uninformed reader, he learned that the demonstration of the volume

he holds in his hands, is also in a subsequent text SGA 5, text due to Grothendieck and

cluttered with unnecessary details that this chap had to add pleasure to the original demonstration. The

quoted passage remains vague about it. As we saw before yesterday, playing the demo

itself, in the "Report" in question, can hardly leave no doubt that it is the brilliant author

volume "SGA4 1

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"Who is the father. Of course, it is nowhere deigns to specify who had the idea **to write**

trace formula; after all it costs nothing to write something, so we do not bother

prove it! No not referring to Verdier (who was the first, gave the demonstration of "case

crucial "that I had left open). It is not a coincidence, surely, that just when it

is about the trace formula, the heart of " **the** " Conjecture, the author makes assault "niceties"

like "unnecessary detail", "digressions" (admittedly very interesting, there is a good player or you do

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is not!) that p. 901

recommends to forget (*), and finally this recall both discrete and conclusive "its existence will published shortly SGA 5 as is ", like what does SGA 5" holds "and is publishable thanks to the "existence" of the text called "SGA 4 1

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"- which surely provided the chap in question what he

515 (*) Neither the slightest hint that could guess what the player dealt the seminar to not-to-read, which even the title ("L-adic cohomology **and functions** L") remains unknown!

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need to present a complicated way that is done simply in the original text here.

In the breadcrumb, I have already mentioned (in the sub-note "Trojan Horse" (n ° 169 3) the note "The maneuvers ") the seventeen lines of two consecutive paragraphs 2 and 3 on page 2, as" models the art of "fish in troubled waters." The second concerns precisely the famous trace formula. Both paragraphs deserve to be reproduced here in full:

"There is étale a duality formalism similar to that of duality coherent annuity. To establish, using Grothendieck resolution of singularities and the conjecture of purity (For the statement, see [Cycle] 2.1.4), established in a framework in SGA 4 XVI and - modulo resolution - equal characteristic in SGA 4 XIX. The key-points are established by another method in [Th. finitude], for type schemes ended on a regular scheme of dimension 0 or 1. Various developments are given in SGA SGA 5 5 I. III, it shows how this formalism involves the very formula of Lefschetz-Verdier.

We see that in the original version of SGA 5, the formula was established Lefschetz- Verdier that conjecturally. In addition, local terms were not calculated. For the application to L-functions, this seminar contains **another** demonstration, it completes in the case particu- bind the Frobenius morphism. It@the one in [Report]. Other references: for the statement and the pattern of unscrewing: the presentation Bourbaki Grothendieck [5]; for brief Description of the reduction (due to Grothendieck) case crucial to a case already handled by Weil [2] by. 10; for l-adic processing this case, [cycle] by. 3. "

I have already commented on the first paragraph in the note quoted (see note b. P. (**)) at page 872 this, on the hilarious "various developments are given in SGA I"). I still have to follow the twirling My friend (or at least some - there are too many!) in the second paragraph. Both 516 0 first sentences

p. 902

radinant uphill formula Lefschetz-Verdier, as if SGA 5 (and some demonstration never named in the clear, contained therein, for some trace formula. . .) Depended to death and life, clearly fall under the "method of cuttlefish": to the confusion in this is clear to fish troubled water 517 (*).

The two-way sentence-key, by cons, is that immediately following the flooding of the fish: "... This seminar contains **another** demonstration, it complements, in the particular case of mortal morphism of Frobenius ".

The informed reader but pressed (and which drive is pressed...) Is startled one second by ambiguity the term "seminar" - is that APG 5, is "APG 4 1

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"- and as he knows that in SGA 5 there was a complete demonstration is awarded once again: the author does have referred (a little vague, 516 (*) Specifically, it clearly suggests that only "Report" contains 34 pages (better) everything that could be useful in SGA 5 (which, even in publishing-killing, still has nearly 500 pages.) That@a lot of "digression" for nothing! 517 (*) It is incorrect to say that the formula of Lefschetz-Verdier was "speculative" - it was established under the assumption that has a duality formalism ("six operations" and "bidualité theorem"), and it was indeed proven under this form in 1964 by Verdier. This demonstration was given of course in oral seminar, and it is complete. It@here bidualité validity of the theorem by bus. $p > 0$ remaining "speculative", and it is established (as has been said) in the chapter "Finitude" of "APG 4 1

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As for the local terms of the formula Lefschetz-Verdier, they were "determined" no more, no less, as in formula ordinary Lefschetz (fixed not necessarily isolated points "transverse") and généralisaient conventional "multiplicities intersection "contained therein. To say that these words were" not calculated "did no more, no less sense than that the dimension of a vector space **not specified** , or the roots of a polynomial with undetermined coefficients are "non . "" calculated Calculate "in these cases, as elsewhere, means: to establish a" **case** "indicated (eg in dimension 1, for.. Formula Lefschetz-Verdier) an **equality** between two terms, none of which is more "calculated" or other known raw (p. ex. between local terms defined by Verdier, and some local invariants related to the driver Artin. . .)

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certainly ...) where we expected it refers. I almost work like this in the first reading in the month April last year (see note "The clean slate", n ° 67), but it does not yet stuck. I knew the demonstration I gave an explicit formula of traces does not merely "special case morphism of Frobenius. "Moreover, what struck me is that we had belabour (with "Arguments" -bidon) precisely on the fact that a certain presentation SGA 5 (in its "original" ! peuchère) was **not** "complete": conjectural one, terms not calculated there ... With this "complete it" well framed by two commas, this categorical opposition irresistibly suggest the uninformed reader, without he even to question that "seminar" is obviously

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the volume "SGA4 1

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"He holds in p. 903

hands - and elsewhere is told immediately, in the next sentence, where to find it: "This is the one in [Report]. "And it certainly is not reading said demonstration in the city chapter, which could after sudden spark in same drive any doubt 518 (*)!

The word "**other**" in the crucial sentence is **highlighted** something which is not in the habits of my friend. It is the only word highlighted in the two introductory texts, and I believe, also the only in the whole Volume (other titles, set, and introduced new terms). If it takes so much to bring out word, it should not be for nothing. (It is now only the thing just hang my attention.)

The effect of the term "**other**", and even more when it is well featured, is to emphasize that there **two** demonstrations of "the" Formula: one **incomplete** precisely, and we just say something about the uninviting situation with this formula of "Lefschetz-Verdier" definitely not presentable! (And in the text most technical of the famous report, watched the day before yesterday, we duly returned to the charge on this sad subject. . .).

As to guess whether or not, thanks to the results of the finite brilliant author, this method when lame even ended up walking, of late that ever know. But after that effect foil (the same, finally, that one examined before yesterday), the psychological reflex in the docile reader is even more compelling: the Instead of the method **incomplete** in a muddy seminar SGA 5 (incomplete if it does not matter even give them a precise reference 519 (**)) method which we will certainly guard never bothering, we will be entitled, in this **seminar** of good, solid stuff, good demonstration, **it complements**, which we already reaches out in the presentation especially designed for this purpose, the "Report on the trace formula," not Error we will have no difficulty to find. . . 520 (***) .

The "**seminar**" is just great - my friend is incoincable inch on this term there. However, both in the city paragraph that

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in the more technical context of the "report" extending the method p. 904

(doomed to oblivion) called "Lefschetz-Verdier" (p. 88), he still advanced new 521 (*) ie "in clear "(or at least, in chiaroscuro) **false** . In both passages indeed, it emphasizes (in the case of say) that there would be a method (which we guess is that mistakenly followed in SGA

5, God knows where its exposed "bushy". . .) For the **demonstration** of the trace formula for Frobenius, which is to **make use of the formula of Lefschetz-Verdier** . Now it has existed (before the thesis of Alibert in 1982, resulting in one dimension calculating local terms for a cohomology correspondence one insulated fixed points) two demonstrations of the case "crucial", that of Verdier and mine, which none (any more than that of Alibert) makes use of the formula of Lefschetz-Verdier! It was a

518 (*) See the sub-notes before yesterday "Real math..." (N ° 168 5).

519 (**) I have not found anywhere in the volume named "SGA 4 1

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demonstrating a formula of fixed points, the famous "cohomology theory of L-functions." It was made clear in effect (see below) that "in the spirit of this volume, it will not appeal to SGA 5...!"

520 (***) The most beautiful is in fact demonstrating Deligne is the faithful reproduction of what he had learned with other auditors at the seminar SGA 5 in 1966.

521 (*) "Again", since it was already advanced (more clearly) to "tell the fake" in the preceding paragraph, as we have seen in the sub-note "Trojan Horse" (n ° 169 3).

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delicate matter indeed and long unresolved (and seemed a little accessory), to prove that the local terms in the explicit formula released in SGA 5 (for connecting many more general than that of Frobenius) are those of formula Lefschetz-Verdier. Illusie ended up

check, according to what it says in the introduction to the edition-killing SGA 5 (p. VI), and also in the his presentation III в "local computationally" (p. 139) 522 (**).

If Deligne nevertheless so much trouble to create this false impression, it is not without reason. In Indeed, thus it creates the impression that SGA 5 (the seminar "technical digressions" "which it will not refer, in the spirit of this volume ", to do the " forgotten ") depended on this formula" conjectural " also unusable as it is (local terms not calculated sic...), that which was finally established through Deligne in volume eloquent name "APG 4 1

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"That the reader holds in his hands, which (not if only as a result) the subsequent seminar and "confused" SGA 5 depends. . . As for the last sentence of the quoted passage, beginning with "Other References" (sic), it is also a model of its kind, to avoid saying that the wave chap Grothendieck gave a demonstration complete eleven

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before (in the "future" seminar doomed to oblivion...), and that it is reproduced accurately p. 905

in "Report". The perceived need to create is that the typical person has made some waves reductions preliminary, while the difficult case is due to Weil, and brilliantly taken (by "treatment l-adic") by the author. The reference to a prestigious book Weil which the reader will have heard, in addition to an internal reference, throws out its juice - one is serious and knows his classics, or you do not! Coincidentally, no date stated in reference to the book by Weil, nor chapter or page - it does not appear that the brilliant author wants to encourage the reader to go searching elsewhere in the brilliant volume itself, where the reference suddenly becomes what is accurate (chapter, paragraph).

The famous "result already treated by Weil" Nor is anything but Lefschetz formula **ordinary** in the case of a **curve** algebraic (projective smooth connected on an alg body. closed), that arrived at Weil formulate and prove by the means available in the forties, even without having the tool cohomological (but using the Jacobian to set the H_1 missing l-adic). Relieving the formula in the case of the "abstract" algebraic geometry was then an important new idea, which has also been Weil put on the path of his famous conjecture. Once one has the cohomological formalism the Lefschetz formula in question is indeed essentially trivial. But if we had said in clear as reducing chap was reduced at room Lefschetz formula (which refers to proudly, without naming chapter "Cycle" glossy volume - Chapter 5 hacked GAS precisely. . .) - it could give the impression that said "reduction" was even a **demonstration** of the sacrosanct Formula. You would not! (*)

I can not wait to finish! It remains this introductory chapter "Report on the trace formula", loc. cit. p. 76 that here (amputated last two lines, referring to the author@exhibition section volume):

"In it, I tried to expose as directly as possible cohomology theory

Grothendieck functions L. I am very closely some of the presentations by Grothendieck to IHES in spring 1966. In the spirit of this volume, it will not appeal to SGA 5

- but two references to passages in the statement XV, independent of the rest of the seminar. "

At first sight, it seems that the author indicates his sources without concealment, speaking of "theory cohomologique of **Grothendieck** 523 0

The functions of ", and even adding that" closely following "some of my p. 906

522 (**) For the motivation of these sudden Illusie efforts, see sub-note "Congratulations - or the new style" (n ° 169 9) including pages 916-918.

523 (*) (May 11) Thus, any system today "go!" here was to refer in two distant places from each other (p. 2 and p. 88) **two** "re-714

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exposed. In a volume **normal** , there would be nothing to say. But it is also true that the **context** is part the meaning of any text. The context of the unusual volume called "SGA4 1

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"Profoundly changes the meaning this passage, for a naive reader already warned by what he read before, and which will also be built a little more, playing the "Report" itself. Afterward, he will feel that it@really kindness of generous respect to the author confused chap named Grothendieck to the credit of "Cohomology theory of L-functions", which finally seems to be reduced to an "interpretation" cohomological a bit preposterous, but after all **trivial** . It demonstrates in a small half-page barely, as a **corollary** immediately a "trace formula" which it is not tapping into, and is due of course none other than the author too modest volume.

It is said, indeed, that in his "report", the author "closely following" some presentations by the

quidam to IHES in spring 1966. Nothing is said about these surely bushy presentations, which had to lose body and good, except that the author of the volume was willing to retain his report. Is the sorites about Frobenius (where generously we will also refer to SGA 5 "led" by the same quidam), or general information on the beam-adic, or some "easy cuts" to be discussed Moreover - it is in full tide. Anyway, it should be mostly "useless details" the Report of the reading will spare us, thank God - we ask no more. the veil chap then, and we get down to **real work** !

While my friend likes to remain vague references to affecting a typical person (when it will pass over), this time the impression was yet one can not blame him for not being precise: lectures given at the IHES spring 1966. If it had been just a hair more accurate still, it would have added: presentations **at the seminar** SGA 5.

SGA 5? Is it not precisely the seminar figure (**undated**) in the bibliography at the "Breadcrumb navigation" with "to be published in Lecture Notes"? The seminar so that consisted (that what we grew understand) to add "digressions" (some very interesting, right) and "unnecessary detail" seminar SGA 4 1

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(Really impeccable, him) that preceded it? Should not spoof, SGA 5 was not in spring 1966 are you kidding! And the best proof, here before your eyes, in black and white

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introducing p. 907

just quoted in "Report on the trace formula" (Pierre Deligne)

"In the spirit of this volume, **it will not appeal to SGA 5**".

So it clear, right? !

(E) prestidigitators - or formula surge

Rating 169 8

(March 20) I getting a little tired, if not exhausted by this work

I am pursuing for more than three weeks and especially (the menu) in recent days to "dismantle" patiently in these "little things" that make **all** the cool montage scam of my most brilliant student, emberlicotant the public square those who beg to be tangled (and they are legion does it believe. . .). I can not wait to finish, yes, and yet I do not regret the time I spent there, while I go on my fifty-seven years and more interesting things (or more "grim", at least) not missing not. It like math work I called (there must be three days) "routine work" -

the bit by doing it eats, although all that is known is that stewardship, yet it also knows well reductions "(!) (easy, it is something implied) made by this chap (called once, and not the second ...) without a candid reader can never suspect that this same chap has **found** and **proved** a trace formula; and his demonstration (doomed to oblivion) is faithfully reproduced in the brilliant "Report". . .

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he **must** do it! Not by some austere "obligation" or duty that would be required, but because we can not (or at least, that I, I can not) do without it if I want to make intimate contact with the probed thing there "enter". It is through this work then, by "rubbing" the things we want to know at length of days, weeks or years that the "known" in fact - and it is only with this knowledge, fruit of a **work** often difficult and does not look that sometimes **else** springs, this "spark"

I was talking before yesterday, suddenly renews our understanding of things and the same work that we are merges.

It is through this fatigue (which is not weariness), indicating an energy that was spent, I can also fully measure the prodigious energy that my friend Peter had to disperse, in this delicate Montage-staging what this operation "SGA 4 1

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"Or" SGA4 1

2

- 5 USG "I can not say how

this work of artist, oh how much more subtle than that of mathematician and involving the faculties of any other order, conscious, or the work of completely unconscious forces. And it is also a point accessory, which is his own. all ways, diversion of energy, and the investment intensity a task in the antipodes of the drive discovery - the job of gravedigger-magician - had to be staggering,

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and (it makes me doubt) is today still 524 (*). The reflex of appropriation-retraction,

p. 908

in its relation to my work at least

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and any other work that door open brand, have
p. 909

finished (during the long "escalation" that was the Burial of deceased Master) by acquiring such power over his being, they have become second nature, which would have invaded and covered his original nature, that of "child" in him, rushing to discover the world. . . More than once I have seen up close, in 524 (*) This obsession of ownership that has been on the "formula" is really crazy, in simple rational terms. On one hand, this appropriation, by necessity, must remain largely, if not entirely symbolic: a satisfaction that agrees to oneself, playing as if it **was** indeed "father," or as if we **could** actually well to believe the whole world. The fictional, symbolic, already broke out, if we remember that Deligne himself in the article "Weil Conjecture I", published four years before mounting "SGA 4 1

2 - SGA 5 "(pp. 278), writes" Grothendieck

Lefschetz proved the formula "(for correspondence Frobenius). It is true that a few months later, in presentation Bourbaki (n ° 446) in February 1974 when Serre exposes this article Deligne, the author is surprised (rightly) absence

any demonstration published the formula of Lefschetz ("since 1966 we expect the final version of AMS 5, as expected be more convincing than the exposed existing handouts ") and takes this opportunity to be ironic about 1583 pages SGA 4 that expose ("with all the necessary details, as well as many other") the formalism of *étale*.

Surely Serre did not suspect that these sarcasms to address an absent were not going to fall on deaf ears. I am convinced that they had to play their role to germinate the brilliant idea to "forget" this "gangue non-sense" etc. SGA and SGA 4 5 as the public voice seemed claim it by the mouth of Serre ... But set apart even Weil I, in terms of published texts (including the slaughter-publishing SGA 5, which remains a compelling testimony though mutilated ...)

paternity retraction does not take just standing in terms of the most basic good mathematical sense.

Add to this, as I have already pointed out that the development of the famous formula is a work of **pure routine**, once we know what we want to get. I had to put a few days to bring out the essential features - it led me to divisibility specific questions related to the driver Artin, why Serre had the answers ready, speaking elegantly in terms of Serre-Swan module. The rather long work (but also routine) was focus Careful formalism traces noncommutative inspired by the work of Stallings (who, coincidentally, had just reached me). All this is the kind of thing someone who slaughter of Deligne (or only slaughter more What modest mine) addresses per dozen in a single year!

It is true that in the writings of Deligne, "trace formula" means trace formula **in any dimension** for correspondence **Frobenius**, formula that takes care (in "APG 4 1

2 ") to distinguish between what he calls" interpretation

cohomological "(" Grothendieck, "thank you!) functions L. He presents it as a simple **corollary** of the formula traces. (In fact, in the minds of my presentation at the Bourbaki seminar of 1964, both formulas were for me **synonymous**, as equivalent expressions, one additive other multiplicative, the same relationship between the "arithmetic" and "geometric".)

Thus the real motivation (surface yet, certainly) behind this obsession around "formula", is not in the cohomological arsenal, but that of minimizing the maximum, if not erase entirely, the fact that my person played a role in demonstrating " **the** " conjecture. This is finally it, which seems to me (until the Colloquium Pervert in June 1981) as **the** largest attachment point of the conflict that has developed in my former student around the master disavowed.

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18.5. THE FOUR OPERATIONS (a corpse)

seemingly innocuous situations (no relation to the size of an "operation" as the operation "Cohomology spreads" I just look a little closer), the silent efficiency of these reflexes there, working with perfect ease in these affable candor tunes. Even before you were made you account what happened (if you really realize you never account...), it is already appropriate which was created by you in joy, in fading the first by the breath of a discreet and insidious contempt. (It is also true that is not the only one, far from it, in which I have seen this term one, which today seems to be part of the air time. . .)

But this breath that fades the beauty of what someone else has created and that joy faded, faded as the beauty of **the whole thing** and that same creative power that is in him as in all of us, to commune with the thing and knowing deeply. Certainly, this does not stop doing things "difficult" and to be admired, envied and feared. But the work within him, which I have just once see warning signs, still waiting born. She was born the day (if it is to break) where something will be collapsed and where the master-slave perched will become like his master was disavowed, a **servant** .

It©sixty pages now firmly packed (not counting a proud bunch of footnotes

page), and nearly three weeks of work, I just concentrate on the only operation "Cohomology spreads."

It is the most voluminous of all it is true, if not the "big" (it will be reviewed last end,

in the note to well-deserved name "The Apotheosis". . .). I realize that with all that, I have not even

quite finished to go around. Little by little, this "ordering" planned, "facts updated" in a some "investigation" did start the investigation, making me look a little closer at the unusual volume called "SGA4 1

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"I had previously looked at that current.

This was also an opportunity to review again, and a more discerning eye, editing Illusie SGA-5, of sad memory. I realize now of painstaking agreement between the two thieves, putting himself Illusie at the disposal of Deligne to present an edition of SGA 5 full

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ment meets the desires p. 910

its prestigious protector and friend. This presentation SGA 5 comes like an echo, mute, spirit débinage of and contempt that spreads in the text Kick saw, and provides discreet and effective support the sham mounted therein.

The introduction to the edition-killing is written from beginning to end in order to create among the uninformed reader printing the volume "Technical digressions", the text "APG 4 1

2

"Which is as central

prior (!). This impression is reinforced in presentations written by Illusie, by the abundance of references to pirate text, which he generously refers whenever it uses a result that his friend had fit to include in its digest, even when there are references "to measure" in the same volume SGA 5, or even already in SGA 4 525 (*).

I discovered the reality of a massacre in order during the reflection in the note of the same name (n ° 87)

May 12 of last year, and in the sub notes thereto. In this set of notes, I finally conducting a detailed description (if not yet complete) dismantling that had appeared to me gradually while over the past two weeks. Not having then dismantled by the menu, as I just making for nearly three weeks, the meticulous arnaquage mounted in the so-called "SGA 4 1

2

" around the

Formula ", I have not yet grasped last year this aspect of careful consultation, in presenting in-seems publishing-Illusie SGA 5. To finish the operation "Cohomology spreads" alias "SGA 4 1

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525 (*) Thus, the formula of Künneth to clean surfaces (on top of any basic diagram) is an immediate corollary of base change theorem for a proper map (derived categories Version), which was the first big "break through" (" Breakthrough ") in étale in February 1963. It is indicated as such in the" matrix of non-sense "SGA 4 - we do qu@lusie would not refer to it, when there is the central text (to forget precisely these confused predecessors) that he reaches out. . .

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- SGA 5 ", I have to give some details on how this dialogue was manifested in the presentation of "formula" (fixed points) in the edition-Illusie.

I have already noted above (in the sub-grade "Good Samaritans", n ° 169 2) how did Illusie chorus to his friend, in his introduction, to give the impression that the publication of SGA 5 was suspended demonstration of the age-old formula of Lefschetz-Verdier. (This demonstration was available since 1964, and I had certainly developed in the oral seminar without that Illusie, which was responsible for Writing in 1965, considers useful for twelve years to fulfill its commitment. . .).

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I also recall that last year already (in the note cited "Massacre", n ° 87) I discovered certain vicissitudes of the presentation of original XI seminar. This presentation, inseparable from the following discussion XII

developing my version (best known until 1981) of the Lefschetz formula in dimension 1, had disappeared from the publishing-Illusie. To believe the introduction of Illusie, this presentation would have been in "the Grothendieck theory traces commutative "(providential slip for " **non-** commutative !)" generation reading that Stallings "(traces non-commutative), and would have gone (so equally providential) in a move (!). In reality, this paper developed the necessary preliminary algebraic for the description of local terms in the following description, where I develop a general method of calculating (or better, **resolution**) local term (through a formula like "Nielsen-Wecken" 526 (*)) and applied explicit cation in one dimension (suddenly Serre-Swan modules, if I remember correctly). Still that Illusie "replaces" the original exposed XI "disappeared" in a presentation "new" III B , named for the circumstance "local terms Calculations" (which, I believe, and coincidentally, was also the title of the presentation retracted!), **he is as the author** . So it makes one stone. On one hand, this is an act of **mutilation** , which may seem free at first, sowing chaos 527 (**) by this **cut** brutal, ripping a presentation to its natural context, leaving a gaping hole in its place, for the pleasure of going on

stuff elsewhere. Perhaps it is there among all the mutilations that the delicate and painstaking Illusie has subjected This was a splendid seminar (which he suddenly saw became supreme...), which afterwards I seems the most violent, the most brutally ostentative: I can slay gratis, and I slaughter - with all delicacy befitting my good education. Congratulations Illusie for this kind of work then, that you do not have learned with me, but with another, you gave yourself as a model and teacher. . .

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And a. And as second shot by the same stone, telling masterfully, Illusie happens to **retract**

p. 912

authorship of this formula of fixed points that I released in 1965, at the same time (and especially) that managed to **evade the formula itself**. It was from 1965 to 1966 "**the " good points formula fixed in one dimension**", much broader than that developed by Verdier in the year preceding Woodshole dente (otherwise it was not worth getting tired) and even more so, than the famous "Report" Deligne (Which is limited to the only correspondence Frobenius while following step by step demonstration I had open in the general case). It has been improved there are only a few years (nearly twenty years later) in the thesis of Aliberts 528 (*) treating first the case of a correspondence Cohomological 526 (*) This formula was appropriate by Deligne (without mention of myself), with the passage method of formula Nielsen-Wecken with constant coefficients (ie "standard"), to a formula of fixed points Building coefficients SOMEONE conches. On this subject the sub-note "The real math ..." (n ° 169 5, 883-884 page). So (noblesse oblige...) The same Deligne carefully refrains from any mention of the presentation XII Seminar "later" SGA 5, hence the name "Nielsen-Wecken" in the title of the presentation ("Formulas Nielsen-Wecken and Lefschetz algebraic geometry").

527 (**) This mutilation and this mess, among many others scattered through the efforts of my former student Illusie the orders of my ex-student Deligne, allows the latter to speak condescendingly about "confused state" ("though rigorous" because it is beautiful player. . .) SGA 5, in which "APG 4 1

2 "(any earlier it) is supposed to" cure "... All this under the tender eye of

Congregation of the faithful. Congratulations!

528 (*) This thesis was prepared under the direction of Verdier (no error, still the same Verdier), passed in 1981 in Montpellier or 1982 (I do not have the reference handy). It represents the culmination of ten years of work, visibly subdued. . .

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any. Illusie is arranged to present the text so that **the formula in question is practically found** :

in the technical presentations magma (ripped one another) III B (sic) and XII nothing (In the introduction of one or the other or elsewhere) that draws the reader's attention on this central result of all of these presentations, and one of the largest of all the seminar 529 (**)! I admit that even I was unable to provide me with absolute certainty whether this formula is there, in SGA 5. Given the state of deliberate confusion of the text, and my distance to the subject, it would take me hours or even days of work for going on. It is the absence of any reference to the Serre-Swan modules My problem, les

What (if I remember not mistaken) gave the formula that I had cleared its elegance and simplicity Conceptual 530 (***) . It is precisely for the purposes of this formula that Serre had some beautiful lectures on Galois modules associated with the driver Artin, presentations were of course included in The seminar published, and that eventually

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pass profits and losses (with five or six other expo- packets p. 913

SES original family - that's no problem for Illusie Deligne and others. . .). It is possible that the formula fixed points in question is the formula (6.3.1) in the exposed XII (p. 431). Nothing glance only distinguishes dozens more copiously numbered formulas, including this one is drowned. Obviously the writer (Bucur) was overwhelmed by the task - and this is not the brilliant editor-sic Illusie broken for fifteen years to the tasks of clear and flawless essays, which would have lifted a finger to repair blunders of his friend Bucur 531 (*), who contrived to wonder. Instead, he arranged to increase confusion, making the formula-key, already found, **indistinguishable from more than Lefschetz-Verdier**, or his particular case in "Report". It is stated in the introduction to the famous exposed III B -SiC, the "father" improvised Illusie:

"The second part of this paper III B, **a lot more technical** [so do not go above not read it!], is **inspired** [!] method [!] by Grothendieck used to establish the formula Lefschetz for **some cohomological correspondence** on curves [please do not go look that!] (see XII [but that will end where to find it "the" formula!] and (SGA 4 1

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Report) [where the reader will have no trouble finding the formula, and to be informed of the identity of **true father** of it. . .]. "(My emphasis.)

Later in the same introduction, it is said that (ie Illusie, it goes without saying) applies the techniques of n ° 5 532 (**)

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"to set at $n \geq 6$, the **local terms Lefschetz-Verdier** for matches cohomology. p. 914

mologiques complex between modules are not necessarily commutative rings. "

The name given to these surreptitiously "local terms" that I introduced in 1965 for the purpose of writing the formula 529 (**). Technically, it is **the** crucial formula ("irreducible case") that can prove the famous "formula functions L" equivalent to the trace formula (in any dimension) for correspondence Frobenius. The crucial role of this formula is already certified by the same name of the seminar SGA 5 (the name is never mentioned in the text "earlier" "SGA4 1

2"):" I-adic cohomology and L-functions. "

530 (***) It is possible that here and in the next sentence, I make confusion between the structure of the formula of Euler-Poincaré (listed in the exposed X) and the Lefschetz (the presentation XII). In the formula of Euler-Poincaré in the form in which it appears in presentation Bucur (taking my oral presentation), Serre-Swan modules involved indeed explicitly.

531 (*) The last lines of the introduction (by Illusie) to editing-killing SGA 5, pretend to "pay tribute to the memory I. Bucur, died of cancer in 1976. "- a year before publishing-killing I do not know if there is a cause and effect relationship - I have no doubt on the basic honesty and loyalty Bucur, who has not missed an enormity as this edition, without at least to inform me. Still, the spirit of the operation in which fits the posthumous tribute, gives it a suspicious flavor. " Was there was with words, while there was a way more consistent with the sounds will and righteousness Ionel Bucur, to honor his memory, mitigating its blunders, instead of exploiting them shamelessly.

532 (**). On the trail, this time **not** commutative - the slip-mockery are strictly reserved to the deceased, as long as the Unless it is not there to give the reply. . .

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explicit ("Lefschetz-Grothendieck") without precisely to refer to local terms of the formula General Lefschetz-Verdier - the name is obviously chosen to maintain the desired confusion and maintained by Deligne - like what the explicit formula in question **would depend** technically that of Lefschetz-Verdier. A few lines later, we learn elsewhere, to bring joy to its height, that "the terms Local defined by Grothendieck in the Lefschetz formula (XII 4.5) " 533 (*) (which is not said above these are the very people we just baptized generously "local terms Lefschetz-Verdier") "are although local terms Lefschetz-Verdier "(but this time in a **different sense** , of course: those of formula **Generally** , "non-specific", called Lefschetz-Verdier).

For the art of fish in muddy water, following a style that I recognize all too well, it is!

Same technique confusionisme in the introduction to the volume, which reads (page VI, line 5):

"Applications to Lefschetz formulas are given in the XII exposed and III B ." (it is emphasis mine)

history especially the reader get lost in hopeless and has no chance of finding or even trying find, **the** only explicit Lefschetz formula known in dimension 1 (until 1981 at least) due (not not Illusie or even his boss Deligne but) the deceased former "manager" (sic), not appointed as just 534 (**), the seminar cheerfully massacred by his "editor" -fossoyeur Illusie.

In the original conference, the exposed XI retracted and renamed III B (with 0

a brand new father), was part

p. 915

in a series of six presentations VIII XIII centered around two themes intertwined formulas explicites Euler-Poincaré and Lefschetz treated in the same spirit, on common methods that

I was released at the seminar. There was in this part of the seminar, as in others,

a unity of purpose and clear vision. It was meticulously massacred by the care of my

former student, taking advantage of its role as "editor" -SiC a seminar wrecked by him and those of my cohomologistes other students (as posthumous thanks to the one that outside their master). With regulators

worthy of meticulous Illusie a presentation on two of les six, namely exposed IX, XI, XIII disappeared publishing-killing. The presentation IX was due to Serre and presented the theory of Serre-Swan modules - LED

tourne.que the events were taking, Greenhouse chose to withdraw his marbles and see for himself that his beautiful presentation be made available to all. The presentation was XIII explains the "Editor" in the introduction volume, redundant - apparently the "manager" unnamed could not count up to thirteen -

is awarded to the hatch! The presentation XI, we have seen, by a sleight of pass brilliant, as is found exposed III B , appendix as saying in the statement III (well, well - chance would have it...), which is ap-

peeled initially "Formula Lefschetz-Verdier" which was renamed for the purpose of confusion, "Formula Lefschetz "for short Still it." Moving "was not done at random - it will always

in the same direction, that of confusion tirelessly maintained by the perfect tandem Deligne between Illusie Formula Lefschetz-Verdier (the one that is "speculative", "local terms not calculated," but eventually

nevertheless proven by the combined efforts of Deligne and Illusie. . .), And another formula, express it, which must remain strictly secret, carefully buried in a magma numbered formulas

533 (*) (May 12) Taken aback by this unusual precision (XII 4-5) of @y@formula, I just look at the reference cited. I

is a " **conjecture 4.5** " (p. 415), which seems to relate to the ability to define local terms. We suspected that this priceless typical person would still get us one of his speculation, instead of a real definition. . .
 534 (**) While all the essential results of the seminar SGA 5, with the exception of the formula Lefschetz-Verdier and theory Serre-Swan modules (which is not included in the edition-killing), are due to me, Illusie present texts such so that for **any** of these results (not only the so-called formula "Lefschetz" lost somewhere in XII presentation...) it appears that my modest person from being a factor. Thus, he played a leading role in the operation **Eviction** of my person of SGA, long prepared by his friend Deligne eviction which finds its epilogue in note "The Funeral -" im Dienst der wissenschaft "" (n ° 175). (See also sub-note "Eviction (2)", n ° 169 1 .)
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four decimal places, insinuations that have never said anything, ambiguities carefully calculated. Congratulations yet, dear former student! So, the statement called X "Formula Euler-Poincare in étale" 535 (*) deprived of the one before it and the one following him, woefully hangs in a vacuum. Nice work, you have not wasted your time. . .

(F) The congratulations or the new style

Rating 169 9

(March 22 and April 29) I would still return to the confusion between the formula Lefschetz-Verdier and formula **occult** ,
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the undiscoverable . I have just discovered a rather hearty p. 916

"Terminology Index" in SGA 5 - one is careful, or you do not! Out of curiosity, I looked under "Lefschetz," the time "my" formula would be there. . . The only reference is to a "Lefschetz-Verdier formula (Statement III) "- which was renamed exposed elsewhere (as we saw)." Lefschetz formula "Thus reader is well aware that there is not (at least not in this volume) other formula "Lefschetz" that the so-called "Lefschetz-Verdier" (the very one he learned also that it was speculative etc., that SGA 5 depended on death and life, and that "SGA 4 1
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"As the name suggests here saves the day...) From beautiful

Work, yes!

I continue to tour the prowess of my former student Illusie, under the guidance of my other former student Line. I take the following quote from the introduction to the volume-killing 536 (*), where "the" formula Lefschetz-Verdier, always the same, had suddenly multiplied (by virtue of the art of prestidigitation mathematical) in " **the** formulas Lefschetz" but nobody never been able to say why. It makes (Page VI, line 6):

" **The trace formula presentation XII** [which we hope no reader will ever idea going to find. . .] **Is shown independently of the general formula III of the presentation** , but is shown in (III B 6) as local terms therein are those of the formula General, **and that it implies** . "(My emphasis.)

Nothing in the hands, nothing in the pockets - incoinçable Illusie equally incoinçable his brilliant près-Chief tidigitateur! Having tracked after each other a cloud of ambiguities trompe eye all going in the same direction, I have only to note that here, in a benign detour phrase that had escaped me until now (as have escaped any reader of this introduction more than four pages 537 (**))
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it is said in chiaroscuro that some trace formula presentation XII (the reader is doing p. 917

535 (*) In the absence of stated otherwise, the reader will guess that this famous formula called "Euler-Poincare" is due to two illustrious mathematicians whose name it bears. With the above note b. p.

536 (*) See the beginning of the quote in the previous sub-note "The magicians - or formula soaring" (n ° 169 8), p.

537 (**) Zoghman Mebkhout, a careful reader but landed a little late, said he was himself deceived, persuaded the explicit formula of the fixed points (to Frobenius in any dimension, or general correspondence in dimension a) depended indeed of the general formula (unexpressed) Lefschetz-Verdier. So the assertion inch of Illusie had escaped his attention as mine - which was indeed the desired effect. . .

The confusion is reinforced by the fact that my statement Bourbaki 1974, having the formula of L-functions "coefficients" in a beam l-adic building (or what is the same, the explicit formula of the fixed points for correspondence Frobenius in such a beam) was written **before** we have explained a formula **expressed** in one dimension. At the moment I assumed that the demonstration of the explicit formula for Frobenius, in one dimension, appear as a corollary the general Lefschetz-Verdier formula - that he "had only to explain local terms." Also, in anticipation of a work remained to be done, by Verdier in this case I have in this presentation Bourbaki called this formula **explicit** "theorem Lefschetz-Verdier. "In the following, both demonstrating" Woodshole "Verdier, as mine covering a case clearly more generally, does not appeal to the general formula Lefschetz-Verdier. The situation was perfectly clear to all listeners SGA 5, at least. But for those who knew that my statement Bourbaki excluding SGA 5

as it can to find that!) is demonstrated regardless of "the formula of the presentation III (which, for the occasion, it is not entitled either to a name, in accordance with the method known as" the deliberate wave ") -... to chain in the same breath and in the same sentence (as in" **catch up** " in some ways an affirmation inch comply with safety rules. . .) With a "but we watch...." That "but" refers to complement "platonic" that person, starting with Illusie and Verdier, had still cared for twelve years, that "my" local terms - sorry, I meant "those contained therein" (wherein traces of the presentation XII formula whose author is never named in plain 538 (*))

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- these terms are those of the age-old "formula" - and vagueness about the names given
p. 918

the formulas and where to find them, suddenly gives way to exemplary precision worthy of meticulous Illusie: this demonstration a "refill" it is located in III B 6 - if a player wants to ensure that there is indeed, he will have no trouble finding it, that one!

Why this sudden interest in this identity, while the fate of the seminar 5 SGA as a whole had Illusie left (like my other students cohomologistes) perfectly indifferent for eleven years? It is order brightly chain, in the same sentence again (that is sent to or I do not know anything!) that "the formula" (Lefschetz-Verdier, not the name) **means** "of the presentation XII" (A deceased also unnamed).

This is a turn-pocus really great! My brilliant former student has sweated blood, including by working on mathematical parts but yes, to get to this brilliant result of the end of sentence apparently harmless - and yet, in the eyes of Deligne and those of his servant@capital: Formula Lefschetz-Verdier "means" one "of the presentation XII" (which we just said it was demonstrated regardless, but that@no problem for the satisfactions all symbolic of the unconscious!).

This " **implies** " is very particular nature, mathematically speaking - and I bet I@ the only one mathematician in the world, except the brilliant inventor of the gag (and perhaps his master Deligne), which is managed by enjoy the flavor. To understand it, there is no need yet to be a specialist or even a mathematician.

The two formulas, the "general" (aka Lefschetz-Verdier} and "the presentation XII" (aka the deceased not appointed) are expressed as respectively

$T = L, T = L,$

where the term T (alternating sum of traces) is the same in both formulas, while the terms L, L (amounts in local terms) have been defined ad hoc (one by Verdier in mind Lefschetz and the other by the deceased in mind Nielsen-Wecken-Grothendieck). Eleven years later, Illusie (whose editorial zeal has suddenly awakened to a leader of the sign) made a sudden effort, worthy of a better cause, to prove (Remaining sequestered until 1977), there was a misunderstanding, which was fully exploited by agreement by Deligne and Illusie

for mounting the deception (wholesale sewn white thread) "SGA 4 1

2 - SGA 5 ".

From the perspective of the imposture of the "logical dependence" SGA 5 from the text-pirate misleading name, this will not hold water anyway, even if the explicit formula depended indeed the phrase "speculative" to Lefschetz-Verdier. Indeed, as Deligne itself notes in passing in the famous "Method A" (for a reader who asks thanks - see "... The real math" n ° 169 s page 884), the "easy cuts" the unnamed chap brought back to the case of a dimension where "the ingredients of the demonstration were also all available."

All these tricks are walking, as long as they are paid to a player who is either asleep or hurry, or ask nothing better than to be tangled. To an attentive and critical reader, while the clever editing appears that it is: a shameless scam. But it seems that I am the first attentive and critical reader, for eight years that this scam has appeared on the mathematical market. . .

538 (*) For the USG 5 player is Illusie, author of the brilliant presentation III B on "local terms", which should appear as the modest father of formula never named. For a volume of the player calling himself "SGA 4 1

2", which therefore has not heard

another formula than that of "Report", the father is clearly the brilliant author of the volume, for a drive of two (If found), it will only have to play heads or tails, or give up the sponge. . .

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directly (?)

$L = L$ (and ditto for local words one by one),

history to say that the formula $T = L$ "means" $T = L$ (and thus, implicitly, that the formula

$T =$ The seminar slaughtering, crucial to the theory of L-functions, "dependent" of the formula $T = L$, which

remained "speculative" before the onset of Deligne and its angel "SGA4 1

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"- sic)....

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The situation becomes even more ludicrous for someone a bit in the game, which realizes p. 919 nobody in the world would have thought of the preposterous definition of local terms that go into L (Those of the unnamed deceased), whether that definition was directly "blown" by the same process of demonstration of the formula $T = L$. In truth, I can say that I found a "demonstration" of formula $T = L$ **before** having set the second member L and its local terms: the last "coming out" of the demonstration, nothing less than 539 (*).

Congratulations third time Illusie, and to you as well, Deligne, which have served as a model. Together, you did work of precursors of a **new style** in mathematics. A style that already has school.

Already, it has become the "style 1980" visibly brighter future promised 540 (**). This is the style-prestidigitation, aka "the style of the gravedigger", where the art is to constantly **mislead the reader** ; the deceive not only the **paternity** of the main ideas, but also (in stride) on their affiliations and mutual relations on the scope of each, what is essential and what is incidental - and this the laudable purpose of magnifying the one to be magnified, of slag (or bury a nonchalant gesture turning a trivial sentence. . .) One to be débiné (or buried)...; and **above all** , to have the feeling a titillating **to** : lead the reader at will and by the tip of the nose, do and undo history

His knowledge **of his good**

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fun and decide what "are" mathematical things alleged to expose, p. 920

and what they are not. It is the art of always " **reign** " by gently pulling invisible (?) Son without never, ever stoop to serve. And all this in order to be always and completely "go!" : If, for extraordinary, a smarter player than another would look at it by itself, it would have the unusual idea to use (you never know ...) to his own lights and driving (it@rare, but after all it could arrive. . .) That you can never caught in the act of saying something which, **taken at face value letter** and no way out of ambiguity or double meaning, or indeed and irretrievably **wrong** .

The art of art is in this style then clause, which may seem challenging, yet. . . With Symposium perverse strange memory, four years after the prestidigitatrice virtuosity of déploiements mirobolante operation "SGA4 1

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- SGA 5 ", one could see how far this new technology and innocent can

539 (*) I says, something that also goes without saying that in all imaginable applications (not just the formula functions L, about the only correspondence Frobenius), it is the **explicit formula** $T = L$ which is **the** relevant formula. Of practical point of view, and respect the phenomena in one dimension, the formula Lefschetz-Verdier $T = L$ has a historical (or heuristic), and the same is true a fortiori (until further notice, at least) the outcome of Illusie $L = L$ (Or, more precisely, that the two types of local terms, those in L and those contained in L, are the same).

These are very obvious things that contrive yet two friends (and succeed, given these times)

to blur. This leaves reflect on the meaning that can have unbridled scientific production we are witnessing, then such as sprains to coarse point just common mathematical sense (and this on issues that closely to crucial progress for twenty-five years in our understanding of the relationship between geometry and arithmetic) pass unnoticed by each and all. . .

540 (**) See, for telling examples in this sense, some samples of "1980" style contained in the note "The Mafia "(n ° 171 2), in the writings of our great authors Brylinski, Kashiwara, Beilinson, Bernstein. Obviously, all hopes are allowed!

(May 12) Like other casual followers of the "new style", which are illustrated in the wake of the work of an obscure posthumously named student ever, I can now add Malgrange, Laumon Katz. (See note "Carte blanche to pillage" n ° 171 4 .)

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go in the retraction of an innovative work, and the shameless plundering of one who had long brought this work and had matured in solitude. . .

Hats off to the teacher and the student, and to Deligne Illusie! The artist@work! You@ earned it, and one the other, of the unanimous recognition of the whole congregation.

18.5.3. (2) Sharing ("Duality - Crystals")

18.5.3.1. at. The last part - or the deaf ears

Rating 170 (i) (28 February) I come to the third of the "four operations" around my mathematical work tick (waiting for the fourth in the next note, retracing the work of Zoghman Mebkhout).

III The operation "Duality - Crystals" (or: "The Beautiful Remains ...").

As I see it now, it is roughly speaking a **sharing** part of my work concerned

ing cohomology which was not yet appropriate (de facto or symbolically) by **P. Deligne** ⁵⁴¹ (*).

This one obviously has reserved the lion's share, with the motives and cohomology étale, and more specific- the cohomological tool l-adic. The sharing of the rest (*) is done between two other of my students homo

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gists, **JL. Verdier** and **P. Berthelot** ⁵⁴² (*). The consensus is established, I can not say when and p. 921

how, seems to be the following: Berthelot has all the crystalline cohomology, and the rest at Verdier, which ix basically everything that revolves around the duality of yoga ⁵⁴³ (**), and yoga derived classes and triangulated which constitutes the algebraic prerequisite.

Regarding Berthelot's participation in the sharing of my remains, I have only one fact, of size it is true. I stumbled upon it last year, during the reflection in the note "Les co-

heirs. . . "(N ° 91) and I spent a small sub-notes (n ° 91 1). This is the article-survey Berthelot

that I quoted ⁵⁴⁴ (***), with the main ideas for a "synthesis" (he said) the cohomology Dwork-

Monsky-Washnitzer and crystalline cohomology, at the September 1982 Luminy Symposium entitled "P-adic analysis and its applications". In the introduction, part (b), it gives a short history of co-operation crystalline homology, in a narrow mind that does not correspond to the vision much more

I had extensive yoga lens ⁵⁴⁵ (****).

My name is missing from both the text of the article and the bibliography. I refer to the sub-note cited for some comments and precisions, which need not be repeated here. I would only add that once my nobody removed from the painting, it's none other than him alone, Berthelot, who is the father of cohomology crystalline, without even having to bother to say it in the clear - a certain style of appropriation visibly school ... This is his thesis indeed, that he prepared with me from my starting ideas, which is the first published work on the crystalline theme (apart from the very sketchy outline that I myself had

⁵⁴¹ (*) (1 May) must, however, set aside the duality formalism in **coherent** context, which (unlike a impression that has proved hasty) has apparently not been appropriate yet by any of my student cohomologists, nor by no one else to my knowledge. It is true that the only reference text, exposing most of my ideas and results on this topic, is "Residues and Duality" by R. Hartshorne, which allows to refer to it without having at any time to pronounce a unwanted name. . .

⁵⁴² (*) (1 May) It appeared since he should add a "fourth thief" in the person of Neantro Saavedra Rivano, who appropriates the philosophy of the motivational Galois group, via the categories named "for the circumstance" Tannakian ". But he is simply a "father of straw" on behalf of Deligne, who "recovers" paternity ten years later.

For the detailed story, see the following notes "The Sixth nail in the coffin", n ° s 176 1-176 7.

⁵⁴³ (**) See page footnote from previous page.

⁵⁴⁴ (***) rigid geometry and cohomology of algebraic varieties of characteristic p, Pierre Berthelot Symposium in Luminy September 6-10 (CIRM) "p-adic analysis and its applications".

⁵⁴⁵ (****) see in this respect the sub-note "Deaf ears" (n ° 170 (i) bis) which follows this note.

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18.5. THE FOUR OPERATIONS (on a body)

made of some of the ideas of

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starting ⁵⁴⁶ (*). His thesis presents a work of large foundations to p. 922

first part (170 (i) bis) at least in the program I had proposed to him.

This memorable "survey" takes place in 1982, one year after the "Pervers Symposium" (Luminy June 1982), which he will be discussed with "Operation IV". I did not bother to go back to the prints besides Berthelot

in my possession, to learn if this participation in my Burial represents a late turning point

in his relation to me and my work, or if it is the continuation of an older attitude. In

the first case, it's a safe bet that this turn comes in response, in a way, to self-escalation

sudden and unbridled in the general degradation of scientific ethics, accomplished the year before with

the Symposium. I recall in this connection that the same year 1982 is also indicated by the publication of the

"memorable volume" LN 900 exhuming the reasons ⁵⁴⁷ (**), where the one who made the transaction costs is not a vague "unknown service" (as during the brilliant Colloquium), but a "deceased" whose name, despite everything, remains in the memories (albeit with regret ...). The operation of the previous year had shown well enough

clear that no more restraint was required - and the "Reasons operation" was indeed "Operation Crystals" and all those that preceded, without making the slightest wrinkle. . .
Rating 170 (i) a (170 (i) bis) (28 February and 30 April) ^{548 (***)} I mean here by "first phase" of the theory crystalline (in $p > 0$) crystalline cohomology, with constant coefficients (or "constant twisted"), **clean and smooth** patterns on a database schema for p . You just have to work with "ordinary" or "infinitesimal" crystalline site, which I had introduced (provisionally) towards the end of the sixty ^{549 (****)}. In fact, contrary to Berthelot's restricted meaning in giving the term "cohomology-crystalline logic", it had for me from the beginning a much

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wider, I have hidden p . ⁹²³

him or anyone, and that my students have apparently forgotten - to "reinvent" a small piece of ten or fifteen years later. . .

On the one hand, my crystalline ideas, from the beginning, were by no means confined to the case of schemas of a particular character.

given $p > 0$. My first crystalline reflections, before coming to me the new idea of introduce "thickened with divided powers," were placed on **zero characteristic** patterns where the divided powers are present automatically (and for that, tend to go unnoticed ...).

The natural culmination of this direction of research, renewed thanks to the ideas of Zoghman Mebkhout, will be the formalism of the six operations for the "crystalline coefficients of De Rham-Mebkhout" on the character of nullity (to begin with), formalism to which I already alluded in the note "The melody to the tomb. - or sufficiency" ($n \circ 167$) In the sixties, I glimpsed a crystalline cohomology gallery without distinctions of characteristic, in the form of a crystalline formalism of the "six operations" in the context (for example) finite type schemes on the absolute basis Z . It had to encompass crystalline theory "ordinary" (which still looking - and still seeks) for type schemes ended up on the field F_p

to p elements. I am convinced that it is to have forgotten and buried this vision of the deceased master (yet simple and inspiring as possible), which is the cause of the desolate stagnation of crystalline theory, nearly twenty years again after the vigorous growth of its beginnings.

^{546 (*)} The only sketch published these ideas, after five presentations I had given at IHES in November and December 1966 written by I. Coates and O. Jussila, is "Crystals and the Rham Cohomology of Schemes", in Ten lectures on Cohomology Schemes (North Holland, Amsterdam 1968) pp. 306-358. All essential ideas for starting are sketched out, including including the need for local thickening of the Monsky-washnitzer (pp. 355-356).

^{547 (**)} See "Silence" (No. 168 \circ), including "... And exhumation" ($n \circ 168$ (iii)).

^{548 (***)} This sub-rating comes from a footnote page to the previous note "The share of the latter." (****) (May 12) In fact, it is already in 1966, see the note of b. from p. (*) above.

^{549 (****)} (May 12) In fact, it's already in 1966, see note b. from p. (*) above.

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On the other hand and to return to the approach of Monsky-Washnitzer, who had helped to "trigger" on crystalline cohomology, from the very beginning I had in mind the need to introduce (for care of a theory that would not apply only to clean and smooth patterns) a larger crystalline site the "infinitesimal" site, where the "thickening" would be considered spectra of **topological** algebras (with ideal to divided powers) suitable, perhaps those used by Monsky-Washnitzer (cleared useless hypotheses such as smoothness) (*). Identify "good site" ⁵⁵⁰ 0

and "the right coefficients" is part of the p . ⁹²⁴

gram that I had bequeathed (to no avail, it now appears) to my cohomologist students, to begin by Berthelot. Having thought about it lately "by the way" (on the occasion of the writing of Harvest and Seeds), and reminding me of the imperative of a crystalline theory encompassing all the characteristics at the time, I have come to wonder if these topological algebras (at the Monsky-Washnitzer, or any other reasonable variant) are not, too, too "coarse" (in the same way as the formal series because they are too far from the algebraic, and if there is no need to replace them by which are (in a proper sense) "neighborhoods étales." I think to return to these questions in the part of Reflections following Harvests and Seeds (volume 3, I presume), with the presentation of the yoga of six operations and the problematic of the coefficients, and in particular the crystalline coefficients of the type Rham-Mebkhout".

Mebkhout had also sensed that his philosophy of 3-Modules should provide a new point of view. calf for crystalline theory. But his suggestions in this direction, Berthelot especially in 1978, coming from a vague and unknown grothendieckien unrepentant, fell on deaf ears ^{551 (*)}. . .

^{550 (*)} As I specify it in a previous note b. from p. (see page 922), there is talk of such thickening at the Mons-Washnitzer in my first and only lecture on crystalline yoga, late 1966. From that moment, it was clear to me that the crystalline cohomology of characteristic $p > 0$ was going to be played for the most part on rigid-analytic spaces of null characteristic. Of course, I did not fail to let everyone know that it could concern, and first and foremost

surely place to my student Berthelot, once he had chosen to invest in the crystalline theme. In the article quotes, next a style that I recognize well and Berthelot did not invent, it looks like he just discovered (fifteen years later) the unsuspected connection with the rigid-analytic geometry (x). He poses to the brilliant inventor a "common generalization" (from the theory of Monsky-Washnitzer and crystalline), which he pompously calls "rigid cohomology" (and which will be called soon, as it should be, "cohomology of Berthelot"). I also note that Berthelot's work is "the continuation of a reflection conducted with Ogus" - the same Ogus who distinguished himself the same year (1982) by his participation in the scam "Motifs", as co-author of volume LN 900.

The systematic burial continues in a later article by Berthelot (of which I have a preprint) "Cohomology rigid and Dwork theory: the case of exponential sums" (undated) No reference to the deceased for the crucial notion of F-cristal, or that of cohomology with its own support (which I have the honor to introduce into algebraic geometry in February 1963, twenty years before. . .). These notions are so natural, moreover, that there is really nothing to worry about. . . The concept generic fiber of a formal scheme (above a discrete valuation ring), as a rigid-analytic space, is generously attributed to my ex-student Raynaud. This notion was known to me before neither Berthelot, Raynaud nor elsewhere no one else has yet heard the word "rigid-analytic space", since it is the need to be able to define such a generic fiber that was one of my two motives for predicting the existence of a "rigid-analytic geometry", and that he too was one of Tate's two lead wires, putting together a construction in the shape of a geometry: its definition had to be such that the notion of "generic fiber" becomes tautological. . .

(x) (September 1985) In fact, the first to predict the existence of such a theory was J. Tate, in August 1959. See on this subject the Note No. 173 ° d) ("The Burial - or the natural slope"), especially the footnote at page 1132 page. 551 (*) To have deaf ears does not prevent the same Berthelot, in the article I cited in the previous footnote b. from p. refer casually (at the end of s. 3 A) to "an analog of x of the 3-modules theory on a complex manifold" whose "for the moment" one does not have yet in the rigid-analytical frame. No question of course here to mention the name of a certain unknown wave who had come to make wacky suggestions four or five years before, and this especially some Symposium last year (which will be discussed in the following note "Apotheosis", n ° 171) had given clear the tone regarding the unknown wave in question, surely, in a few years time, and with the blessing of the real father of the well-known philosophy of "Riemann-Hilbert-Deligne", Berthelot will be the brilliant inventor of philosophy 3-Modules in the context of "rigid-analytic cohomology", also called (even if it itself does not name it thus) "cohomology of Berthelot". Like what, these days, there is no need to have a very fine ear for yet go far. . .

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18.5. THE FOUR OPERATIONS (on a body)

18.5.3.2. b. Glory galore - or ambiguity

Note 170 (ii)

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(28 February) 552 (*) To locate the "Duality operation," the dubious benefit of JL Verdier, there p. 925 would be a good start to say a few words about the yoga of duality (called "six operations" - but the name sank without a trace) that I had developed from the second half of the fifties, and that of derived categories, which is truly inseparable. I expressed myself in a rather detailed way topic in the note "My orphans" (No. 46 °, especially pages 177-178) and in the sub-46 ° footnote 2 to this (pages 186-187), and finally (in a beginning of reflection on the role of Verdier in the burial of my point homological algebra of view) in the note "The instinct and fashion - or the law of the strongest" (n ° 48). He is seems pointless to return to, and I suggest the reader refer to it as needed, before continuing with the narrative operation "duality" 553 (**).

Verdier's attitude in the operation of sharing appears more ambiguous than that of his two friends, i played the, sometimes simultaneously, on two tables that may seem contradictory. I had a hard time myself, first, to recognize myself, so confused was the situation. On the one hand, after his defense in 1967 and especially after my departure in 1970, he strove (for reasons that escape me) bury and discredit the cohomological algebra yoga and duality he held me, while had devoted most of his energy, throughout the sixties and until the defense his thesis, to develop these ideas and enrich them with his own contributions. On the other hand, from all less than 1976 (nine years after the defense of his thesis-sic), and with the encouragement and effective support of Deligne, he pretends to assume credit both initial ideas (to the extent that they did not remain boycotted), of all the methods and results that I had developed

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around the p. 926

theme of duality spreads, methods that apply mutatis mutandis in all sorts of contexts 554 (*)
such as topological spaces, or complex analytic spaces.

Regarding Verdier's attitude towards derived categories alone, I tried to put my finger on the sense of this ambiguity in the note "credit Thesis and comprehensive insurance" (n ° 81) 555 (**). There will be also a number of material facts, particularly concerning the strange circumstances surrounding his thesis work (still not published today) and the defense. Looking back one year, the vision things that emerge during this reflection probably seem correct to me (perhaps), but nevertheless superficial. It is clear to me that the **true** motivations of Verdier do not place themselves at the level of any derisory "calculation of returns", but that they are of any other nature, and essentially involve his ambivalent relationship to me. Even for an observer superficial, it seems to me, it is particularly flagrant in his case that believing to bury the one who was his master is none other than **himself** and the creative force within him he buried every day and up still.

552 (*) The text of the note was taken to the net, and ground on some points, 1 May (day lily).

553 (**) (May 12) See also Note "ancestor" (n ° 171 (i)) and "The tour of building sites - or tools and vision" (No. 178 °), including construction sites and "six operations" "coefficients" (n ° s 3.4).

554 (*) Of course, in the "other settings" in question, the context of starting trouble spreads, namely the need for a "breakthrough" which gives a minimum of hold over the étale cohomology (in the absence of transcendent constructions well known singular simplexes, retraction methods, etc.) do not arise. My students have all found situations where heavy work "breakthrough" was already accomplished by another - they only had to bring their furniture, in short, that often "the other" provided them over the market. As soon as the occasion came, they hurried to bury him, to take advantage of what they have seen fit to appropriate, and make fun of the rest. . .

555 (**) In writing this note, I was not aware yet of how Verdier had distinguished himself with "good reference "that it provides in 1976 - see" step 2 "below.

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To go around the operation "Duality", I will now make a short retrospective of the different steps that are familiar to me from this operation, and more generally, from Verdier's participation in the surely.

Stage 1 (1966-1976). It's after my departure in 1970, I can not say when exactly, that Verdier informs me that he no longer intends to publish his thesis. I remind you that this one was supposed to present the new foundations of homological algebra, in the context of derived categories. In my eyes, the reason for being of his thesis work was to be made available to all, to provide a reference text comparable in scope to the Cartan-Eilenberg book, directly adapted to the new needs

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during the fifties and sixties in the wake of my works and those of my students. In hindsight,
p. 927

I realize that this new cohomological language was not yet fully assimilated (and again, I would say even today. . .) that by my cohomologist students, and that Verdier's decision was equivalent henceforth to draw a large line on this new vision of homological algebra. So also, his "thesis" of twenty-five pages, which was confined to presenting a convincing sketch of ideas of which he himself that they were not due to him, lost his meaning and became, strictly speaking, a "phony thesis". But to beginnings of the 1970s, by learning (with surprise) Verdier's decision, I was absorbed so intensely in tasks at odds with my mathematical interests of yesteryear, that these questions were then for me infinitely far away. The idea did not come to me to ask about the thing, learned in draft (I can imagine me) between a public debate on the scandal of fissured casks of atomic waste at Saclay, and a working session for writing *Surviving and Living!* And even less, would I have thought of react. The first time I "pose" finally on the meaning of this act of Verdier, and where his nature of deliberate sabotage shyly begins to appear, is in the note already quoted "Instinct and fashion - or the law of the strongest" (n ° 48) resumed a few weeks later, after the discovery of Burial "at its best"

in the much more detailed and thorough notes "Thesis credit and insurance all risks" (n ° 81).

In retrospect, it becomes clear that Verdier's division in the work he had himself assigned, and was part of the "contract of good faith" he had spent with his thesis committee (see note cited n ° 81), must go back at least to 1968 or 1969; otherwise the writing and publication of his "thesis" would have been done well before my departure in 1970. I remind you that I had submitted the work program on his thesis as early as 1950, and that for a gifted and motivated researcher as he was then, this program, with an extensive drafting of new foundations, should hardly represent three or four years of work to break everything, get in touch and everything. It is also true that a certain mentality, which consists of withdraw in advance a credit for a planned "work", so that there is no longer any reason to tire - such a mentality now becomes apparent to me after 1964 already, with the vicissitudes of the formula known as "de Lefschetz-Verdier", and later, with duality (known as, of course, "de Verdier")

locally compact spaces, in the spirit of the six operations

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(which remain unnamed) ⁵⁵⁶ (*). But

p. 928

throughout the sixties, locked up that I was in my tasks and in the vision that I tirelessly pursued through them, such as the elusive and ubiquitous white whale of Ahab, I was miles away from to doubt me that something "was wrong" in him who was for me like a close companion in tasks that I thought were "common" - nor would I have suspected it for any of my other students cohomologists. And with twenty years of hindsight, I am seized now to see how, for ten years of my life (if not fifteen or twenty) I lived completely **out of step** with the reality around me, and this, not only in my family life (where I have come to notice for a long time), but also

⁵⁵⁶ (*) See, on this very special spirit, the sub-score "Heritage - or shenanigans and creation" (n ° 169 6a) and also sub-notes of the last year (s n ° 81 2, 81 3) to the already cited note "credit Thesis and comprehensive insurance."

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in professional life, in which I invested with passion. . .

But I come back to "step 1". Verdier's ambiguous relation to my person and my work appears in all case after the completion of the SGA 5 seminar in 1966: no more than any of my cohomologists, he feels involved by writing this seminar ⁵⁵⁷ (**), which remains in the hands of "volunteers" - sic overwhelmed by the task, or unwilling to keep their commitments. Obviously, from that moment already, the situation in all of my student cohomologists is rotten, though I do not see of nothing, preferring to live in a world where everything is order and beauty. . . It's eighteen years later that I begins to throw a first and timid look at what really happened, in those times that (there is a once again) had seemed to me idyllic ⁵⁵⁸ (***)).

After I left in 1970, and already before he told me his "official" decision to scuttle his work foundations, Verdier's ambiguity in the sixties is confirmed by a connivance with various mini-scams of the growth of his friend Deligne, which he could not fail to realize:

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p Of retraction. 929

my person in articles Hodge I, II, III ⁵⁵⁹ (*), and in the published version of the monodromy seminar SGA 7 II (presented under the names of Deligne and Katz, the latter unexpectedly taking the place still hot of a deceased. . .). The same year (1973), he was also able to miss the Mac article Pherson, where is solved a "conjecture of Deligne-Grothendieck" which he knows that Deligne is for nothing.

Until 1976, Verdier's role in the funeral seems mostly passive, as far as the operat-tacit annexation at least. On the other hand, by refraining from publishing what was supposed to constitute his thesis (which had been granted "credit" ⁵⁶⁰ (**)), he played right before I left a crucial role in the in-from my point of view in commutative homological algebra (which he had adopted for a time), and its use as an "everyday" technique both in algebraic geometry and in topology and in algebra. Like his friends Illusie and Deligne, thus scuttling the work with his own hands, for the the pleasure of burying the one who inspired him, he deserved the unconditional recognition of the Congregation unanimous. . .

This deliberate burial was also clearly expressed in its discouraging attitude towards Zoghman Mebkhout, after 1975, when he pretended to be inspired by my yoga of duality, and that of the derived categories. On this subject again, I refer the reader to the more detailed notes already quoted "My orphans", "Instinct and fashion - or the law of the strongest", "credit Thesis and comprehensive insurance" (n ° 46, 48, 81) and Note "The unknown service and the theorem of God" (n ° 48 §⁵⁶¹ (***)).

Step 2 (1976). In 1976 the publication of the "memorable article"

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Verdier in ⁵⁶² Asterisk (*), p. 930

already mentioned as "episode 3 of an escalation" with the operation "Cohomologie étale" (see note "maneuvers" n ° 169). I remind you that this fifty-page article consists of (apart from a few pages of his own) to take back text to a number of notions and techniques that I had developed ⁵⁵⁷ (**). In retrospect, I have to wonder what Verdier could well use his time from 1964 (where he finished in my contact, by getting into the bath of new cohomological techniques) and 1970, while he does not deign to grab and to carry out any writing task, not even theories of which he would present himself as the author. For the list of his contributions, valid, but none of which are completed, see sub-81 ° footnote 1 to the much quoted note.

⁵⁵⁸ (***) see in particular, in "Fatuité and Renewal", the "A world without conflict?" (n ° 20), where only the point of interro-in the name of the section may suggest some doubt about "idyll".

⁵⁵⁹ (*) In the joke "complex weight" (see the note of the same name, n ° 83), I really thought discern an allusion on the tone

of the challenge, the most obvious swindle I know about one of my student cohomologists, that of Deligne in his 1968 article on the degeneration of spectral sequences. If I only saw fire then, the example given by my most brilliant student has not yet been lost for everyone!

560 (**) See note already cited n ° 81.

561 (***) (1 May) Also sub-note "Hatching a vision - or the intruder" (No. 171 ° 1) in note "Apotheosis".

562 (*) JL Verdier, "homology class associated with a cycle" n ° 36 Asterisk (SMF) p. 101-151 (1976).

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ten years before in SGA 5, and this without hinting at my person or at a seminar dealing with these things. This publication, which I discovered a year ago in the wake of the Symposium Pervers (in the note "The good reference "n ° 82), then lit a completely new light towards the reluctance of himself and my other cohomologist students, to put the SGA seminar 5 (under this name, and with paternity that is to the mathematical public.

There is no need to come back here to comments about this article, which I made in yesterday's note already cited (n ° 169). As a funny detail, I will only add that this is the manuscript of this "work" (sic) of Verdier, that he had the kindness to communicate to Zoghman Mebkhout the previous year (1975), which been to this Sesame-opener You cohomology of varieties, and the basis for admiration without reserve one which now was figure "benefactor." This admiration was also hard skin, and has finally disintegrate completely, I believe that following the misadventures of Zoghman occasionally Pervert's Symposium.

Deligne said 563 (***) he has taken note of Article Verdier after the publication of "SGA4 1

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(Sic) and SGA 5, the following year (1977) - which would run counter to my belief that the publication of "good reference "Verdier scored a last essential step in the" escalation "of scams, who finished eventually lead to the operation of any other major "SGA4 1

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- 5 USG "the following year On reflection, I

hard to believe the version of Deligne. He is one of the best informed mathematicians I know, and remained in close contact with Verdier always, it is hardly possible that he was aware Project already Verdier, than it has received a preprint (and this even from before Mebkhout), and it has was one of the first served for reprints in 1976. This article filled (as confirmed to me Deligne himself) a gaping hole in the literature (for lack of publication of the seminar SGA 5 after 1966) and it is hardly possible nor Deligne have taken the

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worth at least browse the - issue a quarter

p. 931

Time to break everything to someone "in the know" as her 564 (*). Anyway, the fact that plagiarism manifesto has been no reaction from any of the six or seven other former listeners that SGA 5 were well "in the know", was well assured of collusion burr between all concerned. The time was ripe for the slaughter rule in the mother-seminar SGA 5, and to shatter my work on cohomology spreads. . .

Step 3 (1977). In this operation "SGA4 1

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- SGA 5 "which takes place in 1977 on the initiative of Deligne and

with the participation eager to Illusie Verdier played this time a supporting role, contributing to lean Issue the misleading name "SGA4 1

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"A" State 0 "of his thesis-sic (disappeared, her body well ...)

exhumed specially for the occasion after a sleep of fourteen! Anywhere in the volume, that Whether in the introduction that this text rabiot ("become untraceable" - and for good reason) is properly mounted pin or in the text itself, there is a hint at a role I have played in the ideas that are there developed; nor, moreover, the fact that this text was a day destined to become a thesis. No more that Deligne, Verdier has seen fit to inform me of this publication (and for good reason, yet), nor to me send a copy of trompe l'œil volume. I refer, for details, Note "The comrade" (n ° 63 " © written in the excitement of exploring this exhumation on the sly), and further reflection in the already noted repeatedly cited "credit Thesis and comprehensive insurance" (n ° 81).

Thus, ten years after his defense of unusual thesis, Verdier took the opportunity offered him Deligne

563 (***) See footnote "The dot the i" (n ° 164), Part IV 1.

564 (*) I can imagine also that much stronger than the mathematical interest (as this article has nothing to learn Deligne, he does not already know as auditor SGA 5), had to be the one to be able to learn first hand

and black on white, burr retraction of the late master, according to tradition he had himself inaugurated for already

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to take, in short, an " **option** " on an uncontested paternity and undivided perspective "categories derived "in homological algebra, with the full guarantee of its prestigious friend, and this at a time where either still continued to maintain a **boycott** of fact on the use of this same point view ⁵⁶⁵ (**). The boycott, which weighed heavily on the work of Zoghman Mebkhout, sentencing him to a complete solitude, remained in force until "Pervert Symposium" in 1981.

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Thus, in 1977 Verdier appears as the father-in-reserve a yoga cohomology which, for the moment, ^{p. 932} remained subject to a tacit disdain fashionable - but you never know. . . Moreover, since the previous year, with the publication of "good reference," he was father figure of part of the duality formalism developed by me (on homology classes and cohomology "discrete" cycles associated with the formation bidualité of ism, theorems of finiteness Version constructability etc.) - not to mention the dual spaces locally compact, which remained, too, in an ambiguous status, waiting status - like yoga Derived classes that gives it meaning.

Step 4 (Symposium Pervert , June 1981). This is, by far, the culmination of the participation of Verdier the funeral. This symposium devoted shameless spoliation Zoghman Mebkhout pioneer point unifying view and fruitful 3-ons in the cohomology of algebraic varieties. As qu@rgani-Official sateur Symposium, with B. Teissier, Verdier plays a leading role. More on that in the next note with the "operation IV" (called "Symposium Pervers" or "unknown service"). Here I borrow to direct benefits for Verdier, under the "sharing" of an inheritance (where the deceased bequeaths rest studiously ignored. . .).

This symposium devoted to "return" triumphant derived and triangulated categories in the Arena mathematic. As the "father" of those categories (he had done for fifteen years to bury) is Verdier, after Deligne, which appears as the main hero of the happening. That is the impression that at least emerges from the main section of the Symposium, from the pen of Deligne item constitutes the volume alone I and the centerpiece of the Proceedings of the Symposium ⁵⁶⁶ (*). Coincidentally, the skeletal and providential "State 0" of a thesis (which I never would have dreamed accepted as a doctoral thesis, which had come bail timely pirate text "SGA4 1

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a little thin in the armholes) - these become the brilliant piece ^{p. 933} conviction, allowing the father-to-the-sly Verdier, in a cloud of references to "SGA4 1

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"To swagger

modestly as providing precursor big rush-called "perverse sheaves" (which are there for nothing yet) and a new and late re-start of the cohomology of algebraic varieties (on broken an unknown wave that nobody dares to pronounce the name. . .).

The same article (signed Beilinson-Bernstein-Deligne) spends returned to power, also, the formation six operations ism (never named, of course) in the context spreads, with the notation now devoted created that I introduced in the fifties. As I wrote elsewhere ⁵⁶⁷ (*) "there is not a page Article city. . . which is deeply rooted in my work and bears the mark, and this far in the logs that I introduced, and the names for the concepts involved in each not - that are the names I had given them when I met them before they are Named ".

⁵⁶⁵ (**) As I explained in a previous note b. p. (Note to the page), in the coffin text-named "SGA 4 1

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could not avoid the use of derived categories in demonstrating "the" formula. This is probably what has been suggested the idea of expanding its volume with the "state 0" of a shipwrecked thesis. In fact, it did not change until 1981 the situation boycott on derived categories.

⁵⁶⁶ (*) Acts published in Asterisk n ° 100 (1982) - under the title "Analysis and topology of singular spaces." In fact, the Acts in question dated from 1982, have been completed to print in December 1983 and Mebkhout became aware in January 1984.

⁵⁶⁷ (*) See note "The Iniquity" (n ° 75), p. 288.

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was still learning the ABCs of cohomological language is renamed "Verdier duality" in eupho-
General Series 568 (**). Its prestigious protector not going to skimp on the little, these days of jubilation! The name
the deceased does not appear in Article 569 (***) , nor in the introduction to the volume, signed Teissier-
Verdier. Nor the unknown wave (Zoghman Mebkhout, not to call it), without which the article nor any
Symposium brilliant, would have seen the day. . .

For the slaughter, it was the slaughter! Aside from the reasons that would soon follow (from the year
after), and possibly the lens yoga, sharing stories without the cohomological inheritance of a deceased
ever named was now consumed thing, and this in unanimous agreement and **to the general satisfaction** .

18.5.3.3. c.the jewels

Note 170 (iii)

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(1 March) three "operations" which I reviewed in previous notes concern

p. 934

the "sharing" of the "legacy" that I left, as my written and unwritten work on cohomology
schematics. "Beneficiaries" of this direct sharing were three of my five cohomologistes students
namely Pierre Deligne, Jean-Louis Verdier, Pierre Berthelot and 570 (*). But each of these three operations
(Like the one that follows) could be done with the connivance (and sometimes active support) of a large
many colleagues more or less "hip" on the cohomology of schemes, which include in
first up my five cohomologistes students, including, besides those I have named, Luke
Illusie and Jean-Pierre Jouanolou (*).

These three operations, and he will be fourth question, strike me as inextricably linked,
both in their underlying motivations, in their most tangible adventures. The first signs
discrete back to the years 1966 to 1968, but its most glaring manifestations are placed after my
"departure" in 1970. The departure and a general state of morals in the "big world" mathematical 571 (**)
created external conditions conducive for such a large-scale operation, probably unique in
its kind in the history of our science.

This operation aimed firstly to **discredit** most major **key ideas** I had introduced
math 572 (***) , and burying the **vision** unifying in which they were inserted; then, to discredit
or retract the **role of the worker** in the creation of those among the tools I had shaped in the
Dictation these ideas and inspired by the overall vision, which served as basic tools in the work of
Deligne and my other cohomologistes students; and finally, in a last stage, to appropriate authorship
568 (**). In the index notation, the functor Dualising (which I introduced in the context spreads in 1963, and which also
the subject of the presentation I-publishing SGA Illusie 5, where he managed to survive) is called "Verdier duality." This name
reappears

everywhere in the text (eg, pages 62, 103 -.. looking at happiness-the-lucky...). I swear I am not making!

569 (***) My name still appears in the bibliography, with the acronym EGA (it will come to substitute a text ad
hoc someday. . .). The name of Mebkhout is absent as well as the text of the bibliography. There©trace in all
volume.

570 (*) (2 May) should be made to add a fourth "beneficiary", I discovered recently only know Neantro
Saavedra, which was discussed in a previous note b. p. (Note (*) page 921).

571 (**) (May 2) There surely had a share double meaning: a state of degradation of mentalities (in which I myself
even participated before my departure) promoted escalating looting and débinage of my work by a group of my former
Students whose growing cynicism surely contributed in turn to create more or less generalized state of corruption that I
notes today.

572 (***) (May 2) for details on this, see Note "My orphans" (n ° 45) and especially "The tour of building sites - or tools
vision "(n ° 178).

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ideas and tools that have had the good fortune to be adopted by my students, or end up imposing despite
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boycott p. 935

that they had posed to them 573 (*).

This ended in 1982 with the publication of volume Lecture Notes 900, consecrating relearn
pearance patterns on mathematical public square, under a narrow form (compared to the vision
had emerged for me during the sixties) and under the fatherhood (implicit and obvious) Deligne.

She finally found its epilogue the following year in "the Praise of Death" three-pronged served in the plate
Jubilee of IHES, published to mark the twenty-fifth anniversary of its existence.

The discovery of the "mine" posed by these texts is May 12 last year, 574 (**), in the note "The
Funeral Eulogy (1) - or compliments "(n ° . 104) It continues almost five months later in note (n °
105) which follows, "The Praise of Death (2) - or force, and the halo 575 (***) I will confine myself here to remind them.
few words the spirit and all the salt of the "Praise" unusual.

This brochure (among others) a "portrait gallery", formed short topos on different present and past teachers of the institution celebrating jubilee. In the text (of the pen Deligne) that is me devoted text that is supposed to evoke a work, the word "cohomology" or "reason" is not pronounced. The note "scheme" either, or any other theory that suggests that I would have developed or theory I would have demonstrated and that might have been used. For cons, I am decked generously superlatives cage and other kindnesses sounding: "... gigantic task", "twenty volumes...", "greater natural generality. . . " 576 (****) "large

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Terminology attention. . . ", "problems. . . in the line that La- p. 936

Cait. . . become too difficult. . . "It is the burial at great fanfare and under the spotlight by the "Compliment" very sent huge and bloated as the deceased in question to "honor" the memory, and along with a fineness in the comic insinuation that decidedly lacking in clumsy ancestor. . .

In the guidebook dedicated to Deligne (and reviewed by it), nothing that would make suspect that I am to something in "the" demonstration of the Weil conjectures ("proverbial difficulty"), duly MON-tered hairpin. On the contrary, it is emphasized that "this result seemed all the more surprising" that had to be shown, so to speak, against a "series of conjectures" of my own (this decidedly Grothendieck did in fact never more!), which also (it is added, leaving no doubt as to what necessary to think) "are now as then unaffordable" (read: when I had the unfortunate idea state them. . .).

These two portraits minute, and a third component that complements remarkably (in one sentence lapidary three lines 577 (*)) are true gems, without doubt as unique in their kind among the Praise Corpse served with skill in honor of a "deceased" (still not died in this case!). They are searched, using the care they deserve, in three consecutive notes already cited (n ° s 104-106), and, 573 (*) (2 May) I note among these ideas and tools that I had introduced, which were buried and have come to dominate despite the boycott introduced by Deligne and my other students cohomologists: derived categories, the patterns (narrow version it is true) and yoga classes Galois Poincaré-Grothendieck (renamed "tannakiennes" for purposes of the Burial) the formalism of non-commutative cohomology around fields concepts, wreaths and links (developed by Giraud from starting ideas introduced by me in 1955).

574 (**) This is the day that had already revealed to me the massacre shamelessly from original seminar SGA 5, at the hands of Illusie and with the active support or the eager connivance cohomologists all my students, under the tender eye of the "Congregation in full". . .

575 (***) For an unexpected widening of the reflection on the Eulogy Funeral, see also the following note "Muscle and tripe (yin yang bury (1)) "(n ° 106), which opens at the same time the long reflection" The key to the yin and yang. "

576 (****) This French-breakfast negro is a truly priceless find, to evoke a comical way (and not mine...) The bloated and free bombinage a huge talker. . .

577 (*) I discovered this third installment in the reflection in the note already quoted "In Praise of Death (2) - or force, and the halo" - and it seems to me at once heavier meaning than the other two combined! It was he who inspired the name "The strength and

halo "given to this note.

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under the dynamic lighting most penetrating of the "reversal of yin and yang", in note (higher a few weeks) "The funeral of yin (yin yang bury (4))" (n ° 124).

18.5.4. (3) The APOTHEOSE ("coefficients Rham and 3-Modules ")

18.5.4.1. a.L@ncêtre

Rating 171 (i) (1 March and May 2-8 578 (**)) in each of these partial "four operations" I distinguish guées in my early burial is Deligne who obviously acts as a conductor (or rather, Grand Officiant to

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Funeral), with the more or less active participation of my other four students cohomologists, and with the connivance of a significantly larger group of mathematicians, all well aware of the situation (which obviously is not done to displease them...). This "conniving group" takes impressive and almost unbelievable proportions in the fourth partial operations

I am about to present to review.

IV Operation "The unknown service" (or "Symposium Pervers").

It is the operation of a **ppropriation the work of Zoghman Mebkhout** - the only mathematician (to my knowledge) who has assumed the risk, after my departure from the mathematical scene to figure "connateur Grothendieck ".

This operation continued over a decade, from 1975 to today. At the risk of repeating myself, I will first recall the historical context.

In the second half of the fifties, I had developed in the context of a formation patterns

ism of "coherent duality". These thoughts, motivated by the desire to understand the meaning and exact scope of the duality theorem of Serre in analytic geometry and especially in algebraic geometry 579 (*), had been pursued in solitude almost complete, not having the good fortune to interest anyone but I 580 (**). It is these reflections

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led me to gradually disengage the notion of derivative category,
p. 938

578 (**) (May 13) This note and the following four originally formed a single note, "The Apotheosis" (n ° 171), March 1. It also included the previous note "Jewels" (n ° 170 (iii)). It was taken up and expanded considerably between the 2 and 8 May, especially as regards the mathematical part, and split into four separate notes "ancestor", "The work..." "... and the bargain", "The day of glory" (n ° s 171 (i) to (iv)), in addition to the note "Jewels" already mentioned. He added to it the eight sub-ratings (n ° 171 (v) to (xii)) relating to the four notes in question, and the four sub-ratings (n ° 171₁ to 171₄) of April, making the story of the strange mishaps My friend Zoghman struggling with the "law of the underworld", as he me told himself. It is all of these sixteen notes (n ° s 171 (i) to (xii) and 171₁ to 171₄) that now constitute the part "Apotheosis" in "Four operation" (which is the fourth said Apothéose and - until further notice - last. . .).

579 (*) My first thoughts were placed duality within the analytic spaces, and predate those of Serre. By using duality techniques "évêtesques" and Lemma Poincaré-Grothendieck on \hat{A} operation (I had just show), I proved that if X is a Stein manifold, $H_i(X, O_x)$ (resp. $H_i(X, \omega_x)$) are Fréchet spaces nuclear, in perfect duality with H_{n-i}

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 (X, ω_x) (resp. H_{n-i})
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(X, O_x)). I did not think then to apply the same method to the case of vector bundles (not being myself not see this fact very simple algebraic, that is opérateur \hat{A} O_x -linear, extends to differential forms differentiable with values in a vector bundle holomorph), nor to complex manifolds other than Stein (only then that are familiar to me). The demonstration of his Serre duality theorem analytically in the general case, is practically the same as that which I had found in a particular case.

580 (**) Of course, the mathematician among all whom I would have expected an interest in my thoughts coherent duality, Serre was. He was interested, I seem to recall, by its widespread duality result in a coherent beam F (not necessarily locally free) on smooth projective X over a field k, identifying the dual of $H_i(X, F) \text{ Ext}_{n-i}^{O_x}$

$(X; F, \omega_x)$.

This gave an intrinsic geometric sense to a result "computational" FCC (which was of course intrigued and inspired) where X is the projective space. But apart from this, one of the first in my journey of discovery of duality, and yet close to what was familiar, Hair has always refused to listen, when he took me want to talk to her duality. I think I hardly tried to talk to anyone else, other (much later) Hartshorne, who made my ideas on a

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whose objects were as "the coefficient" in the natural homological formalism and cohomological spaces and varieties of all types, fitting into a first embryo of a formalism of "six operations" on ringed spaces (pending topos ringed). Four of these operations were already more or less familiar since my work from 1955 "On some points of homological algebra" 581 (*) the language of derived categories closely: with the notations that have emerged over the years following (along the view categories derived), it is the "internal" operations

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and \otimes

Rohm (Version "functor total derivative" of gold beams formalism T_i and Ext_i

introduced into "Tohoku"),
and "external" Lf^* and Rf^* (inverse and direct images "on Leray") forming two couples of functor (or bifunctors) assistants. If f is a morphism "immersion" $i: X \rightarrow Y$, there it still adds couple assistants functors $Ri_! Ri_!$, Embodying respectively the operations of "zero-extension" and "local cohomology racks in X". The common thread in my thoughts is to arrive at a **theorem duality** (overall, at a time when there was no local version yet...), generalizing the proven by tightening to a locally free coherent beam onto a smooth projective variety over a field. It was to give a formulation which would apply to any coherent beam (or such complex) or even a quasi-coherent beam without assumption of smoothness or projectivity X (keeping only cleanliness, which seemed essential 582 (**)). Moreover, in analogy with my thoughts on the theorem

Riemann-Roch, I felt good statement was concern, not a variety of a body, but a mortal own morphism $f: X \rightarrow Y$ patterns, by any elsewhere. It approximations

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successive at p. 939

During several years of work 583 (*), the global duality theorem gradually settles in his superfluous assumptions, along with the notion of derived category also out of limbo tipped to take concrete form, and give the formalism and set an **intrinsic sense**, failing which I would have felt quite unable to work! It is first to reach a clear statement global duality that fully satisfies me, I introduce the formalism of **complex dualisants** and clears the **bidualité theorem**, and I discovered (under suitable assumptions noethériennes) the existence of a complex Dualising injective essentially canonical, I call the "**residual complex**" and variance theory to it. A first formulation of the overall duality theorem, which at one time seemed to be "good" was that the functor f^* was switching to X and functors dualisants Y (for two complex dualisants that "correspond"). It was only later that I discovered the variance theory for complex alone dualisants (via residual complex) is spreading through a completely new kind of functor, the functor $f_!$ where "unusual mirror image" of a local nature X . Therefore, also appears the final wording of the duality theorem for proper map f : this new functor is **right adjoint** to f^* , so fitting in a series of three adjoint functors Lf^* , R^* , $R_!$.

To have a fully completed formalism, it only lacked a description of a functor $f_!$, beautiful seminar at Harvard, published in 1966 ("Residues and duality" by R. Hartshorne, Lecture Notes in Mathematics, n° 20 Springer Verlag).

581 (*) In Tohoku Mathematical Journal, 9 (1957), p. 119-221.

582 (**) On this subject the note b. p. (*) Page 940, below.

583 (*) It goes without saying that during the "years of work", I had many other irons in the fire that the only issues consistent duality! I am so familiar with the fundamentals then known algebraic geometry (with point Serre to FCC as a main reference), with the issue of the Weil conjectures, and formalism intersection multiplicities learned in a course of Serre, where he developed his idea of the "sums of alternating tor"). this would trigger me in 1957 on the K-theory of formalism and the theorem of Riemann-Roch-Grothendieck, very close (by its mind) duality of my reflections.

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"Direct image to clean surfaces", for a morphism (separated) of any finite type, generalizing functor f is already known when dipping, reducing to Rf^* proprietary f , and forming with $Rf_!$ a couple functors Rf assistants $!Rf_!$. I do not remember being afflicted in the fifty years of this imperfection of a formality whose general, beyond the schematic consistent duality or analytic,

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still eluded me 584 (*).
p. 940

This gap appears to me fully only in 1963, when I discovered that in the context of cohomology spreads (to "discrete" coefficients) just born, is a formality in all points similar the coherent formalism, with more precisely a functor $f_!$ ((direct image to clean surfaces) defined for **any** separate morphism of finite type. Moreover, it is not guiding me step on the work I had done in the coherent case years ago (without interest anyone other than me), then I come (in Within a week or two to break everything) from the two base change theorems-key, to establish complete formalism said "six operations". This is a duality formalism incomparably sophisticated and powerful than the one we had previously in the transcendent context for the only topological varieties (and local systems hereunto), and satisfying even the formalism which I had succeeded in consistently duality.

My consistent duality works are exhibited in the well known seminar of R. Hartshorne "Residues and Duality" (only published in 1966) 585 (**), those

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on the duality spreads in one or two chapters SGA
p. 941

4, and especially in the seminary SGA 5, which was entirely devoted to it. And it is at time of writing only lines that I realize, suddenly, that apart from a few sporadic-precursors texts (in Cartan and Bourbaki seminars fifties), there is no systematic text **published**: and my pen, exposing the formalism and yoga duality, either in coherent context, or the context spreads. The presentations SGA 4 on this theme, centered around the single "duality theorem global "to separate morphism of finite type (establishing that $R_!$, $R_!$ are added), were written

584 (*) Of course, I had already realized that in the case of an open immersion $f: X \hookrightarrow Y$, where the functor $f^!$ coincides with the functor Lf^* of "restriction X ", it admitted of **not** (in the context of quasi-coherent sheaves) Assistant left. The assistant left Rf_* usual $!$ ("zero extension out of X ") does not retain the quasi-coherent. On the other hand, I also verified that apart from quasi-coherent assumptions and even clean morphism basic point, there is no "duality theorem". Thus, the impossibility of defining an $R_!$ under general assumptions me seemed sure and in the nature of things.

This is Deligne which was found in 1965 or 66 (just landed!) That one could make sense of $Rf_!$ and recover Theorem consistent duality for a separate morphism not own finite type, provided to work with coefficients which are (complex) **pro-beam** quasicohérents. This beautiful idea has not yet had the fortune that could have been wait - no more than the original formalism consistent duality, it allowed to perfect.

Deligne has successfully taken this idea in his essay of a building "coefficients Rham" in the diagrams algebraic characteristic zero, promising test it nevertheless dropped to profit and loss as soon after my departure 1970. It is Mebkhout six years later, it was reserved to identify "the" good class "coefficient Rham" (Crystalline) I anticipated for ten years then. . .

585 (**) The seminar in question (published in Lecture Notes in Mathematics, n° 20, Springer Verlag) describes most of my ideas on the formalism of coherent duality, centered on the formalism of the six operations, bidualité, and theory "Residual complex" (which are canonical injective representatives complex dualisants). These ideas were taken up in the analytical framework by Verdier and especially by Ramis and Ruyet. The seminar Hartshorne does not, by cons, various finest developments closely linked to this formalism: a theory of residues (for finitely patterns and dishes on any base), and a cohomological theory of different, which have never been published not (to my knowledge). I also developed in the 50s formalism of "determining unit" perfect complex, which was eventually be included in SGA 7 and whose editor (following the example already set by some "editors" SGA 5) has withdrew, after two years.

Finally, I note that in the wake of my thoughts coherent duality fifties, I had been led to so introduce and develop so slightly purely algebraic version of the **cohomology of Hodge** and that of **De Rham**, and particular formalism cohomology classes associated with an algebraic cycle (assumed smooth at first), and a theory of Chern classes, on the model of the one I had developed theory of Chow.

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by Deligne two or three years after the seminar, from my handwritten notes 586 (*). As for the seminar SGA 5, it was practically sequestered for eleven years by cohomologistes my students to be finally published (**after** the text-Kick Saw Deligne 1977) generously and unrecognizable looted, ransacked by care of "editor" -SiC Illusie, the entire devotion of his friend prestigious 587 (**). That, in this ruin what was

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one of the best seminars I have developed and with USG 4, the most crucial of all p. 942 in my work surveyor - this is the only written record of my hand, or at least according to notes my hand, which evokes so slightly formalism and yoga stretches of duality, and, beyond this yoga yet partial, and irresistibly suggested by him, one of the six operations. My students took care to erase any trace of the latter yoga 588 (*), suggestive of exceptional strength that had inspired my work on cohomology throughout the sixties. This was truly the "nerve" in the thrust "types coefficients " 589 (**), the yoga patterns is the soul...

Such an absurd situation where an important advance in science, embodying in a vision nouvelle is eradicated by the care of the very people who were the first beneficiaries and custodians, could not be established without this other situation, she also highly exceptional, created by my departure subit and the conditions that surrounded. Also, take the turn that went events was

prepared even before my departure and throughout the sixties by the situation of division where I found, cornered one hand by endless tasks of foundations that I was the only one able or vourdormouse assume 590 (*), and secondly constantly approached with questions on topics often far

586 (*) This wording Deligne is placed **after** the seminar SGA 5. Besides Deligne did not follow my notes to the letter, but variant of my method, Verdier was introduced in the context of locally compact spaces in 1965 (resuming essentially the model spreads). At that time there was ambiguity in anyone's mind about the paternity of all main ideas in duality, let alone on the paternity of duality spreads; it would have occurred to anyone (not even Deligne surely!) That to follow a variance of my original method may over the next two decades be used to fish in troubled waters, and assign Verdier duality spreads (Deligne while pocketing the rest of the "package" étale. . .).

587 (**) See the note about "The four maneuvers" (n° 169 (ii)), and sub-notes following the.

588 (*) (May 8) I just instantly browse my handwritten notes for the first three presentations SGA 5 rating has quillusie kindly return me last year to my request. (He is the only ex-editors who took the trouble to return my notes I had entrusted to them ...) The first set consisted of a comprehensive "overview" of what had been accomplished in the previous seminar SGA 4, regarding the cohomological formalism spread and its relationship to various other contexts. The

second exposed develops extensively formalism "abstract" six variances. There is essentially a form full, but still effort to identify compatibility between canonical isomorphisms. (This was a kind of task more technical, unnecessary at a time when I wanted above all to "pass" this duality yoga, which I felt all strength.) Needless to say there are traces in publishing-Illusie neither one nor the other exposed. I had come to believe that (monopolized by

the more technical aspects of the seminar) I probably failed to expose the unifying vision. In retrospect, and a year almost to the day after the discovery of the "massacre" of the seminar SGA 5, I seem to have pinpointed today what was the **nerve** even to this operation-killing. This is not the disappearance of such or such other presentations, annexed by Deligne, looted by Verdier, saved from disaster by Serre torn a "whole" harmonious, for the sole pleasure it seems, by a Illusie. But it is the soul and the same nerve of the seminar, the constant and pervasive thread all Throughout this vast work done by one - he qu^oIllusie has sought to eradicate SGA 5 without leave (almost) no trace. The name "six operations" is absent from the seminar, as it is absent from the work of my students, who had to tacit agreement not to say those words in the very rare occasions when one or the other is still faced with the worker said the deceased, which (while he is deceased) though it should deceive. . .

589 (**) The key idea, too, has been eradicated and forgotten by my cohomologistes students. This is one of the first who will be again imposed on me from the first retrospective made "fifteen years after" my work and its vicissitudes, in note "My orphans" (n ° 45). This note, whose name affects more just and deeper than I would have dreamed then, has been written yet even before the discovery of the "Burial" (literally and strong sense of the term). The same key idea of the six

operations and "cohomological coefficient" comes across as almost a leitmotif when thinking in Crops and sowing denies reconnects with the fate of my work by those who were my students. See in particular the notes "The melody in the tomb - or sufficiency" (developing so slightly the "melody" or theme variations, types of coefficients), and "The tour of building sites - or tools and vision" (Notes n ° s 167.178).

590 (*) I remember it working foundations of vast dimensions ended abruptly and until today, from the day of my departure. This is an eloquent sign of this "misunderstanding" I talk about in the note "The Nest Egg" (n ° 169 (v)). All

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the first foundations which absorbed me in the moment, and by the same token, often, more intensely and more directly fascinating ⁵⁹¹ (**). Rarely, even among the themes that I had let myself leisure deepen and develop (as that of duality), I found the leisure also write in proper form for publication cation the results of my work (in accordance with the high standards that are mine). Therefore often I was taken to let others (to whom I was totally confident, certainly) the task of drafting a (As was the case with the theme "duality" in both the coherent framework that discreet spreads), or develop such initial ideas I knew fertile (like the derived class, or coho-ogy crystal, to name but a few among many). In a "normal" circumstances, the a good faith response to the confidence that I was addressing myself to motivated students to learn my Contact their profession and major bases for their work to come, everything was for the best,

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and for more

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good of all concerned, including the scientific community. But it is true that this situation unusual put their hands (without ever before last year the idea has touched me...), and especially after I left, a **power** considerable. Immediately after my departure (if not even before...) Some among them were quick to abuse this power, to retract the work and vision, run down the worker, and take advantage of such tools fashioned by him they felt they use.

My consistent duality works have never enjoyed great popularity, it seems ⁵⁹² (*). On the other hand, those of duality spreads attract immediate attention. But it would be more accurate to say I believe that what attracts attention is that someone has "managed", no matter how, to demonstrate in the context spread the analogue of the Poincaré duality, one that was well known to all for almost a hundred years I imagine in the familiar context of oriented topological varieties. So this was a "good thing" for étale (there was little doubt that it was "good" for the Weil conjectures ("a difficulty proverbial "...). This means that the mathematical public abreast of the famous conjecture, reacted in "consumer", which is reluctant to recognize a new and profound vision and assimilate, and retains a "result" to look familiar. More than twenty years later, I find that this vision of strength six types of operations and coefficients, speaking in a formalism amazingly simple, remains unknown to all (with the exception of the lone worker), when it is the object (when someone dares to make some allusion y) rigouillards ironic comments or ⁵⁹³ (**). Such scattered ingredients my range are used here and there without referring to my person (and fathers spare any found), and especially the bidualité formality, since the great rush on the intersection cohomology after memorable Symposium (in 1981) that it will be question. But the

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vision , a childlike simplicity and

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perfect elegance, which nevertheless gave eloquent proof of his power ⁵⁹⁴ (*), is ignored, the subject of the world was ready to bring her furniture and settle permanently in such houses I had built - but stir and handle trowel and plummet to build on and develop, and it was only under the pressure peremptory needs, there was nobody. . .

591 (**) If I had listened to me, how often would I stand there the endless tasks of foundations that I coltinais service all to get into the unknown adventure that constantly calling me, true - instead of letting other fun to survey the new land I had discovered. Today I see that those lands are still virgins, or nearly need, and those in which I thought I saw the pioneers had since before I left already chosen to be comfortable annuitants. . .

592 (*) As I pointed out in a previous note of b, p., This work has inspired those Verdier, Ramis, in theory Ruguet coherent analytic spaces. Clearly "always" (for me at least) that the same formalism can only Inside the rigid-analytical context (which, too, is still at the stage of childhood by the echoes that return to me).

Moreover, Mebkhout told me that the Japanese school analysis was quite inspired by "Residues and Duality" by refraining Besides ever name the worker. For these times, the opposite would have been surprising. . .

593 (**) For details and comments, see sub-note "Unnecessary details", n ° 171 (v) including part (a) "packets thousand pages. . .".

594 (*) For details about these "compelling evidence", see sub-note "Unnecessary details" (n ° 171 (v)), part (b) "The machines do nothing. . .".

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18.5. THE FOUR OPERATIONS (a corpse)

disdain for those who prefer to be despised (and plunder...), rather than understand.

If what I did with my hands and my heart has been ahead of its time in twenty years or maybe fifty, not by immaturity of the **mathematics** that I found by putting your hands dirty, there is this thirty. It is the immaturity of men ⁵⁹⁵ (**). And it is at that immaturity has faced my posthumous single student and successor, Zoghman Mebkhout. I was very fortunate, before leaving in 1970, are to be confronted in the form of misunderstanding, which never is departed provisions that remained friendly. Zoghman Mebkhout arrived on mathematical place more time than he recklessly continued the work, was entitled, he, after misunderstanding and disdain, and when the value of tool u **n** its results was finally recognized the malice of his elders and with all the weight of the unfairness of time but I anticipate. . .

One of the most important discoveries I have made in mathematics "and remains virtually ignored by all, was that of **the ubiquity** of the duality formalism that I had started to develop in the fifties: the "formalism of the six variances and bidualité" applies to both coefficients "Continuous" originally envisaged ("coherent" theory), and "discrete" coefficients. This ubiquity is appeared as a surprise hardly believable in spring 1963 - thanks to it, and nothing else, I able to develop a duality formalism spread and reach what I call the "master" of the cohomology spreads. And from that time, I was intrigued, not dwell too it is true, by the issue of a theory would be "common", either in the schematic part, or complex analytic or even topological - a theory that "coifferait" both types of coefficients. The De Rham cohomology (an old friend me. . .) Gave a first indication in this direction, suggesting to find a "common principle" in direction "modules integrable connection" (or "layered modules" maybe...). These give birth to a "De Rham cohomology" (discrete coefficients, morally), which is thus set

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in connection with the coherent cohomology. This approach later suggested to me the idea of "crystal" and ^{p. 946} of "crystalline cohomology" without sufficient yet (it seemed) to provide the key to the description a complete formalism of the six variances for the types of "coefficients", which in a suitable way, in-globeraient both discrete coefficients ("Building"), and continuing coefficients ⁵⁹⁶ (*). It seems not any of my students have been able to feel this problem ⁵⁹⁷ (**)

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with the sole exception of Deligne. He devotes a page. ⁹⁴⁷

595 (**) For a primer thinking about it, see sub-note "Freedom..." (N ° 171 (vii)).

596 (*) As I write this, I remember about it was still unclear. It was revived later, and I come back in a more detailed in sub-note "The absurd questions" (n ° 171 (vi)).

597 (**) I had mentioned this problem to Verdier, after he developed (as I had suggested) the duality theory topological spaces (or at least a theory of embryo), on the model of the one I had developed in the context spreads (see on this subject the subnotes n ° s 81, 81). This was to be the mid-sixties. Obviously it did not "tilt" then - the same sense of the question (a bit vague perhaps, it is true) seems to have escaped him. Yet surely I had mention the De Rham cohomology, as differentiable complex analytical, which puts relationships and Serre duality Poincaré duality, on either type of coefficients.

(May 14) Moreover, from the fifties I knew we can generalize the duality theorem of Serre in the case of a com-

complex of differential operators between locally free sheaves onto a clean and smooth scheme, so as to encompass also De Rham cohomology (so morally cohomology with discrete coefficients). So this is a result of duality very close to that of Mebkhout in the analytical framework, which will be discussed in the following note. I had not pursued then this path, especially, I think, because I could not see how to make a "derived class" suitable with complex differential operators, for lack of a good concept of "quasi-isomorphism." It is also true that isolation where I worked on issues (coherent cohomology) that visibly interested nobody else in the world than me, was little incentive to cram additional generalization (with differential operators replaced morphisms linear) over those I had already emerged in my corner, in previous years. I was ready yet from the perspective of Mebkhout where passage to the corresponding 3-modules (the components of a complex of differential operators) gives a key to a perfect simplicity, to build the derived class needed. In 1966 Moreover, (but without realizing it so clearly) in my hands a dual perspective, that would have allowed me to do a class derived sheaves "pro-laminated modules" (an idea later developed by Deligne in his draft of a theory coefficients De Rham, which it will be questioned). Indeed, by associating with coherent pro-Module Module 739

seminar a year (with the IHES, in 1969/70 I seem to remember) to develop a formalism which allows him at least for one type of scheme X over a characteristic zero k , describe cohomology spaces (called "De Rham") which, in the case where $k = \mathbb{C}$, restore the "cohomology Betti ordinary complex (defined by transcendental way). The coefficients he worked with were of "layered promodules" and complex such promodules. It was not clear yet if these coefficients would fit into a formalism of the six operations 598 (*), and Deligne has declined to pursue this path. If I remember correctly, that was missing above (*) to give confidence, it was a description in terms purely algebraic (with blows of coherent modules or procohérents and laminations), valid so on any base of characteristic zero, the category of \mathbb{C} -vector bundles "algebraically Building "X- 599 (**), which is defined by transcendental path when the base body is the body \mathbb{C} complexes.

18.5.4.2. b. The work. . .

Rating 171 (ii) The work of Mebkhout beginning in 1972, are placed in the transcendental context (And technically difficult) analytic spaces. It is in almost complete isolation that become familiar over the following years with my work on cohomology and formalism derived categories 600 (***), left behind by those who were my students.

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A conductive wire which

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gradually takes a leading role in reflection, is a striking parallel between duality continuous and discrete duality. The latter had meanwhile called "Poincaré duality-Verdier" without provided that person in the big world (and certainly not the new "father" Verdier) do not mine question a deeper reason for this parallelism. It is the reign of view "utility" and short view, merely using the tools already ready I had created, without asking any questions - especially no vague question, if not preposterous question is not mentioned in any published text, not even (and I realize that I am here to blame...) in those of my pen 601 (*).

its **principal parts of infinite order**, which is provided with a canonical stratification or associated with a complex of operators

a complex differential laminates such promodules whose crystalline hypercohomology is identified with the hypercohomology zariskienne the envisaged complex differential operators. (See my presentations "Crystals and the De Rham Cohomology of schemes "(Notes by I. Coates & O. Jussila, in ten papers on the cohomology diagrams (p 306- 358), North Holland. - especially by 6.) the notion we can define the "quasi-isomorphism" to a morphism (differential) between complex of differential operators, as usual, in terms of the associated complex laminates promodules.

598 (*) Again, my memory was fuzzy, and there is an error - it was clear a priori here for heuristic reasons transcendent nature dante, it **should** be a formality six operations. (See, for details, sub-note "... And hinders" n ° 171 (viii).)

My mistake was due to a deliberate visibly (flower of consciousness) to rationalize, to make sense of something that might seem inexplicable, namely the abandonment by Deligne a search direction "safe" and rich in promise. The reason indeed is not mathematical in nature!

599 (**) I recall that this notion of constructability was introduced by me, among many variations (algebraic, real analytic etc.) from the fifties, at a time also when I was strictly only one interested in these Questions. (See my comments last year, in the sub-grade n ° 46 3 .)

600 (***) (May 14) said Mebkhout me since those first readings of the mathematical literature, around 1972, were works of Japanese authors of Sato School. He struggled, he told me, to navigate, it seemed terribly complicated. There he found a reference to the book of Hartshorne "Residues and Duality", the reading was for him true relaxation. It is true that this book is beautifully written! The few words of introduction that I had written for this book, citing the ubiquity of formalism that is developed there, have inspired many. It is from there that he began to become familiar with my work, which is later became his main source of inspiration. In all these works and

exposed, he takes care to state clearly that source.

601 (*) (May 14) Yet I remember that during the seminar SGA 5, I constantly had in mind the ubiquity of formalism I was developing, and I did not miss an opportunity to point out the possible variants in such other contexts, 740

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The same formulation of common formalism is an essential use of derived categories. mebkhout in is his constant work tool against the fashion wind and scorn of his elders, starting with one that (it is unclear if it is willingly or unwillingly...) is then shown in "father" of those categories, always know Verdier. Compared to the arsenal that I had introduced the new ingredient essential Mebkhout is microlocal analysis Sato and his school. Specifically, Mebkhout borrows them concept of three-module on an analytical complex manifold (equivalent to the concept of "modules crystal" I was introduced to 1965-66, which has meaning in wider contexts, including singular varieties), and especially the concept of 3-consistency and delicate condition holonomy on a coherent 3-Module. Moreover, it is an essential use of a Kashiwara theorem of 1975, that cohomology sheaves of differential operators complex associated 3-Module 0

holonomic are p. 949

Plot analytically. It was a point of view and the results I had no idea before Mebkhout not talk to me about it two years ago, and Deligne was ignored as much in 1969-1970, when his thoughts then were not followed, to a formality coefficients De Rham. This is **putting together the two currents of ideas** that Mebkhout reaches a common understanding of the two types coefficients of a complex analytic manifold smooth X, in terms of complex differential operators tial, or (and more specifically, in the most flexible language 3-Modules) in terms of complexes 3-coherent cohomology modules 602 (*). This is his great contribution to contemporary mathematics. More specifically, if X is a smooth complex analytic space, designate by Cris * coh (X) sub

full of the category derivative $D^*(X, \mathbb{C})$ formed complexes \mathbb{C} -modules cohomology \mathbb{C} -consistent by $Cons^*(X, \mathbb{C})$ the full subcategory of the category derivative $D^*(X, \mathbb{C})$ formed C-vector bundles on X complex to analytically constructible cohomology, and finally $Coh^*(X) = D^*$

$coh(X, Y, X)$ Full subcategory of the category derivative $D^*(X, Y, X)$ formed complex O_X -modules coherently cohomology. Mebkhout highlights fundamental functions $Cons^*$

$coh(X, C)$

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M

((

PPPPPPPPPPPP

$Coh^*(X)$

NOT

xxpppppppppppp

(Meb)

$Cris^*(X)$

where the right functor N is the functor "circular", derived functor total extension of scalars the obvious inclusion $O_X \rightarrow \mathbb{C} \otimes O_X$. The functor left M, or "**functor Mebkhout**" is likely much deeper 603 (**). It is **fully faithful**, and its essential image is the full subcategory $Cris^*$

coh formed complex of $\mathbb{C} \otimes O_X$ -modules beam not only coherent cohomology, but more "holonomic" and "regular". These are subtle local conditions, first introduced by Sato School, the second ad hoc defined 0

by Mebkhout 604 (*), based mainly (said he) my p. 950

comparison theorem between algebraic cohomology De Rham cohomology and analytical De Rham for ideas and techniques that I developed as part of the discrete étale. It just seems incredible that I have not mentioned during the oral seminar, the problem of a synthesis of two types of factors, not least in the final presentation on open problems, also disappeared body and well-publishing massacre. Needless to say that no mention to such a problem is in this edition, carefully purged of anything that does not fit with the label rigor "volume technical digressions." . .

(May 19) See also in this sub-note "The dead pages" (n ° 171 (xii)).

602 (*) For details about the language of 3-Modules, his relationship to the complex differential operators and the

crystals, see sub-note "Five Photos (3-modules and crystals)," n ° 171 (ix), part (a).

603 (**) For a description "explicit" a closely related functor M^∞ , in the context of 3^∞ -modules, see sub Note cited above n ° 171 (ix), part (b); "The formula of God."

604 (*) The "regular" name is taken, of course, the classical language for "regular critical points" equations Differential functions of a complex variable. If $i: U \hookrightarrow X$ is the inclusion of complementary $U = X - Y$ of a 741

complex (ie the cohomology complex Betti). These conditions (and this is what for me is their main interest) are in fact "purely algebraic", keeping a particular direction if X would be replaced by a finitely scheme (smooth if you like, but it's not necessary) on a characteristic zero any.

The functor Mebkhout million (or "functor of God" 605 (**)) describes itself as virtually the opposite functor

$$m: \text{Cris}^*(X)_{\text{hol.rég.}} \rightarrow \text{Cons}^*(X, C)$$

defined by

$$m F \mapsto \rightarrow CD(F)$$

dfn

$$= \text{Rhom}_3(O_X, F),$$

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restriction of the functor (defined on Cris^*

$\text{coh}(X)$ as a whole) associating with each complex of 3^X -modules (to

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coherent cohomology) of the complex differential operators (or "De Rham complex") associated with 606 (*).

The constructability Kashiwara theorem implies that when F is holonomic (and a fortiori, when regular holonomic), $DR(F)$ is in $\text{Cons}^*(X, C)$, which allows to define the functor m - a definition

Although obvious, childish, and yet that person apart Mebkhout (and until the "great

rush "still, five years later ...") had thought 607 (**) (He would have required that recalls a

some yoga, the derived classes, everyone with one accord decided to bury,

alongside the deceased who had introduced among other bombinages the same style ... 608 (***)).

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In addition,

p. 952

divisor Y in X , regularity as defined Mebkhout (for a 3 -Modules C^X complex), "along Y ", is written in saying that the morphism

$Ri_{\text{mér}}$

$$* (C^U) \rightarrow R^*(C^U)$$

of the "direct image meromorphic" of the restriction $C^U \subset C^X$, to the ordinary direct image, induces a quasi-isomorphism for complex De Rham associated.

In the case where F^U is reduced to a "local system" ie a beam O_U -consistent integrable connection, this concept equivalent that of Deligne. This is clearly inspired, too, my comparison theorem (with the difference that

Deligne has custody report, while Mebkhout constantly takes care to clear his sources). mebkhout

only became aware of the notion of Deligne after having introduced its own definition, which is transcendent nature. he

had not previously sought a purely algebraic description of his condition. The Working Deligne showed that in the

particular case under consideration, the algebraic condition Deligne implied that of Mebkhout Mebkhout and verifies that the reverse is

also true. This therefore provides the key to a purely algebraic description of the regularity condition Mebkhout for every 3 -modules of complex coherent and holonomic cohomology.

Mebkhout told me that the Japanese have a concept of "micro-differential system with regular singularities", they used in a completely different spirit (for analytical purposes, not geometry). After the rush on the right of the theorem

God, this was a ready means (among many others) to muddy the waters and to retract the pioneering work

of Mebkhout. It seems that the two notions are equivalent - and it's likely, given the deliberate mess in the state

about, that nobody has ever bothered to check. Mebkhout never worked with the concept of such regularity

he had introduced in 1976 (and which appears in his thesis, submitted two years later).

605 (**) For the origin and meaning of the name "theorem (or functor) of God", see note "The unknown service and theorem

God" (n ° 68) also written before that I have knowledge of the hoax Symposium Pervert, nor yet

the "Burial in all its splendor."

606 (*) See note on this subject already quoted "The five photos (crystals and 3-Modules)" n ° 171 (ix), part (a), "The album" coefficients De Rham "".

607 (**) (May 7) It is necessary to call the **two** functors m, M , setting in one direction and the other equivalence classes

crucial, the **functors Mebkhout**, and even for the functors m^∞, M^∞ related to 3^∞ -modules. (Regarding the latter,

see note cited "The five pictures" (n ° 171 (ix), part (b).) In composing these functors with functors natural dualisants it

Two other quasi-inverse functor pairs from each other, (δ, Δ) and $(\delta^\infty, \Delta^\infty)$, contravariant them, and more convenient

in some respects (see note cited). These are the four " **contrafoncteurs of Meckbhout** ".

608 (***) (7 May) More than once Meckbhout has been treated as a funny, which believes that writing arrows between derived categories (Asked for a little!) And Rohm is doing math. . . He did not shake left provided, any more than I in time when I introduced (in 1955) the Ex _i global and local modules bundles (pending with Rohm or without underlined), which gave seasick at all justified and the most express reservations to me (at least 742

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condition of **regularity**, beyond that holonomy, was released by Meckbhout "on measures", such so precisely that it becomes reasonable to expect that the functor m and small , is fully faithful and even an **equivalence of categories**. He arrives at this conviction in 1976. He eventually prove, under a form very close at least 609 (*), in his thesis in early 1978.

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It©mainly there **the** great new theorem provided by Meckbhout representing the culmination of eight per cent. 953 Years of persistent work, pursued in complete solitude. It contains, in one pithy statement, a whole range of profound results, increasing generality, patiently released and proved one by one, between 1972 and 1980. For some great milestones in this solitary journey to discover a "philosophy" in new the cohomology of varieties, I refer to the sub-note "The three milestones - or innocence" (n ° 171 (x)). In the this note, my remarks will mostly describe briefly the new panorama that has, at After this first step of the long labors of the solitary worker Zoghman Meckbhout.

The crucial fact (clearly recognized Meckbhout already in 1976) is that the category $\text{Cons}^*(X, C)$ (from Nature "topological") can be interpreted, with the functor Meckbhout million, as a subclass full of Cris category *

$\text{coh}(X, C)$, which has meaning within the scope of Algebraic Geometry "abstract trafficking"; it may be interpreted as" morally "as a kind of" derived class "formed with complex differential operators in the ordinary sense 610 (*) The full subcategory in question, defined by until 1957, the year of the Riemann-Roch-Grothendieck. . .).

All this has not prevented Meckbhout to trust their own intuition, and follow where it led him. He started to work bare hands, without experience, without help from anyone. He was **sure** that he sensed the theorem must be true - all indications that he had in hand were concordant. With a little experience, it would have been obvious even he had any in hand to prove it, with the now standard means that the first of my students come to apply in a jiffy. But reduced to its own resources, the theorem seemed dizzyingly remote and inaccessible - is he barely dared hope he never demonstrate!

If indeed struggled to prove it, for nearly two years is that it did not have the advantage, as my students had been, to be supported by a caring elder, and get to my touch a certain standard of technical unscrewing of building beams, attached to the resolution of singularities to Hironaka. The statement that generated is a profound statement

certainly, and the proof is too deep, but standard in nature today. In retrospect, it appears that the difficulties he had to overcome was mostly psychological, rather than technical: working in counter, and fully reduced to his own lights. . .

609 (*) (May 5) In his thesis, Meckbhout states and proves the equivalence theorem corresponding to 3^∞ -modules, and gives remarkably explicit expression of the quasi-inverse functor M . On this subject the sub-171 score (ix) (part (b)), and also sub-note "Hatching a vision - or the intruder" (n ° 171 ₁). Meckbhout had succeeded in 1976 in the belief that the two functors m , m^∞ (thus also the function i expansion scalar, referred to in the last sub-note quoted) are equivalencies, and the explicit form of the quasi-inverse functor m^∞ . The result contained in his thesis concerning m^∞ , of 1978. From that moment, he hands all the ingredients for the demonstration (analogous, but with difficulties Additional technical) in the case of m .

View the general indifference that greeted his thesis, passed in February 1979, it does not then attempt to write a demonstration in shape for the case of m as well. The ingredients are the same as for m^∞ , and were inspired demonstration My comparison theorem for the De Rham cohomology of complex algebraic varieties (of which he had taken knowledge in 1975), and SGA 5 Breakaway techniques (he learned in "good reference" Verdier, while Seminar 5 USG continued to be carefully sequestered by the care of my dear cohomologistes students). Only end 1980, given the importance that took his ideas for the demonstration of the conjecture Kazhdan-Lusztig, he takes the trouble write a detailed demonstration in the case of m (which is not available in advance of a quasi-inverse functor). This demonstration is published in "Another equivalence classes", *Compositio Mathematica* 51 (1984), p. 63-88 (manuscript received on 10.06.81).

I stress about that between 1975 and 1980 (apart from a hint of a few lines of Kashiwara in 1980, which will be issue in the sub-note "The Mafia" n ° 171 ₂), nowhere in the literature outside only work Zoghman Meckbhout, there is no question of the functor m or m^∞ nor a "philosophy" of duality, connecting precise discrete coefficients Building analytically, and complexes of 3-regular holonomic modules, or complex of 3^∞ -modules holonomic. As we shall see, when at last the importance of this relationship is recognized with "Kazhdan-Lusztig" and rush on the cohomology

of intersection (under the guidance of Deligne), the name of Zoghman Mebkhout is removed without fanfare by agreement hushed, smiling and discreet, and a ruthless efficiency. . .

610 (*) For the precise relationship between the two points of view, I refer to the sub-grade widely cited "The five pictures" (n ° 171 (ix)), part (a).

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holonomy of Condition (Sato) and regularity (at Mebkhout) is obviously **the** right category of "Coefficients Rham" I planned since the sixties, and still missing in my range in characteristic zero, to complete and to interconnect as a single large fan, the "coefficient l-adic" I was released in 1963; it is also the category Deligne had tried to enter the late sixties, but there (it seemed) in a way that satisfies him. This class, obviously, will have a key role to play in algebraic geometry (particularly in the description of the category patterns on a basic scheme X . . .). The name that is required for this category, for me at least, is that of "**class coefficients De Rham - Mebkhout**" ^{611 (**)}, denoted $\text{DRM}^*(X)$ (or $\text{Meb}^*(X)$), or $\text{DRM}^*(X/k)$ (or $\text{Meb}^*(X/k)$)

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in the schematic part, when X is a scheme of finite type over a field

p. 954

k characteristic zero ^{612 (*)}.

It is via the functors diagram (Meb) above, which summarizes the philosophy of Mebkhout (dating back to 1976 and established by him in subsequent years), the **consistent crystalline coefficients** (ie objects Cris^*

$\text{coh}(X)$) may be regarded as a "common generalization" "discrete" coefficients (Building) and "continuous" (consistent). The class formed by the first is identified in all cases by Mebkhout functor M (a functor profound nature), to the **full subcategory** of the category crystal-consistent line formed coefficients De Rham-Mebkhout. The situation is worse for the functor tautological N , which is not fully faithful. But to comfort us and to complete the picture, we may be added that in each of the categories in the presence, there is a **functor dualizing** natural Don-
ing rise to bidualité theorem ("trivial" O for x -modules 3 and x -modules, and using the strength the resolution of Hironaka singularities in the case of vector Building C-beams) on the model I had cleared the coherent framework (commutative) First, in the discreet then spread (in 1963) ^{613 (**)}. That said, the two functors

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M and N are compatible with natural functors dualisants ^{614 (*)}.

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611 (**) The general misunderstanding of the critical role and significance of this category already well reflected in the fact that it has not received name or terse notation. Instead (in texts that I looked) authors merely to vague references to "regular holonomic differential systems" (well that end it find!), "construction" or "Correspondence" or "relationship" (supposedly well known) between them and beams (E-buildable - and still, is it necessary to say, strictly ignoring the one who was the lone craftsman, setting in motion all the great hype the new cream pie beautiful people, "the" 3-Modules".

612 (*) In the algebraic case, we must impose, in addition to the condition of "regularity" Local, a condition of regularity "to infinity" (In the case of a non-own variety) to find the "good" coefficients De Rham - Mebkhout that will match, if the base body is a complex body, the C-vector complex X_{year} to cohomology sheaves **algebraically** (not just analytically) Plot For these coefficients as we have a "theorem comparison", generalizing my result on the De Rham cohomology, namely that the "total crystalline cohomology" gamma-ray

cries ,

taking the algebraic point of view (zariskierien) or transcendental sense, is "the same". This statement in turn must be considered

as a special case of a more complete statement, namely that the "six operations" in algebraic terms are "consistent" with operations in six transcendent perspective.

If my students were not so busy burying the master©work, it is the very beginning of the seventy years (if this is from the sixties. . .) They would have cleared the theory coefficients that was necessary, in all its simplicity and all his power. . .

613 (**) (5 May) The extension, context spread to the analytical context of my results bidualité, and stability of the constructive bility by the Rohm operation is automatic and I also was known as early as 1963, Verdier was working with me for three years, putting himself in the hot yoga derived categories (which he had undertaken to make systematic theory) and consistent duality. This is my mouth that he learned techniques that extend the consistent duality formalism if discrete coefficients. As we have seen, it is appropriate yoga duality and bidualité in the context analyzed complex tick in "good reference" thirteen years later (in 1976), with the connivance of Deligne and my classmates cohomologistes all well aware of the situation.

In the edition-killing SGA 5 the following year (1977), Illusie retained (in the statement I) bidualité theorem,

so that for a reader of texts, the trickery Verdier is obvious - but apparently it was considered as normal by all (seen these days ...). By cons, Illusie abstained to include the results of stability constructability by Rohm, I had of course given **prior** even to articulate and demonstrate bidualité theorem, which my demonstration (copied by Verdier) does not depend. So (you still have to!) Illusie merely establish stability in question when the second argument is complex Dualising! ! ! This was a way to cover his friend

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Moreover, if F, F are crystalline coefficients duality on X Mebkhout proves that complex C-vector "crystalline cohomology" F and $F X_{615} (**)$

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p. 956

Gamma-ray $\text{cries} (F) \uparrow$, Gamma-ray $\text{cry} (F)$

as complex topological vector spaces, are "duality" by natural mating in other words we have a coupling **which is a duality** ($d \text{ @VT}$)

H_i

$\text{cries} (X, F) \uparrow xH_{-i}$

$\text{cries} (X, F) \rightarrow C$

(For any integer i). This duality theorem "cap" duality ("absolute") known in the case of coefficients discrete (that Mebkhout called "Poincaré duality-Verdier"), and in the case of coherent coefficients (that Mebkhout called "Serre duality"), in a duality that I would call "duality Mebkhout" and that it has called "Poincaré duality-Serre-Verdier" $_{616} (*)$.

Verdier, making a little less apparent that from beginning to end (and nearly three pages of which was discussed in its place) Article Verdier is copied over my exposed SGA 5. The best part is that the stability in question is already a corollary the immediate bidualité formalism (which prevents it is mathematically crazy to pretend not establish Stability constructability by $\text{Rhom} (F, G)$ that when G is the complex dualizing). But the complacent Illusie refrains mention this corollary in his presentation, in order to keep the appearance that the result of stability that appears in "The good Reference" buddy would indeed of his own.

One may wonder why, under these conditions, Illusie has still kept theorem bidualité - for massacre massacre, there was more to it close though! But if he had emptied, he would have had the shot as empty uphill Formula Lefschetz-Verdier (making it an essential use) - that is to say, precisely the "Trojan horse head": the formula which supposedly crucial role in SGA 5 should justify the brazen operation "suddenly saw" his other buddy, making break the unity of my work on the étale.

Refélicitations my ex-student Illusie, the clever "editor" -fossoyeur. . .

$_{614} (*)$ For the tautological functor N , this compatibility is itself tautological. By cons, for the functor M Mebkhout (or, what amounts to the same, for its quasi-inverse $m = (L \mapsto \rightarrow DR (G) = \text{Rhom}_D (O_X, G))$), this is a deep result, proved by Mebkhout in 1976 (under the name of "local duality theorem"), along with the global duality theorem for 3-modules, of which it will be question time. This prevents "everyone" now uses this result for granted, especially (something that goes even more so) without the slightest allusion to some unknown wave. . .

$_{615} (**)$ I remember (see "The five pictures", $n \circ 171$ (ix)) that the crystalline cohomology ("absolute") of F on X is defined as Gamma-ray $\text{cry} (F)$

dfn

$\text{Rhom} =_D (O_X, F) \simeq \text{gamma-ray} (\text{Rhom}_D (O_X, F) = \text{gamma-ray} (CD (F))).$

On the other hand, the index! refers cohomology (crystalline in this case) to clean surfaces, ie

Gamma-ray $\uparrow (F)$

dfn

$= \text{Gamma-ray} \uparrow \text{Rhom}_D (O_X, F).$

$_{616} (*)$ As I said already elsewhere (in the note "The gossip", $n \circ 63$), Mebkhout" could do no less "than do stunts hat to his "benefactor" Verdier (since it had communicated to him the providential "good reference") everywhere where he had the chance. Yet **none** of the essential ideas for any duality (and even less if it were, to which the cap) are due to Verdier. In fact, apart from the duality theorem of Poincaré and Serre in their form Initial, which certainly served me as a starting point, all the main ideas contained in the formalism of the six variances and bidualité I introduced and developed at length in both contexts, consistent and discreet, in solitude. It is with this in mind that I wrote last year in the note "The victim - or both silences" ($n \circ 78$ @as the "protectors" of Mebkhout "had been willing he carries his hands a small corner of the coffin with my body." It was just that I also remember at this point that Zoghman had the courage, when he felt well yet what wind in the beautiful world, to repeat clearly in each of his articles he was inspired by my ideas, instead of doing like everyone else and to plunder the deceased while passing over in silence (in writing), and displaying condescending air (in words). As for the name "Serre duality" that ended up giving the coherent duality theory that I had developed over years in total solitude, it is all the more salt (and Serre, who do not ask for much, the best yet appreciate that person!), that Greenhouse had shown a total disregard for my duality work, depriving me of the single contact

I could have hoped for my cogitations! I think I can say also that this lack of interest is kept intact until today, including the notion of derived class (and other unnecessary details...).

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These, in my vision, the first steps of a vast dimensions duality program including in particular (among other (171 (xi))) the development of a formalism of six operations (and biduality) for the coefficients De Rham - Mebkhout on type schemes over a field of characteristic zero (until something better). Given the conditions of isolation and the atmosphere of indifference where Mebkhout had La-

vailer, he could be issue

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for him to develop a complete formality, as the one I had developed

p. 957

in both contexts he was inspired (171 (xii)). Among the main results he emerges and proves during the eight years 1972-1980 (171 (x)), the one that strikes me as the most important from the perspective of my program sixties, of course, is highlighting **the** right category coefficients crystal, called "De Rham - Mebkhout". It turns out that this is also the result that, from October 1980 experienced fortune brightest, even staggering, despite the fact it was appropriate (as before the l-adic cohomology, or pie crystal cream since. p) as a **tool** only, a torn vision that gives it meaning and its strength.

More so than other results Mebkhout and just like in my work developing the bidualité formalism and six operations, the language of derived categories is essential here to clear simple and profound relationship between discrete coefficients and coefficients consistent ⁶¹⁷ (*) described in the-orth of God (aka Mebkhout never named...). Thus, it is almost twenty years after the creation of the tool cohomology

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logic spreads (that everyone uses today for granted, while dealing with the

p. 958

disregard the vision that gave it birth. . .), And thanks to this result (now "pie-in-the-cream") of an obscure student posthumously, that the language of derived categories will be rehabilitated suddenly (as if it had never been buried. . .) Under the limelight and the cheers of the crowd came to cheer yesterday buriers playing (modestly) new fathers. But again I anticipate. . .

18.5.4.3. c and boon

Rating 171 (iii) It is Verdier which more or less figure "thesis supervisor" of Mebkhout whose work seven years had been in complete solitude. There was at no time interested in this work young man, visibly bounded as he was stubborn - a vague grothendieckien lingered that addresses the top its magnitude. Over the four years since the first meeting in 1975, it will grant three "interviews" in all and for all to this chap who comes from nowhere. None of my other students cohomologists ⁶¹⁷ (*) (May 7) Specifically, in 3-holonomic module (reduced complex at zero degrees) the functor of God associated in general a building complex of C-vector which has more than one nonzero cohomology beam and vice versa. The example simpler and striking is where one takes a divisor Y of X, from which an inclusion $i: = X \setminus Y \hookrightarrow X$, and the sub-beam $i^*(W \cup)$ formed by the functions meromorphic along Y. It is a profound result Mebkhout obtained in 1976 (and absorbed then the theorem of God) that this is a regular holonomic and 3-Module (person before Mebkhout had never even thought to look at the beam as a 3-module, and to suspect it was more even that consistent. . .). His transformed by the functor of God is $R^*(C \cup)$, which beams cohomology nonzero dimension 0 and 1 at less.

This is one aspect of the philosophy of Mebkhout who was absent from the approach of Deligne, which got a dictionary Building between C-vector beams and some of proobjects Coh (O_x) (the category of coherent Modules O_x) equipped with a stratification, without having to go to complex and derived categories. (It still took care to involve them, at a time when I was still in the area and where the idea would come to bury a person that updating said categories. . .). This is (at first glance at least) a benefit of the approach of Deligne, closer to intuition direct geometric discrete factors - but it is also a sign, perhaps, that his approach is shallower. I have tend to believe that it will still have a role to play, though, but in "tandem" probably with the view of Mebkhout which (I presume) is somehow dual.

(May 24) For details on this, see the sub-note "The five photos (crystals and 3-Modules)" (n ° 171 (ix)), part (C), especially p. 1009 and following.

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deign not be interested in working said chap. Its scope for their own research eludes them completely (as it blindingly obvious, even to a crumbling like me who "hook" of it

for fifteen years. . .). They are too caught up in their trip-funeral, and a dull routine turn-crank, to be able to understand something new without presenting business card and without primers, with the only force things simple and too obvious. For a long time they buried their own creative abilities, merely be consumers of fashionable branded products. Thereafter, they will nevertheless largely take their revenge on the intruder who is allowed to see what their had escaped to them as to all (although they had any yet, as he and beyond, to see and make. . .). But again I anticipate. . .

The defense takes place on 15 February 1979 in the general indifference. Mebkhout sends his thesis to all mathematicians he could think, rightly or wrongly, that they were interested in the cohomology of varieties analytical or algebraic - starting, of course, for all my students. Among those who received a copy of his thesis, **no one** will only acknowledge receipt of the item, or send a word of thanks is lying. It is true that the theory of Mebkhout feels even more (it seemed) such of its articles, conditions of adversity that had surrounded - she appeared thick and not easy, to say the least, and those who were not in on it had apologized for not hanging pronto. By

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against, I found p. 959

Oral explanations Mebkhout gave me his philosophy perfectly clear and immediately convincing, and there is no reason as he could give Verdier (1976), Berthelot (1978) Illusie (1978) and Deligne (1979) were less than those to which I was entitled.

This is the Bourbaki seminar June 1979 Deligne learns from the mouth of the Mebkhout " **correspondence Riemann - Hilbert** . "contained in the unread thesis (This was the name given by Mebkhout to equivalence category (or "dictionaries") which was discussed earlier.) Apparently, Verdier had never thought yet, over the last four years, to have a word with Deligne on the work of his dark student, whose work visibly interest completely escapes him until about the time of the Symposium Pervert in 1981 (where Deligne had to undertake to explain what it was ...). At Deligne against it by could only "to tilt" immediately - it was **the** solution, complete and concise, the problem he had himself left behind ten years before!

The reflex that seem self-evident in this situation (to the same point that I can not at this time yet, to imagine how we might act differently. . .) Is immediately to congratulate the young unknown to have finally found the last word of a question my faith, deep, on which we had for a spine whole year, and we ended up dropping profits and losses. The mores have changed. . . Deligne, always benign course, is confined to a compliment wave (and yet it warms the heart to the candid Zoghman, not spoiled it must be said, well no idea of what awaited): yes, he had received his thesis and had even Read the introduction, and it was found that these were "beautiful mathematics." For Zoghman it was a day pomp! It was surely the first time (and last as well...), Where he is entitled to a compliment from so great man that everyone knows and quotes. . . 618 (*) I do not know what happens in the head Deligne at that time and in the following year, on this remarkable theorem he had learned the mouth of a stranger. I assume he must ask around

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it 619 (*) - Is it always the com- p. 960

618 (*) (May 14) This is also the one and only time Mebkhout had the honor of a conversation with Deligne.

(June 7) For another compliment, from the previous year (June 1978) and the mouth of Illusie this time, see Note "Card white for looting - or the High Works "(n ° 171 4), especially 1091 page.

619 (*) (14 May) On reflection, and from what I know also of Deligne, I doubt he really has "talked about him" before they do it with a clear idea and a definite plan. See note "Waltz of the fathers" (n ° 1764) about the game very particular played by Deligne, and the role it has to play two straw-grandfathers Beilinson and Bernstein. (See also "Market fool - or puppet theater, "notes n ° 172 2 (e))

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communicates in October the following year 620 (***) to Soviet mathematicians Beilinson and Bernstein, guessing surely they will use. The same year, in fact, it is this "match" (always called "to Riemann-Hilbert "when we deign to name and without name Mebkhout is never uttered) that is the essential ingredient, the **new fact** that had previously failed to demonstrate a conjecture celebrates 621 (***) I hardly know the name, "Guess Kazhdan-Lusztig". This is the shot Sending the same time, a sudden and dramatic revival in the cohomology of varieties algé-bricks, finally emerging from a long stagnation of more than ten years (if we exclude the work of Deligne Weil conjectures). This unexpected revival is reflected in the following year, the "happening" of Symposium Luminy June 1981 on "Analysis and topology of singular spaces" 622 (***)).

18.5.4.4. d. The day of glory

Rating 171 (iv) About This "Memorable Conference", I refer the reader to note "The Iniquity - or sense a return "(n ° 75) and the following notes, still hot and written in amazement (the word is not too strong) discovery. These notes form the procession VII of the burial, which I named "The Symposium

- or bundles Mebkhout and perversity. "

Suffice it to recall that in the Introduction to the Proceedings of the Symposium, signed by Bernard **Teissier** and Jean-Louis **Verdier**, the famous "correspondence Riemann-Hilbert" is presented as the "Deus

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p. 961

machina "of the Symposium. It is the same in the main section, which forms (with the Introduction cited) the Volume I of Acts, article by **AA Beilinson, J. Bernstein and P. Deligne** (and in fact written and presented at the Symposium, by the latter, in the absence of the other two co-authors). Moreover, the first two authors appointed were informed by care Mebkhout (regardless of Deligne) on

ins and outs of his theorem, from the previous year (November 1980) - Mebkhout had even purposely moved to Moscow for this purpose ⁶²³ (*). Teissier also knew first hand and from

long - not talking about Verdier, who had chaired the Mebkhout thesis jury. . . Finally, I add that had been decided "in extremis" to ask Mebkhout to make a presentation on the 3-modules theory (that nobody except him knew too, among the people there) Mebkhout took the opportunity to inform Colloquium in full force ⁶²⁴ (**) on the theorem that he modestly called the Riemann name and ⁶²⁰ (**) (May 14) This is apparent from a letter of Deligne to Mebkhout (received on 10 October 1980). For details of the episode Kazhdan-Lusztig, see sub-note "The Mafia" (n ° 171 2), part (d), "The General Repetition".

⁶²¹ (***) The same conjecture is demonstrated independently, yet with a remarkable set at the same time (in few days near) by Brylinski- Kashiwara, with the same main ingredient and the same manipulation retraction, and role-key to this development, and the name of the author of it below For more information, see sub-notes already quoted "The Mafia" (n ° 171 2)

parts (c) and (d).

⁶²² (****) The Conference Proceedings are published in Asterisk n ° 100 (1982). These Acts are also printed in December 1983 and appeared in January 1984, nearly two years after the date marked on the volume.

⁶²³ (*) See, on this instructive episode, sub-note quoted "The Mafia" (n ° 171 2), part (d) "The General Repetition (before Apotheosis)".

⁶²⁴ (**) (May 14) Regarding the participants in this symposium strange, very "grothendieckiennes math festival", but with silence the absolute ancestor deceased himself, as the dark posthumous student "who had the gift... to gather all beautiful world "... As only students" pre-1970 "to participate in this symposium, there was Deligne and Verdier, but already sufficient

for well take center stage. Strangely, Berthelot and Illusie (whose work has been particularly marked, I could tell by the lack of perspective Mebkhout unearthed there in large bands) are not the party. On the other hand, Contou-Carrere (student "after") it is lost, all glad we had invited to tell his resolution method for Schubert cycles.

I remember he came back euphoric, fully identified with all these brilliant and famous people he felt to you and yours, and who came to listen, obviously interested but yes! He took contrite air to talk about Mebkhout

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Hilbert without leave open any ambiguity (one suspects) about the paternity of this result, which had the gift (unexpected for him as for all) to meet all these people.

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Moreover, it is in vain that the reader seek traces of the presentation Mebkhout in the Proceedings of the Symposium. p. 962 Verdier kindly explained afterwards that only items with results **new** would

included in Acts, while those of his thesis already dated from two years old. It is in vain as the drive seek trace in said Acts of any citation or any indication

so little specific about the origin of this famous theorem, which is however not due to Riemann nor Hilbert. It will be difficult also to find traces of the name of Zoghman Mebkhout. This name does not appear in the first volume, either in the text or in the bibliography. In the second, it appears twice in the bibliography by references- "go!" (One can not say that we have not mentioned!) Of the pen and Brylinski Malgrange - references that have nothing to do also with the theorem of God - aka Riemann Hilbert - aka Deligne (and especially no Mebkhout) ⁶²⁵ (*).

which was open to him bitterly, but he would not have said why too - for him Contou, in any case, clearly the Life was good!

That was in June 1981. Four months later, (in response to its unique application for a job in Perpignan) is the good slap thrust forward, hard cashed by him as a humiliation and an affront. (See, for this episode, the note "Coffin 3 - or jacobians too much on "n ° .. 95, pp 404-406 This particular note was written before I do it again rapprochement with the episode involving Contou-Carrère, slightly dropped undoubtedly the brilliant Symposium.)

⁶²⁵ (*) (14 and 26 May) Other participants already mentioned, I read namely the participation of **Brylinski**, **Malbarn** and **Laumon**. All three were well aware of the work of Mebkhout who had the opportunity to inform each detailed manner, even outside the lecture he had given at the Symposium. That did not stop Bry-

Linski and Malgrange, in their article published in the Proceedings, which uses essential way ideas Mebkhout and Theorem of God, to retract both the crucial role played by the appearance of these new ideas and new tools, the name of their author.

As for Laumon, it will catch up later, in an article in collaboration with Katz. This is the same N. Katz who had distinguished already in 1973 with "SGA operation 7", which was mentioned in the note "Episodes of escalation" (n ° 169 (iii), Episode 2). It was also informed by Mebkhout its results in 1979 (see the note about "White Card looting", n ° 171 4). This is the article "Fourier transform and increase of exponential sums" (which is as the doctoral thesis of Laumon), which article circulates as preprint two years (I even got a by exemplary care Laumon). These authors develop a Fourier transform to the coefficients l-adic on the model that introduced by Malgrange in 1982 in the case of 3-modules (in the wake of the works of the unknown wave without mention of his name, as of course). The work of Mebkhout represent the foundation of heuristic theory developed by Malgrange as that of Laumon-Katz, just as they were to the article already cited Beilinson - Bernstein - Deligne (on said beams by them wrongly "perverse") That said, Laumon and Katz also follow the general movement (no mention of the unknown or service in the article, nor in the bibliography - any more than that mention of the ancestor, it goes without saying. . .), Following the tone set by Deligne, Verdier Berthelot Illusie Teissier, Malgrange,

Brylinski, Kashiwara, Beilinson, Bernstein - I apologize for the alphabetical order in any case it already twelve directly and actively involved in the bright-deception scam Symposium Perverts - besides Hotta are putting hers Moreover Pacific, and thirteen!

Malgrange is also no longer quoted in the article in question - apparently there are allies authors cliques that cite them with a vengeance, avoiding mention those next door even when they suck on them to outdo. All ways when it comes to the ancestor or unknown wave, there they all agreed. It often brilliant math, surely - but I am old games, the mentality is not indifferent to me and it takes away the appetite to read, and in extreme cases, even to do.

Not those they do, anyway. The smell is too painful. . .

I also took a look at the article by JL Verdier, "Specialization and bundles moderate monodromy", published in those Acts. Unsurprisingly course, I saw the "Riemann-Hilbert correspondence" without referring (in the text or in the bibliography) to the unknown wave which he had chaired the thesis. He had forgotten, obviously ... It is also a matter Riemann-Roch theorem spreads (the name sounds familiar ...) - and I saw that too in the article Laumon-Katz. As neither one nor the other breathe a word of a deceased, I think that this "theorem" - there must have surely Messrs. Riemann and Roch, as this particular case is among the "technical digressions" and "non-sense" SGA 5 (not including the presentation of conjectures, providentially emptied by providing clever and "editor" Illusie...). Mebkhout had also foreseen in 1977 a link between philosophy and the Fourier transform at a time so where he was strictly only one interested to duality yoga, connecting 3-modules and discrete factors (such as myself the formerly had to formalism consistently duality and spreads). This intuition "Fourier transform" remained vague - the context was not then more encouraging for him to continue in this way, for me, in 1950, to expand my
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Going back to the Conference in the flesh, we must believe that none of the brilliant mathematicians assembled p. 963

in these places, deigning to come and listen to the presentation made them an unknown wave service, no one noticed that "correspondence Riemann-Hilbert" that it presented to them as of his own, was well the same one that already so brilliantly introduced brightest of them, as the keystone heuristic his brilliant presentation, which formed (in the opinion of the organizers, Teissier and Verdier ^{626 (*)}) the "nail" everything brilliant Symposium on said beams (one wonders why) "perverse". Always is it that none of them was surprised, should we believe that the name of the unknown wave was not delivered in this paper, which flew so high that there was certainly no need to clutter up the few; or two years half later, with the publication of Acts (early 1984), the name of that unknown face or not, nor in the introduction (already mentioned), nor in the article Deligne et al. This item left Moreover little instead of a doubt about the true authorship of this corre

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dance, the lead author

p. 964

presenter and magician- ^{627 (*)}, with his usual modesty, has also failed to appoint, not even the name of his two illustrious precursors. If that is yet who are surprised they are not done know until today - not to me, anyway, and certainly not the main question that provided the sauce for stuffing, namely the student posthumous unknown and rigorously as it should be, as now front - Zoghman Mebkhout ^{628 (**)}.

a1. Unnecessary details

Rating 171 (v) ⁶²⁹

(a) packet thousand pages ... (May 4) Even Serre is no exception to the rule, having

long (as André Weil) developed a tendency to declare that math who have not the good fortune of interest are "bullshit". He and Weil are nevertheless a format which (one would think) should put them above such childish. In this case (and apart from the "last twenty pages" of Deligne) is two or three thousand pages of "bullshit" grothendieckiennes the Weil conjectures eventually be proven (and a lot of other things too which Weil nor Serre never dreamed). This has not led to Serre more modesty, as in the text where he exhibited the demonstration by Deligne the last step in these conjectures (in the Bourbaki seminar in February 1974 exposed n ° 446), it takes this opportunity to irony among all (in polite terms, it is understood) on unnecessary details that must be drunk the "1583 Pages" SGA 4. In this easy irony, I do not detect a malicious nor bad faith, but unconsciousness and lightness. It will bother to raise the number of pages of three volumes (that he kept reading and the substance of which escapes him) and make an addition - history to care with "elegance".

coherent duality theory to a theory that encompasses the complex of differential operators (see note b. p. (***) page 946). There is a reference to the Fourier transform p. 2 of the introduction to the statement "Poincaré duality" of Z.Mebkhout, in seminar on Singularity University Paris VII (1977-1979).

626 (*) This is the "review" implicitly clear from the Introduction to the Symposium, already mentioned, and signed by Teissier Verdier.

627 (*) For details about sleight-scams My friend Peter about the paternity of the theorem ever named, see note last year "The Conjurer" (n ° 75).

628 (**) (May 19) For details about the misadventures of my friend Zoghman candidly lost in an environment of "hard" to nines and affable air, see the end of sub-notes "Hatching a vision - or the intruder", "The Mafia", "Roots" "Carte blanche to pillage" (n ° 171 (i) 171 (iv))

629 (***) This paper (in three parts (a) (b) (c)) is the result of two notes of b. p. in note "ancestor" (n ° 171 (i)) - see Notes b. p. (***) p. 944 and (*) p. 945.

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But everything fits both my complacency once vis-à-vis such brilliant students, this p. 965 "elegance" -There Serre (at a time when the past four years the Burial was going well...) 630 (*), and all what followed. Three years later hardly, one would find in the writings of my non-student Deligne with malice and impudence and more, even under their Serre or implied, with these "details useless "we pruned," confused state "and" matrix of non-sense "(where the same Deligne learned his craft and found his main inspiration), a blade digest his pen is intended charitably "to forget. "Thus, complacency in ease and impudence are we arrived in the mathematical world, in just ten years old, to a state of manners in which the simple decency of feeling seems to have disappeared. These are neither Weil Serre, much less Deligne, who created the new tools that were missing for " **The Conjecture** ", but one where they like to ironise - by deliberate ignorance or maliciously calculated, the impact is not very different. But I, who, with infinite care, wrote and rewrote, and actually write and rewrite tirelessly throughout the months and years, with a text that exposes the full extent it merit, language and some basic tools for a wide unifying vision, new and fruitful - I know me, and in full knowledge, there is not **a page** from 1583 neglected by Greenhouse, by my students and by the unanimous fashion, which has been weighed and re-weighed by the worker and that is his place and there to perform its function, no other written page to this day can not fill. These pages are the product of a fashion nor a vanity, delighting to put themselves above others. These are the fruits of my loves and labors long and obscure preparing a birth.

For this part of my work, as also to all my major contributions to mathematical who now entered the common heritage, **nobody** until now has managed to duplicate what I did (with blows of "bullshit" of "unnecessary detail" and "non-sense"), except by copying me (to insignificant variations close) 631 (**). Some recopy (as such or in related contexts or new) saying it (it starts to become more rare...), the other playing new fathers, and taking disdainful condescension airs vis-à-vis the work they plunder shamelessly, and vis-à-vis the worker who taught them their

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job. This indecency then could thrive and spread because it p. 966 found a ready welcome consensus, and this first and foremost with those who (by their stature often exceptional) set the tone.

(b) machines do anything ... Yoga of six operations is an integral part of this vast unifying vision "developed in seminars SGA and SGA 4 5. I would even say that yoga is the theme Central oral seminar SGA 5 or rather, he is the "nerve" and soul. Also Illusie he took care to remove publishing-killing (destined to become its "care" volume "digressions

techniques" . . .).

In the note "ancestor" (n ° 171 (i), p. 945) I write (without elaborating) that the vision of the six-power operations "gave eloquent proof of his power." For me, the real sign perhaps the most striking be that power is in control we have of the étale. To arrive at this control in 1963, the vision "six operations" that came to me from the consistent duality was my thread constant. I also believe the only person in the world qualified to decide on what was instrumental in the development of this tool.

It is understood here that in the process of discovery, said members "heuristics" are almost always decisive. If I speak of the "power" of a point of view or vision (something of a different

630 (*) (27 May) for a reflection on chaining the evocation of Serre, see part (c) of this note.
631 (**) (June 7) I recently read the fine book by Fulton "Intersection Theory" ("Ergebnisse", Springer Verlag, 1984), and finds it appropriate to make an exception for the theorem of Riemann-Roch-Grothendieck.
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order a theorem by itself), it can not be measured in purely technical terms. It about above all of its power "suggestive" as discreet and reliable guide in the journey of discovery, we blowing sensitive times "" good idea to introduce, "" good statement to identify and prove, "the" theory that remains to be developed. It is to have forgotten such a vision guide (after buried) that makes in the cohomology theory of algebraic varieties, the powerful momentum of the sixties has resulted soon the years after my departure, to a state of confusion and stagnation. Apart from the great "prestige issue" (Namely that the absolute values of the eigenvalues of Frobenius), all key issues were stubbornly evaded. . .

As another sign of the power of vision (or in this case, the formalism) of the six operations I see the formula fixed points Lefschetz-Verdier, both in the context of discrete factors that consistent. Here the role of the "six operations" formalism was both **heuristic** (in the sense that the formula is suggested by irresistible

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formalism) and **technical** (in the sense that formalism also gives the
p. 967

necessary and sufficient for the proof of the formula). It is true, given the burial, a small only portion of cohomological formalism that I had developed was used, until all at least the "rush" on the intersection cohomology and baptized beams "perverse" (where part of the formalism is exhumed without mention of the worker. . .). But I know, for myself, with speculation Weil and the ubiquitous topos intuition, vision of the six operations was my main source inspiration in my thoughts cohomological throughout the years 1955- 1970 632 (*). This means that the "Power" of this vision is obvious to me, or rather, a reality I have experienced almost daily for fifteen years of my life of mathematician. This experience has also reconfirmed still vividly the last few weeks, as soon as I made contact with "yards abandoned" crystalline coefficients and De Rham and the reasons 633 (**).

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This experience any "subjective" I have the power of a vision-strength, also has a
p. 968

meaning "objective", difficult to dismiss out of hand. This sense appears when we want to remember that (Apart from a few exceptions) the main ideas and concepts concerning the cohomology of varieties algebraic "abstract" and diagrams (that everyone uses today as if they went back to Adam and Eve 634 (**)) were identified by none other than me, during this same period 1955- 1970. (It I understand that I put aside my starting point here FCC, and Weil conjectures).

632 (*) (15 May) It is understood that the vision itself gradually took shape during this period, from the first germs in my 1955 article "On some points of homological algebra" (the Tohoku Math. Journal). She is reached full maturity in 1963 with the abrupt start of the étale. This occurs (coincidentally) in the same day, at almost exactly where I introduce the "functor missing" R_1 (direct image own support). But the Role of six operations, such as "vision-force" and as ubiquitous wireless driver, only became fully aware, I think, with the seminar SGA 5. In 1966, with the start of the crystalline cohomology, it was clear to me that the first purpose (beyond the limited program "running-in", which will be accomplished in the thesis Berthelot) was to arrive at a formalism of six operations (and bidualité) for "good" crystalline coefficients. It took a crumbling (declared deceased) so the coffin prepared for him, for (almost came years later, and inspired ideas of an unknown wave service and co-buried) these "good coefficients" finally end up being only **defined** ! We find a description for finitely diagrams Z include, in Volume 3 of Reflections (with the fifth and final part of Crops and Sowing).

633 (**) (15 May) for the image of "abandoned sites" (or sites "sorry"), see Part 6 of the Funeral Ceremony (Rating 176 ©177, 178), including the last of the three notes mentioned. It was enough that margin writing Crops and Seeds, I spend a few hours here and there the problem of crystalline coefficients De Rham and the reasons for

see a compelling explanation for the former, and at least a block for the construction of the latter, in the crucial context of such schemes over Z . (compare with the comments of the note b. Previous p.)
634 (*) About this mentality of "user" (or "consumer") for finished products mathematics, who has forgotten (if he ... never knew) that it is a creation, and also about Adam and Eve and God, I refer the reader to notes last year, "a sense of injustice and helplessness..." (n ° 44 ") and "The unknown service and the theorem of good God "(n ° 48 © See also "Failed to education (2) - or create and conceit "(note ° 44©
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This resulted in big time, mathematically speaking (and from what I could see up present) on a gloomy mediocrity, whose root cause is in no way be at the technical level. It©a signs of mediocrity, a powerful vision made to inspire and nurture great designs, was buried or left to derision, by those even who had been the custodians and the first beneficiaries. And another sign that neither a Deligne, nor Verdier, nor Berthelot or Illusie, they met were yet by all facilities that provide position and prestige of brilliant gifts and experience consumed, has been able to do the work that was required on the coefficients De Rham, in line yet their own research (and vision challenged...); nor recognize the innovative and fruitful work, when it is seen facing. And it is in this **same** spirit (because everything fits again...) That Once finally recognized the scope of tools from the new work, they were quick to seize without even understanding it, and bury alongside the ancestor, the unknown worker who had fashioned. . .

(c) **Things that look like nothing ...- or dryness** (May 27) 635 (**) The way I am speaking about Serre came there spontaneously, and stems from a perception of things, the about who had to train me in the last weeks or months. There have been

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Yet p. 969

writing these lines, uncertainty or perplexity residue, or reserve, vis-a-vis what I had to describe. I did hear, in short, that Serre would have missed on this occasion "elegance"! The fact is that, for nearly thirty years I know Greenhouse, himself represented for me the incarnation Nation precisely " **elegance** ". I must not be the only one, surely, to perceive it that way. It©about a elegance, both in his work and in his work as in his relationship to others, which is not pure form. It also involves a scrupulous honesty in work, honesty and an equal requirement vis-à-vis of others. More than once I noticed her acuity of judgment before any hint of "interference" in such col-bequeaths unscrupulous, trying to evade a troublesome difficulty (for failing to recognize that knew how to overcome it), or any errors of his own. . . This elegance thus involved, too, a **rigor** , both vis-à-vis itself and others.

Are all those things that for me are inseparable from the person of Serre, who have inter-come to this "resist residue" in me that I have just mentioned, before the spontaneous expression of another perception of things, taking the lead unexpectedly on the familiar perception. It does not matter to want me aside one of the two for the "benefit" of the other. The one and the other have to teach me some thing, different aspects of a complex reality, and which also is not static. To me the position relative to the other, to achieve a nuanced understanding of a person that connect me a past, and feelings of sympathy and respect.

This "rigor" of which I just mentioned did not extend, however, to all that had to do with relationships Serre to mathematics and mathematicians. I called sometimes a "unconsciousness" or "lightness" I could as well call a " **closure** ". It is in contrast to the attitude of "caution and modesty "I met with most seniors, as Serre himself welcomed me with kindness in my early days, and sometimes (and such was the case) with heat. I speak about it later (in Note "Freedom...", n ° 171 (vii)), where I find that this attitude was part "of the atmosphere of respect... that permeated the environment that welcomed me. "

The "closure" I have seen in Serre, on occasion, does not date from yesterday. I perceive the Early signs in the second half of the fifties. I think she has much limited depth and scope

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of his work from the sixties. I feel a connection between this aspect of "closure", vis-a-vis p. 970 635 (**) This third part of the note "Unnecessary details" comes from a footnote page to the first part. See footnote in Note b. p. (*) Page 965.

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of different approaches to mathematics of his, and deliberate about which developed in him little bit, to lock up his understanding of mathematics and mathematical things in a view (or

"Blinders", would I want to write) purely technical or technocratic, closing themselves to anything akin a **vision** ; something, therefore, which would exceed the statement (or group of statements) tangible, immediate, **provable** or (in a pinch) in the form of conjecture "pure and hard" to the contours fully tran-
kets, "close" on the whole (except he has yet to prove it...). Looking back, it seems to me that it ended up
push to the limit this aspect of his creative abilities, appearance exclusively "yang" and "super-
yang "appearance" **macho** ". Given its exceptional influence over the mathematicians of his generation, and two
three others that followed, it seems as Serre has contributed much to the rise of technocratic mind
excessive I see rage in the seventies and eighties twenty, only today that is still
tolerated, whereas any other approach to mathematics has become the object of general derision.
In the words of CL Siegel, there nowadays extraordinary "Verflachung" ⁶³⁶ (*)
a "flattening", a "narrowing" of mathematical thought, a private dimension - the dimension
visionary, that of dreams and mystery, the depths - with which it never had before (it me
seems) lost contact. I feel like a **drying** , a **hardening** of thought, losing
His living flexibility, quality nourishing - became pure **tool** ,

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stiff and cold, for flawless execution

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Tasks "snatching" of tasks by public auction ⁶³⁷ (*) - when the sense of purpose and direction, and
the meaning of these tasks themselves as parts of a vast all, are forgotten by all. There sclerosis
deep, hidden by a feverish hypertrophy.

This imbalance of thought is a sign among others of a more critical imbalance, and a vacuum,
a deeper deficiency. It is no coincidence that this drying of thought has spread and installed,
over the past two decades together have eroded customary forms of
delicacy and respect in the relationship between people. And it©not a coincidence that wind
contempt who stood up and I have finally felt the breath, was accompanied by a more or less corruption
general, I do not finished for over a year to go around.

Serre until today still felt nothing of the corruption there, which surrounds on all sides. I him
had known the fine nose, though. But all is not to have the fine nose, it is still necessary to use it, take
knowledge of what he has to say, even when smells he speaks we are able to incommo-
der; or, to worry, when they put ourselves into question. I know Serre, nor

⁶³⁶ (*) I take this expression (in German) a letter from Serre, received very recently. The term is derived from the preface
LC Siegel to works Hecke. Greenhouse cites this impression of CL. Siegel at the very end of his letter, immediately adds:
"It was unfair, and it would be even more now, I think." At home though the penny dropped and it continued to work.
My short reflection on the relationship between Serre and I was probably out of there.

I also believe that if Serre cited Siegel, is that somehow this impression from a major ma-
thematicians of our time, had to work in him already; it was like a quack, probably, in "life in pink" mathematical.
A quack surely among others, but less easy to remove, apparently. . .

"Flach" in German means "flat", "lacking depth"; "Verflachung" refers to the process leading to such a state of
"Flatness" or the result of such a process that has just taken place. In the main text, I endeavored to follow
associations aroused in me by this term very telling, as is untranslatable, unfortunately. Of course, I know if fully
how I perceive the thing is covered so slightly with the perception of Siegel, I have not read the text that quotes Serre.

⁶³⁷ (*) This image of "public auction" I must be suggested by ads for "tenders" (sic) which are riddled the
"Newsletters CNRS" and other papers I receive periodically, as an attaché of fresh out research
in this esteemed institution. This jargon, among many other signs, show how this "flattening" of the work
discovery in no way limited to the middle I had known, nor mathematical science. I have not found yet
for tenders in pure mathematics call, but it will be soon - and I can imagine myself as my old friends and students,
seriously sitting behind padded doors, in such daunting committee acronym, to decide which "research areas"
priority must be reported, what "outreach strategies" to promote, and what "offers" teams "classified Winning" he
should "hold" to a "screening" or even, honoring the jackpot, the official grant by the Ministry of
Guardianship, renewable every two years after favorable opinion of the Competent Commission. . .

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me, would dare to howl with the wolves, loot, of scheming and run down there or "everyone" plunders,
skulduggery and débine. There is none of this, of course - he just hold your nose (and so what if suddenly
it has a hand under. . .), And to one who felt nothing.

And it is in good company - not one of those who were my friends, in this world that we might
common and whose smell reaches me into my retirement - not one spoke again, it was by
referring, odor

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he would have felt and that would have bothered. Many still surely remain those ^{p. 972}
among my colleagues who continue to exercise faithfully mathematician profession, which deserves this

respect. But among those who sit in the first places, I know of **no one** who had that simplicity to believe the testimony of his healthy faculties (olfactory, in this case), rather than their noses not to have to say something smells bad here - it would maybe go see. . .

But I return to the person Serre and mine, and this "closure" I felt at home, appeared I do not know when and who went to accentuating the years. I think the most fruitful part of his work, one that has most profoundly influenced the mathematics of his time, up to the beginning, before the appearance of the closure or at least before they have taken a decisive grip on his relationship mathematics and mathematicians. It was in those years, too, in the fifties, the contact with him was for me the most fruitful, it is in these years that is up this role of "detonator" that Serre played with me, giving my work some of his most decisive impulses. It in those years also born and has grown in me a broad vision that inspired my work and fertilized in these years and until today. I can say with full knowledge of the facts, that there has been someone besides me who had a hand in the outbreak of the vision, it is he, Greenhouse, and in those years. And he could be and because in these fruitful and decisive years, there was an opening in him to mathematics things for what they are, including those still left the immediate decision; those who seem reluctant at first to leave by identifying the cracks already formed language - those ask perhaps obscure years and labors patients, if not a lifetime, before condensed into tangible substance and reveal the members and the shapes and contours of a **body**, alive and strong, attesting the appearance unexpectedly in the familiar context of the known, a **new being**. I think in the first years when I met Serre and until the late fifties, he kept sensitivity to this impalpable thing and delicate what "creation", and for the humble labors that prepare a birth. I think at one point he was able to feel the birth of a vision, and language that it gave shape like the soul or spirit, and body. . . There was then a heat without speech, availability discreet and efficient, where he could assist an arduous and intense work that was not his, and which Yet, for a sympathy and an expectation, he participated.

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I can not say when and how this liveliness in him, the level of our common passion is p. 973 blunt, has given way to something else, I tried sometimes to identify. Already at the beginning of the sixties if not before, he stopped receiving the forest, to consent to see that this tree or that he found to his taste. The rest had no place. It just annoyed, I think, to see me so absorbed in tirelessly clearing large areas without color and plant there patiently all these things that still looked like nothing, with the air of one who already see a thriving forest 638 (*).

That does not prevent me to continue clearing, planting and replanting, pruning, and redéfricher and 638 (*) (June 17) Of les six "yards" that I review in the note "The tour of building sites - or tools and vision" (n ° 178) there had u **n only** (the site "grounds") who has had the good fortune once to interest Serre so slightly - and again ... When I wrote recently without comment, in a PS, I thought I had the principle of shaped construction the category of patterns on a scheme of finite type over Z , no alludes in his response. Certainly these "math grothendieckiennes" do him neither hot nor cold...

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replant - nor is it always as friends and we spent hours and hours discussing even Math (phone, usually). When I had a clear-cut issue, and an issue was not in the index, it was for him especially since I used to speak, for once he lights - and often, in fact, he had. I continued to learn a lot from him, and surely he learned by me then that could be of interest. It was better that an exchange of good processes or services - there was always a passion that connected us, there was fire and spark. But he had already ceased to be for me an inspiration. This source was now in myself only 639 (**).

a2. Questions absurd

Rating 171 (vi) (May 5) 640 (***) My memory here was a blur, and has redefined the weeks following, where I had the opportunity to reconnect with so little issues. There were actually two separate questions in my mind, a perfectly precise, the other quite vague. The first question concerned the need to reach a complete theory of the six variances for "Coefficients Rham" that remained to define precisely. My crystal ideas, both in feature $p > 0$ in characteristic zero, provided a very precise beginning - we already knew, in advance, what which was to replace the "local systems" (or "bundles

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twisted constant ") l-adic (or Betti in

p. 974

transcendent frame), and they had come to define "coefficients with singularities" in the spirit of categories Derived course 641 (*). What was missing so it was a good condition "finitude" for complex crystalline. In characteristic zero, it is the "3-coherence" (to which neither I nor any of my students has thought,

while it is an idea so simple and natural!), combined with the delicate Holonomy terms and regularity, which gives the answer, as we learned (twelve years after the start of the crystalline yoga) the Philosophy of God Mebkhout alias. I look as if curiosity of my former students will eventually move (Without naming the unknown service or ancestor is heard a thing ...) to identify the conditions 639 (**) (June 12) for a continuation of this reflection about the relationship between Serre and I see the note "Family Album" (n ° 173), part c. ("The one among all - or acquiescence") of 11 June, and parts. summer. 640 (***) This note is from a note b. p. in note "ancestor" (n ° 171 (i)) - see note (*) on page 946. 641 (*) It is also clear, when the base body was C, we wanted a category equivalent to that complex of faisceaux C-vector to algebraically constructible cohomology beams. This indication of a high precision suggested that by unscrewing, the critical issue was that of associating at any crystalline local system on a sub-diagram (not necessarily closed), a crystalline beam on the ambient diagram. This is essentially what was done by Deligne in 1969 it except it turned out that instead of a crystalline beam it was a **pro-beam** lens, which then was an idea important new (and "obvious" as soon as one takes the trouble to look ...). But the systematic work with pro-objects would have required a work considerable foundations, including the one made by Jouanolou for his thesis (on the coefficients l-adic) gave a taste. It should have been there up his sleeves again. . .

The new approach Mebkhout by 3-Modules back since (from the perspective of Deligne and mine), replace a pro-beam lens with a crystalline ind-beam (through the functor dualizing coherent **ordinary** Rhom_{O_X} (- O_X), and **pass the inductive limit** for a regular crystalline beam, ie (assuming now X smooth on a body of characteristic zero) March 1 X -modules. The "miracle" so unexpected, established by Mebkhout between 1972 and 1976 (starting from a "bout" opposite, cf. the note "The three milestones" n ° 171 (x)) is that the 3-module is **coherent** (specifically, beam coherent cohomology). Another miracle equally unexpected is that one can characterize the 3-modules (or rather, the complex 3-Modules) that we obtain by simple conditions, completely new nature with respect to the optical crystalline grothendieckienne (namely the condition "microlocal" Holonomy, in addition to a condition of "regularity" introduced by Mebkhout and become familiar meantime).

(May 26) For details about the duality relation between coefficients De Rham - Mebkhout and coefficients From Rham - Deligne, see note "The five photos (crystals and 3-Modules)" (n ° 171 (ix)), part (c). For the need to replace the perspective of Deligne procohérents modules by the crystals into coherent promodules, and the possibility (not proven yet) replace the bulky viewpoint of pro-objects (crystalline or laminated) beams by crystal no more (by passing to the projective limit), see the same note, parts (c) and (d). 756

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corresponding bus. $p > 0$, or rather probably, in the rigid-analytical context charac 0

teristic p. 975

nothing. Better late than never. . . 642 (*).

I did not pursue this issue myself in the sixties, with enough other spots

and thinking that with Berthelot and Deligne in the running, she was in good hands (like what we can wrong. . .). The work of Deligne in 1969/70 yet provided a response in principle feature

no, that would probably satisfy me if Deligne had conducted this work forward.

But in my mind, such a conjectural theory coefficients De Rham, even if it were to

Related cohomology "discreet" (in the form of a crystalline cohomology) and cohomology "coherent"

not "wore" not provided consistent duality theory. So I did not see a coherent beam

zariskien defined a "crystal enveloping" 643 (**) (NB in the language of 3-modules, it is the extension of

the scalar of Ring $O_X \rightarrow 3_X$, X for at least smooth. . .) - and although I had seen, the resulting crystal

(already for $F = O_X$, which gives the crystal 3_X) are **not** the type of Rham. Still, I wondered if

on a complex analytic space X, the coherent duality (e.g. in the form of Serre, if X is smooth

and for locally free coefficients) could not be obtained as a "special case" of duality

discreet, developed by Verdier on the theory model spreads. As such, it looked a little goofy and

immediately raised a host of questions: how to explain "in discrete terms" the role of the module

Dualising (differential forms of highest degree) ω_X and how to account for évétesques pathologies

which had no analogue in duality "discreet"?

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This is Mebkhout who was the first (and only until today except me, he seems to) understand p. 976

that there is indeed a deep connection between the two dualities, but that it is only expressed **not** saying

as a "cap" the other, but by finding a third duality of theory 644 (*) one of the 3_X -modules (or

"Crystals" X), that "cap" one or the other, and by limiting, in addition, the "discrete" side, of the complex

C-vector that are cohomology sheaves **analytically constructible**. There is no doubt

me that this is "the correct answer" to this "vague question" (and a little off the plate...) I had

Yet never had the opportunity to ask my posthumous student. . .

(15 May) The writing of "The Apotheosis" became at the same time an unexpected opportunity for me familiarise so slightly with the work of Mebkhout and yoga 3-Modules that he introduced in the study cohomological varieties. Along the way, it was also back memories that had sunk. I

I have noticed that especially in the late fifties or early sixties, I had

was closer to the "philosophy Mebkhout" than I was aware to me there are only ten days,

by writing the beginning of this note ("Questions absurd"). Under the own patterns and

Smooth on an arbitrary basis, I had in my hands a duality statement (in terms of a complex operator differentials relative and complex "Assistant"), "capping" the consistent duality and duality for cohomologie De Rham. Technically, it was pretty much the equivalent of algebraic version

642 (*) (26 May) Since these lines were written, and as unexpected fruit of my efforts to make an account of which the Apotheosis

be worthy to be remembered, I was led to clear (without almost on purpose) which I think is now **the**

good definition of the coefficients De Rham, at least for a scheme of finite type over Spec Z, (which appears to me as the

The most crucial event of all). Of course, the essential new ingredient, compared to my 1966 ideas, is the philosophy of

Unknown wave, I refrain (like everyone else) to name here.

The approach that I plan to type schemes finite over Spec (Z) must also give the right coefficients From

Rham (Mebkhout or Deligne style choice) for type schemes finished on any body (characteristic zero, or

no). I plan outline this approach in the "Coefficients De Rham" Volume 3 of Reflections, among others

"Technical digressions" that my students can come and copy at home. . .

643 (**) (May 26) It may be worth taking the "co-crystal" wrap (see note 171 (ix) Part B, for allusions to the concept

co-crystal). I will no doubt on this issue in the explanatory promised in the previous footnote b. p.

644 (*) For details about this "third duality theory... Which covers the other two," see footnote. "This work..."

(n ° 171 (ii)).

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Mebkhout duality theorem (which was discussed in the complex analytic context in note

"The work of...", N ° 171 (ii)). Yet my duality statement did not satisfy me, and I have not thought about the

publish or even to make it to advertising because it seemed to me, in the form called, too close to the theorem

duality Serre (in perspective on an arbitrary basis, it is a thing heard), which is a corollary

more or less immediate. To arrive at a statement that satisfies me, it would have as I know how to do

a "derived class" with complex differential operators, so as to make a statement

intrinsic duality in terms of objects of these categories, on the model of coherent duality theory

released in previous years.

What was missing, so it was a good concept of "quasi-isomorphism" to a morphism (differential)

between complex differential operators,

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so as to form a derived class (reversing formally

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ment these quasi-isomorphisms). It was clear that the usual definition (via the beams cohomology

associates) was not used in the algebraic framework (and it is not probably the most under

transcending 645 (*)). The passage of the complex corresponding 3-Modules now gives an answer

wonderfully simple in my perplexity of yesteryear!

Seeing no ready definition for the concept of quasi-isomorphism, I have not tried then to

get to the bottom if it existed or not, and whether there would be indeed a remarkable derived class. It was

at a time when I was the only one interested in derived classes (though much less sophisticated) for-

mées from coherent modules and morphisms **linear** therebetween. . . I did not feel clearly

that the issue of a concept to emerge from quasi-isomorphism (also a bit vague, not to say

farfetched) drew to a fruitful mystery, which mystery admitted a "key" childishly simple! and he

there was a category of "coefficients" remarkable waiting only whether defined. Should have been

for this, no doubt, my thoughts continue in an atmosphere where they meet a minimum

interest and echo, were it only in a party that is involved!

This is the De Rham cohomology that attracted my attention on this fact, evident of course, that the spaces

global cohomology of coherent sheaves on an algebraic variety X over a field k say, are

of "functor" not only with respect to homomorphisms O_X -linéaires, but even with respect to

all the homomorphisms of k-vector bundles, particularly for differential operators. It is

this observation that motivated an embryo of reflection on a "coherent" duality theory (or "quasi

consistent"), where" morphisms "Beam would be differential operators, rather than linear.

This reflection was cut short, as I said, and this even to the point that it did not remain in me

corner of memory, as a thing (among many others) should be

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one day clarify

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- it sank (I think) in a total oblivion until the last few days. Even my reflection sporadic on crystals, around 1966, did not go back in my memory, as far as I remember. Yet, this crystalline reflection, that I do not doubt me then (while failing to remember only the question!), would provide me since 1966 a **different** key, "dual" in some way to that of Mebkhout for my old perplexities through the complex of the main parts of infinite order associated with an complex differential operators. I am referring in a note b. p. written yesterday (note (***) on page 946) and I intend to return in detail in the section of Volume 3 of Reflections, developing yoga "types coefficients" and giving such a shape definition of what I presume to be "the" 645 (*) I am wrong here. Mebkhout guarantees me for a homomorphism (differential) between complex differential operators, it is a quasi-isomorphism (naive meaning complexes associated C-vector beams) if and only if the homomorphism corresponding to the associated modules 3-complex is a quasi-isomorphism. This is equivalent effect (At passage mapping-cylinder) to say that a complex differential operators is almost zero in the naive sense, and if only if the associated modules 3-complex is almost zero, something apparently well known (at least to Mebkhout who demonstrates in his thesis inexhaustible. . .).

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De Rham good coefficients (Mebkhout style, or Deligne choice) on a scheme of finite type over Z (for example).

Technically, even "psychologically" (in terms of the problems already then, and vision overall that gave them strength and life) everything was ready in the second half of the sixties, to clear the definition of the coefficients De Rham. Deligne after I was on the verge of good concept, and he could not help but disengage if a force to which he gave absolute power over his life and on his work, had been premature and conclusive end to his thoughts in this direction. . . 646 (*) Discover, it is not typing on a nail or chisel, or on a steel wedge, tooth and nail and strokes hammer or mass. Discover is above all, to listen with respect and with rapt attention, Voice of things. The new thing does not spring ready-made diamond, like a jet of sparkling light, nor does it spell a machine tool so advanced and powerful it is. It does not look noisily, studded with acclaim; I am this and I am that ... It is a humble thing and fragile, delicate and living thing, a humble acorn which may release a oak (if the seasons are his propitious. . .), Or a seed that will create a stem and the latter to a flower. It is not born under the limelight, or even the sunlight. It is not the fruit of the known. His mother is the Night and dark, elusive mist and without contours - the prospective escapes the words that would identify the absurd issue that is still looking, or

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Such dissatisfaction so vague and elusive and real p. 979

Yet, with that indefinable feeling (and irrefutable...) that something is wrong or is askew and there is something fishy. . .

When we know humbly listen to those voices that speak in low voices, and follow obstinately passionately their elusive message then - after groping and obscure labors, muddy perhaps without appearance - suddenly the mists incarnate and condense, in **substance**, firm, tangible, and **form**, visible and clear. In this solitary moment of intense attention and silence, the new thing, the daughter of the night and mist, appears. . .

a3. Freedoms. . .

Rating 171 (vii) (May 4) 647 (*) I do not intend to ask the man "mature" or "wise", surrounded by immaturity and irresponsibility of his kind - it is not, I imagine, the picture that emerges from my person the pages of crops and sowing 648 (**). Yet in my relationship to mathematics at least, I think to say everything in my life was maintained simplicity of good quality 649 (***) at the same time 646 (*) See in this regard the reflection in the sub-note "... And hinders" (n ° 171 (viii)).

647 (*) This sub-rating comes from a note b. p. in note "ancestor" (n ° 171 (i)) - see note (**) on page 945.

648 (**) (May 26) I can even say that if writing Crops and Seeds has revealed something about it, it is a state to "immaturity" in fact, a lack of "wisdom", and not the opposite. This was perhaps the most unexpected discovery of all, and most crucial also for its immediate implications, the strength of my attachment to a past and my Artwork mathematician. This attachment, as relatively discreet, was first revealed to me the end of March the year Last, in the reflection in the final note "The weight of the past" (n ° 50) Fatuité and Renewal. It is to be faced with the brutal reality of the Burial in aspects especially willful disregard and violence, which has set in motion me strong egotistic reflexes of defense. They reveal to me at the same time the power of the ties that bind me to a past, which I have thought once he was alienated from me. During the past year, these links appear to have taken a new force, and often (especially lately) I feel like a **weight** indeed a grueling weight to true say - like other weight that weighed on me once, and that resolved. . .

649 (***) (May 16) I would have to do here except a certain possessive attitude vis-a-vis my "turf" on which I put the finger in Fatuité and Renewal in the "Sport mathematical" section (n ° 40). This provision

"Sports" should take me to minimize the ideas of others, whenever they were already known from my side. We can say (contrary to what I said in the main text) and in these cases, my vanity indeed interfered with "My sound judgment", and tended in such a case to make me a discouraging attitude, where a benevolent encouragement

a loyalty to my nature

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original. Vanity, who was also pervasive in my life and in that of

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any of my colleagues do not yet interfered (as far as I remember) with my healthy judgment and my math acumen ⁶⁵⁰ (*).

It was also after I left in 1970 I started to realize gradually and each

Once in amazement, at which point it is common even among men of exceptional ability,

that they are sometimes as annihilated, hopeless blocked, it would seem, by prejudices

of "irrational" in nature - and even more stubborn! My first experience in this direction are placed

1976 ⁶⁵¹ (**), and are discussed in note "You can not stop progress" (n ° 50) and a first written reflection

about continued in the note "The Gravedigger - or the whole Congregation" (n ° 97) ⁶⁵² (***), in

the particular context of

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the Burial. It is only gradually, and against inertial forces

p. 981

huge, I realized that these causes "irrational" are not less perfectly

intelligible, if only one bothers to stop and to probe it. It is through this that I ended

by "accept" too, somehow. . .

Going back to my person and my relationship to mathematics. Through my work style, I tend

to operate strokes often hasty presumptions, without worrying about "prudence" ⁶⁵³ (*); but I am

through each of intuition (or "presumptions") appeared, making that many mistakes

dotted throughout the early stages of labor eventually eliminate, to make way for a

understanding a rock solid, and (usually) key indeed in the heart of things.

My spontaneous way is any other when it comes to pass judgment on other people@work,

and especially when it is placed in a topic or records with which I am not familiar. I have

tended then, I think, to exercise caution and modesty. It was also well

here the example that was given to me by most seniors who welcomed me among them, such Cartan

Dieudonne, Chevalley, Schwartz, Leray - to name a few. I do not remember hearing

none of them speak authoritatively, whether bad or good, on a work whose substance

escaped them. This caution, I now realize, was part of the atmosphere of **respect** that I spoke

Moreover, that permeated the environment that had welcomed me ⁶⁵⁴ (**). It seems to me that it is this caution sign a

respect, which deteriorated in first in this environment which I identified myself for over twenty years

my life. Perhaps my memory betrays me and I am deluding myself, but I think I was relatively

would have been appropriate. It seems to me that such situations were exceptional in my mathematician@life, and that

did not represent an obstacle in my mathematical creativity.

⁶⁵⁰ (*) See Note b. p. Previous to reservations about it.

⁶⁵¹ (**) (May 16) It@not really my first experience in this sense - I had done more in the years

previous with Deligne particular, and also in my past before I left. But those experiences remained

sporadic, while the episode around the thesis Ladegaillierie was impressive by the perfect harmony in

acts and omissions of five mathematicians (all high-level), which surely had not coordinated among themselves. It@here

My first contact with the Burial, beyond the vicissitudes of my relationship with the only person of my friend Peter.

But this extraordinary weight factor "irrational" in "scientific" called thinking goes far beyond the context

the Burial, and even of an era. It is not necessary to be versed in the history of science (and I do

am not) to realize that it is marked at every step by the effects of a huge inertia, opposing

to the outbreak of any innovative idea and fulfillment, however when the idea arose. For reflections in this

meaning, see especially the first two parts of Fatuité and Renewal ("Work and discovery" and "The Dream and the Dreamer"),

Sections 1 to 8.

⁶⁵² (***) This reflection is greatly deepens in "The key to the yin and yang", including in both ratings (concerned

ing the same "congregation") "The providential circumstance - or Apotheose" and "disavowal (1) - or recall" (n ° s 151,

152). See also Note "Muscle and tripe (yin yang bury (1))" (n ° 106) which opens the lengthy reflection on

yin and yang.

⁶⁵³ (*) About This style of work, see especially note "brothers and husbands - or double signature" (n ° 134), and also the

section (in Fatuité and Renewal) "Error and Discovery" (n ° 2).

⁶⁵⁴ (**) See "Welcome Abroad" section, n ° 9.

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unaffected by this aspect of the degradation of an atmosphere of respect. I always remained conscious, I think the extent of my ignorance in mathematics in general, and my limitations for power apprehend such work of others, when it was located outside my home interest, strongly centered most of the time.

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As for the work of others that I was able to understand and thereby to appreciate or judge p. 982

(Provided only that I want to give myself the trouble), I do not remember either error rough judgment, whether bad or good, I would have had to find afterwards. It is still The same feeling I had about my own ideas and intuitions that sentiment regarding the presence (or absence) of a "good question", or that of a rich substance to sound, or the scope of such idea, or understanding more or less complete and more or less profound that I had a situation or one thing. In all these cases, if error there was, it was each time in the direction instead of a "minus". Yes - usually the richness of a new or novel idea theme, its true depth range and in extension, only revealed fully only gradually, over weeks and months, when these are of years. This gradual confirmation of just initial feeling (usually), but remains first vague and diffuse, with a "work room" more or less deep and more or less thorough, we just then as a surprise and as a wonder, constantly renewing itself over hours and days. This, surely, the cause of the extraordinary fascination of the research (whether mathematical, or other): at each step, the reality that is revealed to us beyond our own dreams more reckless, in wealth, delicacy and depth. . .

But I return to my understanding of the work of others, when it was located in topics were familiar to me, even "hot" topics for me. I think I can say that my alertness to anticipate the true scope of an idea (which often escapes the author himself) played a role in my work capital. I am thinking first of all here in exceptional role Greenhouse, and the fact that during these Fifteen years of exceptional richness in my work, between 1955 and 1970, most of my ideas, and Most also my great investments, had their starting point in some idea or approach Greenhouse, sometimes seemingly innocuous. I intend to talk about more detailed way in the "Comments historical "in the Thematic Sketch 655 (*). But it is not there, however, an opening particu- die vis-à-vis the only person Serre. The same (relatively speaking) occurred with other mathematicians, both in my past systems analyst, as in that of surveyor 656 (**).

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I can say that, throughout my life mathematician, I was amply "rewarded" for p. 983 this simplicity of approach to mathematics, I just try to understand a little. This simplicity, 655 (*) These "Comments" are advertised in "Compass and baggage" (Int. 3).

656 (**) As an example (among many others), I point the principle of reduction of statements schematic situations on "finite presentation" on any basis, in case it is the specter of a local ring **finished** (or even a finite field), principle-reaching that I extracted a striking demonstration idea of a remarkable result (and very particular) D. Lazarus. On this subject the note "Go!" (n ° 77) and Note b. p. (***) p. 297 to it. (May 16) I am not sure when I inspired me with an idea due to others, I have been careful to report. For example, I do not remember, in the relevant paragraph of EGA IV, have taken care to mention Lazarus, as the source of the method general reduction that is developed there. This was negligence, which in those days, did not seem to get a result. I think people like Dieudonné (co-editor of the EGA with me) or Serre, who had to know like me this result Lazarus, as (probably) the first of its kind, would not have not considered compelling (or only appropriate) to quote - it was at least not in the canons of Bourbaki style! It is true that Bourbaki made amends in historical notes, which are lacking in the EGA and elsewhere in my work. Today, instructed by the frightening deterioration scientific ethics mathematical environment in years 70 and 80, I would be much more meticulous than I did was to carefully indicate my sources, not only in the technical sense, but also heuristic sense, which is often more crucial. In the "Comments" Historical already mentioned, I think at least repair some of my omissions in this regard.

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which in other areas of my life often told me: is lacking, is a blessing in itself. Actually, the fertility and power of my work due to this simplicity there, which is none other than as e nfant ...

a4. . . . and impedes

Rating 171 (viii) (May 4) 657 (*) I am wrong here, and my memories are specified (and ground) during the two previous months, taking up a little better contact with the subject. In fact, the main purpose of Deligne was precisely to give this "purely algebraic description" discrete beams (C-vector) Building and category suitable derivative 658 (**). The coefficients that introduced (via a condition "Constructability" ad hoc on a pro-crystalline beam condition defined by the existence of a

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"Unscrewed"

p. 984

appropriate, based on the one that I introduced in the context spreads or complex analytic) are facts "measure "to meet that wishes. Therefore, it became (heuristically)" obvious "that a formalism six operations **must** exist for these coefficients (in characteristic zero), and it was even able to de-show rigor, "brutally and stupidly" by judicious application of the "principle of Weyl" reduction if (known) where the base body is C.

Therefore, it may seem a mystery, little one stops there, a Deligne could abandon obviously promising approach to the description of "categories of factors" that (this was a clear thing in the mid-sixties) would have a crucial role to play in cohomology of algebraic varieties. So he left to another the task of finally clear, eight years later, an approach somehow dual and penetrating ⁶⁵⁹ (*), which was once ⁶⁶⁰ (**) renew the theme Cohomological geometry. The thing was not so much struck previously, as this primer theory by Deligne was placed shortly before my departure, and that nothing yet, at that time, could have let presage what would happen to him. After my second start, and practically until very recently months ago, I had completely lost touch with the cohomological theme.

I thought lately, a bit hastily and without stopping, that the reason for this disaffection Deligne for a theory in which he had invested for a year, could hold the fact that was not satisfied with his standard-definition "constructability" by unscrewing. This might seem too simplistic, and it is a fact that is surely shallower than the local algebraic provided Holonomy and regularity, released by Mebkhout in 1976 in his view "dual". But on reflection, this "Explanation" simply does not stand up! This is certainly not because one approach to a critical issue would be "too simple"

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a mathematician in full possession of his larguerait

p. 985

and approach, and the question! At most he larguerait its first approach, the day he would have found another that allows to achieve a deeper and more complete this very issue ⁶⁶¹ (*)!

⁶⁵⁷ (*) This note is from a note b. p. in note "ancestor" (n ° 171 (i)), see note (*) on page 947.

⁶⁵⁸ (**) It is here, category (denoted $Cons^*(X, C)$ in the note "The work ...", n ° 171 (ii)) formed complexes faisceaux C-vector x, to analytically constructible cohomology sheaves, seen as full subcategory of $D^*(X, C_x)$.

⁶⁵⁹ (*) I have no doubt that if indeed Deligne had not dropped the theme of the coefficients De Rham (he held from me), he could not help, in the trodden, to discover (eight years before the unknown service) yoga "dual" 3-Modules, and familiarize themselves suddenly with the ideas of Sato School.

⁶⁶⁰ (**) The term "immediately" is not quite the reality as it was (but that, rather, "should have been" if...).

In fact, three years elapsed between the time the new philosophy and the new tool were ready, and when people that set the tone eventually realize that there was something that could be used (and pocketing good...).

⁶⁶¹ (*) In fact, in this case, it seems to me that there is no place to "drop" approach Deligne in favor of that of the God (not to name Mebkhout). The two approaches complement each other, the one having the advantage of Deligne

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When I ask so little about this strange situation, it becomes clear that in this case again, as in many others, the motives of my friend Peter had nothing in mathematical or even "rational".

In resongeant there, I realized how the problems around the coefficients De Rham, which made sense only from the perspective of six operations and lens Yoga ⁶⁶² (**) (yoga that I had introduced a few years before with crystalline topos, and in the spirit of just six operations. . .) - at how this whole issue was rooted in my work and in my person, and this so

clearly apparent to all .

It is true that the problem of coefficients Hodge also had the same master, which already in his heart (and his own blind, perhaps) the student is distanced. But the descent was there less obvious to the outside world (and no, even including Serre, seems to have received ⁶⁶³ (***)) and especially: a first tranche of work reaching which was to do, was not part of a vision ("Six operations" or whatever...) Ostentativement grothendieckienne, not so clearly apparent to all, at least.

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But this is no coincidence, as I have emphasized more than once that the cohomological theory Hodge- ^{p. 986} Deligne, after a spectacular start in the late sixties, still remains at the stage childhood, or only tolerated coefficients are constant (or, at best, "smooth", ie the equivalent under "Hodge-Deligne" local systems), and where such crucial operations that direct images

senior Leray R i f * (to mention only a few) do not run! The question of defining the right concept of "Hodge coefficients" and the relevant transactions above, is not only **mentioned** in Deligne's work (as far as I know), when she was already familiar to me, I believe, soon before I have had the pleasure to meet him. When, after my departure, and over the years, I sometimes ask (I ended up tired, of course...), of what he expected to develop at the end of the purposes theory that was needed, he invariably replied: "it's too hard..." 664 (*). That does not convince me, that's for sure - if I had gone in a completely different adventure, I should have been dry well also to expand this theory "too difficult" and that the coefficients De Rham the same time. . . to be closer to geometric intuition, and the Mebkhout being technically simpler (avoiding the use of pro-objects), and various deepest respects.

662 (**) I remember also that in the statement that Deligne was his theory, he avoided the systematic use of language crystalline, which nevertheless gave her a deeper dimension theory, by inserting it into a cohomological formalism topologique existing. Also, I realize that, as Berthelot and cohomologists my other students, he had lost sense of **oneness** deep between the crystalline cohomology in characteristic p, and crystalline phenomena characteristic zero (which were the subject of the conference). These are signs of a deliberate ignorance of a land unit, which is morcellée arbitrarily and thereby destroy. This is deliberate in nature of a "blocking", by intervention natural forces ego, foreign to the drive for knowledge. For an illustration of this blockade in another of my cohomologists students, I experienced yet endowed with a fine feeling, see subnote n ° 91 2 to the note "The heirs..."

663 (**) This seems out anyway Serre report on the work of Deligne, quoted in the sub-grade n ° 165 1 to Note "Requiem for wave skeleton" (in particular p. 813). For an explanation of this relationship, see "dot the i" (note n ° 164), I 4 (in particular p. 793), and its subnote n ° 164 1 .

664 (*) This reply has recently partnered with "In Praise of Death" (or burial by the compliment), the pen Deligne, which was discussed again recently (see note "Jewels" n ° 170 (iii)). This "Eulogy" ends with this question (worth its weight of Peter...)

He left IHES in 1970 at a time when his passion for mathematics was eclipsed. Are we to believe that the problems that arose in the line he had drawn, **had become too difficult** ? "(My emphasis))

This kind suggestion is included in the part 2 of the praise, stone dedicated Deligne, where we learn that some conjectures of the deceased, "today still unaffordable then" had probably been (at least this is clearly suggested) the main obstacle has been overcome Deligne said, to prove some conjecture "proverbial difficulty." These comparisons make me understand that the stereotype answer "it's too hard..." My friend Peter, there was a subtext of derision that would give him satisfaction all the more piquant, it was evident that this goof of deceased was a thousand miles from suspecting said implied (not more than the quality of the deceased...).

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Looking back, I am struck by the parallels between the stagnation in the Hodge-Deligne theory of hand, and the other aberrant behavior Deligne vis-à-vis the theme of the coefficients De Rham (attitude highlight

0 in the "perverse" inequity that remain attached to the memorable symposium Luminy June 1981. . .). p. 987

These two outliers appear to me now closely linked, and this to a whole other level though the mathematical level. It is true that, obviously, the development of a formalism coefficients Hodge is **subordinate** to that for coefficients De Rham (something that was obvious to me from the 1966, and people seem to be discovering for a year or two, on the broken student work-posthumous-ever-appointed ...). This mathematical fact makes more striking, both link between the two sets of facts, and the aberrant nature of the one and the other: because the link "objective" was a power additional incentive (for someone at least "in full possession of his faculties") for develop and the one and the other theory, which could, therefore, that illuminate and reinforce each other. Stagnation in one and the other theory (until Pervert Symposium 1981 Rham and up today for Hodge) is largely in the general slump cohomological theme, slump which I had occasion to allude more than once 665 (*). Even without the spiritual dimension of the human being, and considering only the only factor "profitability" by scientific production "peak", this stagnation illustrates for me a strikingly both the empire unexpected that can take the occult forces on an egotistical being, and this even in the exercise of so-called science "disinterested" and the character (apparently) absurd of this empire that here (at first to least) seems to constantly go against the aim pursued 666 (**).

b1. The five photos (crystals and 3-Modules)

Rating 171 (ix)

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665 (*) On this mess, see especially "The yards sorry" (The Funeral Ceremony, 6), especially the note "The tour of building sites - or tools and vision" (n ° 178).

666 (**) This is, at least, if it is considered "goal" that is displayed before the world ("the Advancement of Science", say)

or even one, can not, which would consist in the expansion of a prestige, by the accumulation of forcing works the esteem and admiration. Yet it seems to me that even this "benefit" -There is incidental, before continuing satisfactions by the most powerful occult forces, those to which my friend has chosen to give dominion over his being.

667 (*) This sub-note to the note "This work..." (N ° 171 (ii)) is exclusively mathematical nature. It can be omitted a player who would not feel encouraged to understand so little, in mathematical terms, the work of Zoghman Mebkhout and "Yoga 3-Modules" as new "theory of factors" in the cohomology theory of varieties. The pages

The following can be considered as a short introduction to yoga, or "philosophy Mebkhout" located in Under a conceptual baggage and a crystal clear overview. It was clear to me from the year 1966.

This vision was obscured systematically and essentially complete by my cohomologistes Deligne students, Berthe lot, Illusie Verdier, who had been the primary repositories. The only written record that remains is the text of my talks in 1966 IHES " **Crystals and the De Rham cohomology of schemes** ", notes by I. Coates & O. Jussila, exposed in Ten on étale schemes, North Holland Pub. Co. (1968). This presentation contains however, the technical point of view, all starting ideas of crystalline cohomology. Apart from the work of Mebkhout it does not appear that no progress really crucial was made at the conceptual level (or other) - on the contrary, I see a staggering decline compared my ideas of the sixties. They unfortunately appear very piecemeal, or between the lines, in the city exposed - the most important gap, here as elsewhere, is the absence of any explicit reference to the problematic tick coefficients De Rham, and a formalism of six operations (and bidualité) to establish for such coefficients (x). I could see that Mebkhout yet familiar than anyone else with my written work on cohomology (and one of my students), completely unaware that original problem (until a further two years) - and it seems to me that perspective "substrate" mathematical (and disregarding psychic non-intellectual factors), it was up still its main handicap.

Thereafter, I will refer to the quoted statement of 1966 [Crystals].

(X) (June 16) for a correction, see note b. p. (**) page 990.

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18.5. THE FOUR OPERATIONS (a corpse)

(A) **The album "De Rham coefficients"**

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(4 May and 19-20 May) I recall that for analytical space p. 988 smooth complex tick, the term $3 \times$ (or simply 3), the ring beam (more specifically, C-algebras) complex analytical differential operators on X. A first crucial fact, being evident dence by Sato, is that this is a ring beam **coherent**. A second fact tautological nature nonetheless crucial too, is that the O Class x -modules locally free, which we take as morphisms not the only morphisms O_x -linéaires but the differential operators between such modules, plunges as a **full subcategory** (but a priori functor **contravariant**) in that of 3-modules locally free by the contrafoncteur 668 (**)

$$F \mapsto \text{Hom}_{O_x}(F, 3_d)$$

~

$$- \text{Opdiff} \rightarrow (F, O_x)$$

(1)

3 where d denotes 3 , provided with its three-module structure induced by the canonical three-module structure **to right**, which switches with the operations

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3 left on itself (which the second member p. 989

(1) 3-Module). This fully faithful functor also induces an (anti-) **equivalence** between sub full categories formed free modules. It does not admit a canonical almost inverse functor "Switching to the restriction to an open" - that's why the first contrafoncteur envisaged is probably not (usually) an equivalence. If C (C like "crystal", see below) refers to 3-Module locally free (or even free, so be it), we can associate certainly a beam dependent functorially dec :

$$C \mapsto \text{Hom}_3(C, O_x)$$

(2)

Here we have a contravariant functor, which might seem to provide "the" natural candidate for a functor quasi-inverse of (1). The problem is that this beam (2) is not provided with a natural way to structure O_x -Module, but only a structure of C_x -Module (where C_x is the constant beam of X defined by the field of complex C). When C is from a O_x -Module locally free F by contrafoncteur (1), then (2) is canonically isomorphic to the underlying C-vector beam F.

The functor (1) is extended (as any additive functor) complex categories: it transforms a complex differential operators on X (the regular direction) in a complex of $3 \times$ -modules locally free, and the (contradictory) X functor thus obtained is of course fully faithful (for differential morphisms between complex differential operators in the first complex category). It is in this sense that can be said that 3-Modules complexes (locally available components) " **generalized** " complex

of differential operators on X .

The view of the 3-Modules complex has the decisive advantage on the complex operators differential to be inserted directly into yoga (first developed in my 1955 article "On some points homological algebra" ⁶⁶⁹ (*)) Module complex on a ringed space and thus especially in that of **derived classes** (which I had emerged in the years following the cited article). The crucial concept of "**quasi-isomorphism**" does not appear to the naked eye when one adopts the view of morphisms differential between complex when she becomes manifest through the 3-Modules complex associated. So more than a **generalization** from the perspective of complex differential operators, introduced the viewpoint by Mebkhout ⁶⁷⁰ (**) represents a **critical relaxation** :

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thanks to this point p. 990

⁶⁶⁸ (**) The isomorphism written here is $\epsilon \circ u \mapsto \theta$ where $\epsilon: 3 \rightarrow \mathcal{O}_X$ is "increasing" $\theta \rightarrow \theta(1)$.

⁶⁶⁹ (*) In Tohoku Mathematical Journal, 9 (1957) p. 121-138.

⁶⁷⁰ (**) (8 June) should be read here: introduced by Mebkhout in grothendieckienne range for the purposes of a new theory coefficients. It is understood that "the view of 3-Modules" is due to Sato, but used in any optical different.

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of view, and because of him only that the complex differential operators can be used now as "coefficients" for a new cohomology theory, with all the richness of intuitions attached to it. If I establish a parallel between the theory of De Rham coefficients, and the coefficients l -adic (which was also a major source of inspiration for Mebkhout in the development of his philosophy), I would say that this first step of **conceptual**, not a "childish", akin to that I had done (in 1958) by introducing the concept of beam spreads (containing the germ of the idea unifying critical of **topos**). In the same analogy, the "theorem of God" (we will remind more below) is similar to the base change theorem for a proper map in étale, who summer (1963) **the** first major theorem to the start of the étale, leading in space a few weeks to a situation of "control" almost complete on the cohomological tool spreads. The similar work in the context of 3-Modules (or more generally in the crystalline framework), to arrive at a mastery of the "crystalline cohomology" (or "De Rham" in a broad sense that I saw such a theory since the sixties) - that work remains to be done, for seven years the first big breakthrough was finally accomplished by Zoghman Mebkhout.

The new category introduced by Mebkhout coefficients, which "contains" (explicit meaning in note "The work of...", N° 171 (ii)) both "analytically Building discrete coefficients", and the coefficients consistent introduced by Serre (systematized by me in a cohomological theory of "coherent coefficients" ⁶⁷¹ (*)) is that formed complexes of 3-modules cohomology beam **coherent** (as that 3-Modules), seen as full subcategory

D^*
 $\text{coh}(X, 3 \otimes X)$ or Cris^*

$\text{coh}(X)$

(3)
the usual derived category $D^*(X \otimes X)$. If one confines oneself to complex bounded cohomology (formant the full subcategory Cree

b
 $\text{coh}(X)$), such a "factor" is represented **locally** by a complex of free 3-modules of finite type in any degree, and bounded degrees; or too, which basically amounts to Similarly, a complex of differential operators in bounded degree. ⁶⁷²

When working with the derived classes, there is of course necessary to replace the basic functors p. 991

(1) and (2) by total derivatives functor
 $F \mapsto \text{Rhom}_{\mathcal{O}_X}(F, 3 \otimes X), C \mapsto \text{Rhom}_3(C, \mathcal{O}_X)$.

(4)
If one seeks functors **covariates** similar in nature to these two functors, firstly falls on the functor "scalar expansion" (designated N in the note cited):

$F \mapsto 3 \otimes_{\mathcal{O}_X} F$,
(5)

(tensor product total), where the tensor product still used the structure \mathcal{O}_X -Module right of 3 ie. 3 of, ⁶⁷³ (*) This functor F has the disadvantage, compared with (1), not to prolong the morphisms ⁶⁷¹ (*) This is the formalism of six operations and bidualité, I developed the coherent framework in the second half fifties.

⁶⁷² (**) (June 16 - see end of note (*) page 988). Mebkhout just made me observe that this is not entirely accurate - this problem is addressed in loc. cit. 1.5 d) (p. 312). Mebkhout explicitly refers to it in his work "Poincaré duality"

(Seminar "singularities" of Paris VII, 1977-1979), in the last three lines of section 4.4 (duality theorem relating to the -modules).

673 (*) It is known that \mathcal{O}_X is flat as \mathcal{O}_X -Module right or left (seen immediately on the canonical filtration \mathcal{O}_X , and the known form of the associated graduated. . .). As a result, the tensor product "total" in (5) is actually a tensor product
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$F \rightarrow F$ between arguments that are only differential operators (rather than linear). The second functor (4), it must look like a contrafoncteur

Cris *

$$\text{coh}(X) \rightarrow D^*(X, \mathcal{O}_X)$$

also admits a "during" significant covariate, given by

$$C \mapsto \text{Rhom}_3(\mathcal{O}_X, C)$$

dfn

$$DR = (C) \text{ ("De Rham complex" associated with } C),$$

(6)

where the second member is explicit indeed a complex type Rham, through resolution canonical called "Spencer" W_X , by \mathcal{O}_X -modules locally free finitely generated. (This resolution is deduced from Ordinarily Rham complex, taking the \mathcal{O}_X -modules associated with the functor (1).) In terms crystalline (which will be explained below), the functor DR explicit as to the total derived functor function $C \mapsto \text{Hom}_3(\mathcal{O}_X, C)$, associating with each \mathcal{O}_X -Modules ("or" crystal) the C-vector beam formed its "horizontal" sections (of variable open). This is an operation **local nature**. The good concept (global) "**integration**" (or o **bject global cohomology**) for a "coefficient" C (ie a \mathcal{O}_X -module or as complex) here is not the usual functor

$$\text{Gamma-ray}_X(C) \simeq \text{Rhom}_3(X; \mathcal{O}_X, C)$$

but the functor (which is familiar to me as functor **total crystalline cohomology**) Total derivative functor "horizontal sections (global)" $C \mapsto \text{Hom}_3(\mathcal{O}_X, C)$; I note this total derived by gamma-ray $\text{cries}(C)$, so p. 992 we tautological isomorphisms

$$\text{Gamma-ray}_{\text{cry}}(C)$$

dfn

$$= \text{Rhom}_3(\mathcal{O}_X, C) \simeq \text{gamma-ray}_X(CD(C)),$$

(7)

ie the crystalline cohomology C_X is obtained by taking the cohomology (global) normal complex De Rham partner.

Can be defined in Cris *

$\text{coh}(X)$ a **Dualising functor**, resulting in a bidualité theorem, the model of those I discussed in the context (commutative) first coherent, discrete (spreads) then. I the will note D (as in the contexts cited):

D: Cris *

$$\text{coh}(X) \approx$$

$$\rightarrow \text{Cris}^*$$

$$\text{coh}(X).$$

(8)

This is an anti-equivalence essentially involution (ie it has an isomorphism of bidualité, in functorial C:

$$C \simeq D(D(X)).$$

(9)

(9). This functor transforms (by composition) the contrafoncteurs (1) and (2) functors cova-lauding. The simple fact to remember is that if C and C are "duals" of each other, then the De Rham complex (6) one is identified with the "co-Rham" (2) of the other (10)

$$\text{Rhom}_3(\mathcal{O}_X, C) \simeq \text{Rhom}_3(C, \mathcal{O}_X), \text{ and vice versa.}$$

(10)

On the complex of differential operators, this transaction D is expressed (a "shift" n close on the steps) ordinary.

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by passing the complex differential operators "Assistant" of Hom components $\mathcal{O}_X(F, \omega_X)$ obtained in taking forward assistants term traders. Thus, the functor Dualising for \mathcal{O}_X -modules is compatible

familiar with the functor Dualising in duality of Serre,

$$F \mapsto \text{Hom}_{\mathcal{O}_X}(F, \omega_X) \simeq E \otimes_{\mathcal{O}_X} \omega_X \quad (F \text{ } \mathcal{O}_X\text{-Module loc. Lib. Finitely})$$

(11)

where ω_X denotes the "modulus Dualising" differential forms of highest degree on X . We will be careful that the functor De Rham

DR: D^*

$$\text{coh}(X, \mathbb{Z}) \rightarrow D^*(X, \mathbb{C}),$$

does not switch to generally dualisants functors (taking into the second category the functor $\text{Rhom}_{\mathbb{C}}(-, \mathbb{C}(X))$). But it is a deep theorem Mebkhout (that everyone uses without citing per- sounds good and safe as if it were a simple sorite) as arguments **holonomic**, so for the functor induced

$$\text{Cris}^*(X)_{\text{hol}} \rightarrow \text{Cons}^*(X, \mathbb{C}) \quad (\leftarrow \rightarrow D^*(X, \mathbb{C}))$$

there is switching to dualisants functor. I "remember" not by the condition of **holonomy**, and confine myself to p. 993

report that a 3-module complex is holonomic sss its cohomology sheaves are 3-Modules

holonomic, and this is a natural condition of **local** X , and more, "**algebraic**". On the other hand,

Theorem constructability Kashiwara (the latter had stated for a **module** holonomic at a time when he nor anyone - except Mebkhout - was working with derived categories. . .) Implies that the restriction the functor Rham complex holonomic carried well in $\text{Cons}^*(X, \mathbb{C})$. By introducing the concept of **regularity** of Mebkhout also local and "algebraic" Nature 674 (*), we find the "good functor God "(aka Mebkhout)

$$m: \text{Cris}^*(X)_{\text{hol reg}} \approx$$

\approx

$$\rightarrow \text{Cons}^*(X, \mathbb{C})$$

(12)

which, this time, is an **equivalence** (as we saw in the note "This work...", n ° 171 (ii)), which is therefore compatible with natural functors Dualising. It's almost the opposite functor (13)

$$M: \text{Cons}^*(X) \approx$$

$$\leftarrow \text{Cris} \rightarrow^* (X)_{\text{hol reg}} \leftarrow \rightarrow \text{Cris}^*$$

$\text{coh}(X)$

(13)

which allows to consider the category of "buildable discrete coefficients" (\mathbb{C} -vector) X , as a full subcategory of $D^*(X, \mathbb{Z})$ and specifically D^*

$$\text{cons}(X, \mathbb{Z}) = \text{Cris}^*$$

$\text{coh}(X)$, we will inter-

pret sometimes as a category of "crystalline" coefficients.

(May 19) For now, we can say that we have described three "languages" or "views" different, such as many "photos" different, the same reality, or (essentially) a "same" type coefficients "called" coefficients Rham": there the view \mathbb{C} -vector bundles and complex such (shooting "topological") with a condition of "analytical constructability" 675 (**), acting a finiteness condition (essential, especially in order to write the type Riemann theorems Roch involving "characteristics of Euler-Poincare and groups Grothendieck" Suitable). he p. 994

674 (*) I recall that the original definition of Mebkhout regularity was transcendent nature. For translation "purely ment algebraic", I refer to the presentation provided on the coefficients De Rham (style Mebkhout "style or" Deligne ") in volume 3 Reflections.

675 (**) I remember that a \mathbb{C} -vector bundle on an analytic space X is called "analytically building" if the neighborhood each point, he admits a composition series whose successive factors are of the form $i_! (F)$, where $i: Y \rightarrow X$ is the inclusion of an analytical subspace $Y = Z \setminus X \setminus T$ (with $T \subset Z$ analytically two closed subspaces of X), and F a \mathbb{C} -beam locally free finitely (or "local \mathbb{C} -vector system") to Y .

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is the view "complex of differential operators", with holonomy conditions and regularity taking the place of the conditions of constructability. And there is the view "3-Modules complex", with consistency conditions, Holonomy and due to the key. The second "picture" (taken under the angle "analysis ") is attractive, because it is we intelligible words" classic "and objects that we watch, learn complex differential operators, seem to "dimensions" reasonable, then the 3-Modules even coherent (starting 3) itself!), appear excessive when the look with the glasses " \mathcal{O}_X -modules." Technically speaking, however, these provide a picture more complete. Indeed, while it is "clear" that locally each complex 3-cohomology modules

coherent and bounded degree (say) may be represented by a complex of differential operators via (1), is unlikely that this is also the case globally, if we do X draconian assumptions (gender "Stein manifold" or, in the algebraic framework, an assumption of quasi-projectivity) ⁶⁷⁶ (*). The "picture" 1 has the advantage of keeping a sense when X is not supposed smooth, but is a space analytic any complex. By cons, as such, photos 2 and 3 are just as reasonable the assumption of smoothness. One can certainly still define a ring beam $3 \times$ without assumption of smoothness on X, and there are still a tautological dictionary between complex differential operators (Component O_X -modules locally free) complex of 3-Modules (locally available components), but $3 \times$ (It seems) ceases to be coherent, too bad! There is probably unlikely that a "theorem of God" could be reached in the particular case, on the model of the one known in the smooth. Obviously other except that need pictures of the type 2 or 3 in the singular case also, as the photo $n \circ 1$ is **transcendent nature** : by tracing the naively in terms of Zariski topology or spread for a variety algebraic, one would find the "coefficients" too specific to be used (for these topologies are too coarse, based on the transcendental topology). Photos 2 and 3, by cons, restricted to p. 995 begin the field of vision "smooth", keep a sense "abstract" algebraic geometry (on a body because. zero, say, to begin with), making (for me) principal charm. This means that it is necessary to make enlargements, so that the singular varieties are included in the scope of vision.

It did not seem concerned Mebkhout who soucis- other well when I asked him, his immediate thought was this. Suppose X plunges into a smooth variety X as sub analytical closed space. While the category $\text{Cons}^*(X, C)$ can be interpreted as the full subcategory $\text{Cons}^*(X, C)$ consisting of objects whose restriction to $U = X - X$ is zero (ie the support objects in X "). But it can also be interpreted by the theorem of God in terms of pictures 2 or 3, as the category of "coefficients de Rham - Mebkhout" on X whose restriction to U is zero. He must be easy to check a priori (remaining within the context of "coefficients De Rham - Mebkhout", ie the one Pictures of 2.3), that this category to equivalence set itself single isomorphism is Independent of the "lissification" chosen X X. I made myself full of things like that, and I want to believe that it works. If on the other hand is not X "lissifiable", never mind (Mebkhout said), we will "Make cohomological descent" to reconstitute a global category from these local pieces or introduce the "site lissifications" to open X, and work on it. There are chances that Can deal indeed, but instead of a "site lissifiant" (improvised Mebkhout for the purposes of ⁶⁷⁶ (*)) Of course, nothing prevents to build a "class derived" from the category of complex differential operators X and differential morphisms between such complexes in "reversing" formally "quasi-isomorphisms" (defined transition to complexes corresponding 3-Modules). Be found (presumably) a subcategory **full** $\text{Cris}^* \text{coh}(X)$, but not the entire category probably, in the absence of assumptions like "Stein" or "projective X" (or only quasi-projective in the algebraic case).
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reply in a conversation that remained platonic) site that strikes me as highly redundant, why not work with the crystalline site, which has proven itself (even if it has been forgotten, it would seem, with all related by those who were my students. . .)? And all the more so that it was clear to I, in the year 1966 when I cleared startup ideas lens yoga, that future "coefficients De Rham "should be expressed precisely in terms crystalline! This brings me out of my drawer bottoms a photo that has had time to amass the pous-IESO, the poor - yet once blew it, it appears to me as new, and perfect clarity. This is also one of the first things to what I have thought, writing last year (even before he meets the Burial. . .) Note "My orphans" ($n \circ 46$), feeling obscurely that it was time someone speaks with respect about things that deserve respect. . . Moreover, since Mebkhout told me about 3-modules (1980 - God knows that I was not "connected" then!), I could not p. 996 help but think of it as the "crystal" instead, and use the words "3-Modules" and "crystal" (from O_X -modules) synonymously with (of course) a marked preference for the second. I therefore promised to the fourth photo, picture "crystal". Suppose first X smooth. To give 3-Module F on X is the same as give an O_X -Module with a structure addi-mentary, which can be expressed in various ways equivalent. One, the tautological, that is to say "extends" the operations O_X on the Abelian beam F in an X operation of the Ring $3 \times$ (which contains O_X). As $3 \times$ is generated by O_X and the additive subbeam derivations, we see that it is the even to give F a so-called " **integrable connection** ", ie a law, every ξ derivation over an open U-X, associates a " ξ -bypass" $\cdot \theta_\xi F$, linearly ξ , and so compatible with the operation "hook" to lead ⁶⁷⁷ (*). We can say that this is a kind of structure "Differential" F of order 1.

Because that is characteristic zero ⁶⁷⁸ (**), this structure can be interpreted also as a structural ture richer, a differential structure of infinite order, which I have called a " **layering** " on F (where F takes the name " **laminated module** "). One way to express stratification, is like a " **given lowering infinitesimal infinite order** " F (relative to the morphism $X \rightarrow \text{a point}$), or more precisely ment, such as a given isomorphism, above the formal completion of $X \times X$ along the diagonal, p. 997

between the two mirror images of F (by both canonical projections pr_1 and pr_2) isomorphism identity extends on the diagonal, and satisfies further to a "condition transitivity" suitable. Passing an integrable connection to a "data infinitesimal descent" (or laminated) represents a new idea - and "trivial" as all the new ideas that I "had the honor of dis- vvir! This however takes its strength once re-interpreted in terms of the concept of **crystal modules** . It shows that the structure in question on F also returns to the data, for any "neighborhood infinitesimal "U an open $U \rightarrow X$, a **prolongation** $F_U, F|_U \rightarrow U$ (in short, F" grows "above infinitesimal neighborhoods, such a "crystal" - crystal modules, in this case, but there are crystals of all kinds. . .) - this extension behaving the way we guess for the concept of restriction ⁶⁷⁷ (*) It is also, of course, a compatibility condition for the restriction to open.

⁶⁷⁸ (**) may, in the following, to overcome any event feature (as part of a smooth outline for, say) replacing the completed formal $X \times_S X$ along the diagonal, by the formal completed "to S divided powers". it also conduit / O to a beam of \mathcal{O}_X -Module F on X, replacing the pro-beam $P_\infty(F)$ of its "main parts infinite order ", by" main parties divided powers (of infinite order) ". From dual side, this means replacing the sheaf of rings $\mathcal{D}_{X/S}$ of differential operators on (which is not consistent even if S is Noetherian) by the sheaf of rings "enveloping" relative derivations $\mathcal{O}_X \otimes \mathcal{O}_S$ (which, what assures me Mebkhout would be consistent!). This is, in fact, the conceptual background for the coefficients De Rham, which will extend one of the Mebkhout 3-Modules, especially for the development of a theory of the coefficients De Rham for type schemes over Z. 770

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an open $V \rightarrow U$ and morphisms between neighborhoods infinitesimal (or "thickening") U, U of a even U (morphisms inducing the identity on U, of course).

Interest lens perspective is that the objects to be studied (3-Modules) can be interpreted as bundles of "ordinary" Modules on a suitable site ⁶⁷⁹ (*), annealed in **local rings commutative** , namely the "crystalline site" formed by the thickened U various open U of X (the beam crystalline structural U being simply $\mathcal{O}_U \rightarrow \Gamma(U, \mathcal{O}_U)$). Therefore, we have all the arsenal of insights Geometric associated with such a situation. A remarkable relationship I discovered in 1966 and then stunned me, is that the cohomology of the crystalline site (or topos of the lens corresponding to it) to coefficients in the structural beams (or more generally, with coefficients in F, at least when F is coherent \mathcal{O}_X), is identified with the **cohomology Rham** X (with coefficients in F, in this case, ie ordinary hypercohomology X with coefficients in $\mathcal{D}(F)$). That was the start of the cohomology crystalline ⁶⁸⁰ (**).

Thus we have a perfect dictionary, explained extensively in my presentations 1966 already mentioned ⁶⁸¹ (*), p. 998 between four types of objects X, or four types of structure on a \mathcal{O}_X -Module:

(
 $\left. \begin{array}{l} ||| \} \\ ||| \setminus \end{array} \right\}$
 3-Modules
 \mathcal{O}_X -modules integrable connection
 laminates modules (descent data infinite order infinitesimal)
 crystals of \mathcal{O}_X -modules
 (Cr)

This dictionary is valid without any restrictions on the type or consistency quasicohérence F. Note However, if we compare the extremes

3-O Modules \Leftrightarrow crystal \mathcal{O}_X -modules

natural concepts of "consistency" in either context **does not match** . The structural beam tural lens is consistent but coherent modules on the crystalline ringed topos exactly match the 3-modules that are consistent **as \mathcal{O}_X -modules** , in which case they are even free finitely.

The category they form is canonically equivalent by the functor "scalar expansion" on $C_X \rightarrow \mathcal{O}_X$, to the category of beam C_X -modules locally free, ie that of " **local systems**

C-vector "X. This is so for such items, five possible descriptions (or five" photos "

by counting four of the table (Cr) above)! But these are "coefficients" excessively kind

Special ⁶⁸² (**), among those (De Rham - Mebkhout) of interest.

Let us return instead to the four pictures of the table (Cr) above, and see what happens when we do not suppose X more smooth. The four types of objects considered keeping a sense. It seems the other, both pre-

miers do not form important categories - rather, all three X -modules and all O_X -modules connection integrable is encountered naturally, such as "having a geometrical sense", "come" (In an obvious sense) laminated modules, which can also still be interpreted as crystals rate of O_X -modules, as in the case smooth 683 (***)).

679 (*) We will be careful we do not find **all** the modules beams on the crystalline site, but only those who meet a simple additional condition (beams called "special" in [Crystals])

680 (**) Again, startup ideas are so "trivial" it's really not worth bothering the little, when we spent fifteen years of his life, after, to develop a little bit (and forget the rest...).

681 (*) See discussion [Crystals], quoted in the first footnote to this page sub-notes (Note (*) page 988).

682 (**) In fact, this is 3-consistent, of course (I had missed in the sixties) here the notion of finitude important.

683 (***) this assertion was made hastily, and is false as is. For it to become true, replace the "site 771

I admit that without it some thought, I do not very much shows the exact relationship for X plunged p. 999

in smooth X (say) between crystals and crystal X (and this even when X itself is smooth) 684 (*).

What is certain is that the crystalline site, or better, the lens $\text{topos } X_{\text{cris}}$, with its corrugated structure depends of the analytic space X covariant way, ie if $f: X' \rightarrow X$ is a morphism between analytical spaces ticks, we deduce

$$f_{\text{cris}} : X_{\text{cris}} \rightarrow X'_{\text{cris}} ;$$

where such a functor "direct image" for Modules bundles on these ringed topos. We would like understand this operation (in the case of a closed immersion $X' \hookrightarrow X$, in particular) and to include what condition a crystal is transformed into crystal. It would also, in the case of a closed immersion, that this functor is exact. The idea here is this: if F is an object of the derived class $D^*(X_{\text{cris}}, O_{X_{\text{cris}}})$ F and its image by the total derivative functor $f_{\text{cris},*}$, and assuming more X smooth, provided that either F regular holonomic **should not depend on the chosen immersion of X into a space (smooth X** . If it p. 1000

is so, then we will define the category of crystalline coefficients De Rham - Mebkhout X as Full subcategory (the derived class) as defined by the above condition (apparently on local X).

Thus, the module work foundations should be done for twenty years and who apparently always remains days to do (about the fundamental operations on crystalline modules), we can say that in If X is any analytic space (not necessarily smooth), it remains **two** pictures (instead of four) to describe the "coefficient de Rham" which we have: there $\text{Cons}^*(X, C)$ varietur, and is the category (which for the moment remains hypothetical, and as such I can not see yet 685 (**)) of coefficients "De Rham - Mebkhout" $\text{DRM}^*(X)$, for which I have to hazard a definition principle. The $\text{Cons}^*(X, C)$ category, the description offers no problem of the transcendent perspective, **disappears** However, as soon as one passes algebraic context. This makes clear the need to identify a good definition $\text{DRM}^*(X)$, which keeps a sense in this context. And it is clear to me also that the right "frame" for this photo, which suddenly seems (at first glance at least) the only one left is the one formed by the crystalline modules 686 (**).

lens "formed by all the infinitesimal thickening of open X , for the subsite (called "laminating Site ") formed by those locally admit a retraction X (automatically condition satisfied when X is smooth). When we gives a laminate modulus F of X , its inverse image by such retraction **does not depend**, single isomorphism of the chosen shrinkage, resulting in a "canonical extension" F above the intended thickening. It is thus seen that when X is not smooth, a crystal structure F is "richer" than a lamination, since it can extend F (ie to "grow") above infinitesimal neighborhoods **whatsoever** to open X , including (and this is something of particular importance), above the infinitesimal neighborhoods of all kinds of X , immersed in an ambient space **smooth**. It is, in fact, that the new concept the most crucial and fruitful, between that of laminate module and that of crystal modules, is the latter. It is she who is called to dominate the theory of coefficients De Rham. I "remember" about it as clean and smooth outline for Z on X cohomology De Rham on $Z \times X$ (as in the transcendental context qu'@gébrique...) is "not only" provided with a lamination, but rather a crystalline structure through the "grow up" on any infinitesimal neighborhood.

This is a **fact** crucial math, that Deligne had also forgotten even before my departure in 1969 when he described coefficients type Rham in terms of procohérents modules **laminated** instead of the highest crystalline version ie in terms of **crystals** of procohérents modules. It must be said that my name was attached less known to the notion laminate module (so natural that one would swear she must go back to the last century), that the notion of crystal Modules, much less "traditional" look. On this subject the reflections in "... And hinders" (subnote n° 171 (viii)).

684 (*) (May 26) The situation has clarified for me with the introduction of the concept of co-crystal, in which it is refers to D) below.

685 (*) I'm down allusion to a "fifth picture", which is much clearer to me now, to capture

"Good" coefficient Rham by a purely algebraic language crystalline words, keeping a sense without hypotheses smoothness. This photo is taken at an angle somehow "dual" to that of the photo-Mebkhout Rham.

686 (***) I call " **crystal module** " X modules a beam on the lens ringed topos X **cries** . We can therefore consider

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I recognize also that even if X is smooth, I get confused not so much in the des-Mebkhout description of coefficients "De Rham" in terms of the functor-good God it respects not natural multiplicative structures: the contra-functor Mebkhout which will be discussed in (b) that (it seems) it is compatible ^{687 (***)}. A fortiori, this functor does not switch "to the six operations." Linen-that tuition (attaches to the coefficient Mebkhout seems very different in nature, at first sight, ^{p. 1001} that which is attached to discrete coefficients. That is, from a certain point of view, an advantage - we have two photos taken from radically different angles! It just makes it harder, than used to sous.un watch these angles well recognize themselves in the picture taken under the other. In fact, in addition to four photos already reviewed (for "De Rham coefficients", I hear) there is a **fifth** ^{688 (*)} that I kept in reserve: it is that of Deligne, to pro-modules shots laminate ^{689 (**)}. It has the advantage of "stick" very close to the intuition of constructible discrete bundles: item "zero degree" corresponds to an object of the same type, product concepts and tensor image inverse correspond by equivalence Deligne; So it-be the same for all six operations (which may indeed be described in terms of these two). Moreover, the passage of operation "coefficients De Rham - Deligne" $DRD^*(X)$, those of De Rham - Mebkhout $DRM^*(X)$ seems to me principle particularly well understood, in terms of operations ("O_X-dualité") on O_X -modules (at least of all, for X smooth) - I have already alluded in a previous footnote on page ^{690 (***)}. I have So the impression here of being on land in both solid and familiar, which should enable me to recognize myself, as soon as I take leisure. I thought even sketch (in this note the view of Deligne, and to ^{p. 1002} the link with that of Mebkhout and formalism outlined in my talks already mentioned in 1966. But this subnote begins to be long, and becomes increasingly digress! So I prefer to refer the thing Reflections Volume 3, where I think also to the description of "good" coefficient Rham (Deligne style, or Mebkhout choice) on type schemes over Z.

(b) Form of God (5 May and 21 May) I would come back here on the description of the functor Mebkhout (also called "the good Lord")

M: $Cons^*(X, C) \rightarrow Cris^*$

$coh(X)$ (

dfn

= D^*

$coh(X, 3X)$

(1)

modules crystals as special cases of crystalline modules.

^{687 (***)} This "it seems" is a somewhat casual way (almost like "new style" ...) to retract a beautiful theorem, due always the same unknown service (but more recent vintage, I grew to understand, that of God). He implies for example, two analytically closed subspaces Y and Z of K, the following formula on the local cohomology, obviously too good to be true even (and yet...)

$\gamma\text{-ray algebra}$

$Y \cap Z (O_X) \approx \gamma\text{-ray alg}$

$Y (O_X)$

The

$\otimes \gamma\text{-ray algebra}$

$Z (Y_X)$,

some fine gentlemen will also pocket one of those fine mornings, I bet, like "if they had always known" - in
Meanwhile the award to the best of them. . .

^{688 (*)} So, I did better than keep the promise of the title of this note "The five pictures": I have actually highlighted **two series** of five photos, the first describing the only "coefficients De Rham," and the second crystalline coefficients general.

^{689 (**)} As reported in a previous note b. p. (Note ^(***) page 998), this photo of De Rham - Deligne taken with an "objective" a little biased (for indeed reasons beyond the competence of the worker manufacturer). he is needed to retouch, and also enlarge, making her the scope of the zero characteristic. This will be done in the Volume 3 of Thoughts, where dear former students can come in all pumped ease the "unnecessary detail" and other "digressions

technical "they have not had time to find themselves, for almost twenty years since I left them to fend themselves with a splendid subject in hand. . .

^{690 (***)} This "previous note of b. P." turned meantime in part (c) of this note "The five pictures."

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wherein X is a smooth complex analytic space. As we said in the note "This work..." (N ° 171 (ii)) is there a functor profound nature, defined as quasi-inverse functor restriction functor De Rham DR subcategory full $\text{DRM}^*(X)$ (the "coefficient de Rham-Mebkhout" on X)

$$\begin{aligned} & \text{Cris}^* \\ & \text{coh}(X), \\ & m = \text{CD} \mid \text{DRM}^*(X) \text{DRM}^*(X) \\ & \text{dfn} \\ & = \text{Cris}^*(X) \text{ hol reg} \rightarrow \text{Cons}^*(X, C) \end{aligned}$$

(2) which happens to be an equivalence ("theorem of God"). In fact, get a description Mebkhout remarkable direct function of M^∞ , deduce the functor M by the functor i "scalar expansion" by the homomorphism of the Rings

$$3 \times 3 \rightarrow \infty$$

$$X$$

$$(3) \quad 3 \text{ where } \infty$$

X (or 3^∞) denotes the ring of "infinite order differential operators X " that is, (by definition) that of $(C\text{-}O$ endomorphism beam x , seen as a cluster of complex topological vector spaces.

It is known that 3^∞ is faithfully flat left and right on 3 , so that the total derived functor of functor extension of the Rings

$$i \text{Cris}^*(X) = D(X, 3) \rightarrow D(X, 3) \rightarrow D(X, 3^\infty)$$

$$\text{dfn} \\ \text{Cree} = \infty(X)$$

(4) is explicit by an ordinary tensor product. Note that it does not know whether the Ring 3^∞ is consistent but apparently it is on. We define the full subcategory

$$\text{Cris}^* \\ \infty(X) \text{ hol} \leftrightarrow \rightarrow \text{Cris}^*$$

$\infty(X)$ 3-Modules complexes which are "holonomic", for the condition to derive locally (the functor i) 3-Modules C complex which is holonomic. (The result of the double theorem of God, recalled Below, you can then take the same C both holonomic and regular, ie a "coefficient (De Rham - p. 1003

Mebkhout "and this determines $C \times X$ on any single isomorphism...) We consider the functor $M^\infty = i$ M , fitting into the commutative diagram

$$\begin{array}{ccc} \text{Cons}^*(X, C) & & \\ M^\infty & & \\ ((& & \\ \text{QQQQQQQQQQQQ} & & \\ M & & \\ \text{uullllllllllll} & & \end{array}$$

$$(5) \quad \text{DRM}^*(X)$$

$$i$$

$$// \text{Cris}^*$$

$$\infty(X) \text{ hol} . \\ = \text{Cris}^*(X) \text{ hol reg}$$

It is (or rather, the unknown worker proves...) That the functor M^∞ is also an equivalence categories (so i also). It is available also as quasi-inverse functor m^∞ , like "From Rham "m like, set to Cris^*

$\infty(X) \text{ hol}$. To describe the functor M^∞ , it is more convenient to describe the contrafoncteur

$$. \text{delta } \infty \\ \text{dfn}$$

$$M = \infty D = D \infty M^\infty = i(R) = i(DM),$$

(6) where D is the functor Dualising mentioned in $\text{Cons}^* \text{DRM}^*$ and D^∞ , the functor Dualising similar that exists in Cris^*

$\infty(X) \text{ hol}$, (and even in Cree^*

∞ coh (X)). (NB The three functors involved

in (5) switches to dualisants functor.) The quasi-inverse δ of δ is given by the formula

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analogous to (6)

δ

dfn

$$D_m = \infty m = \infty D$$

(7)

We then find the expression of Mebkhout δ , δ by the following two formulas, a symmetry remarkable:

$$\{\delta(F) = \text{Rhom}_c(F, O_X)\}$$

$$\delta(C) = \text{Rhom}_3(C, O_X)$$

(8)

Note that in the first of these formulas, the second member inherits a 3- ∞ -structure, thanks to 3 operations ∞ ; on the second argument O_X , while in the second formula, the second member

is simply interpreted as a C-vector bundles complex. The second of these formulas,

up there "for memory" is also essentially tautological, and simply said that the functor δ

associated with the complex of 3 ∞ -modules C the complex differential operators (of infinite order) "assistant" of

that associated with C (by the functor $DR = \text{De Rham}$) - this complex being interpreted as complex

C-vector bundles. (That one is good and a constructible cohomology sheaves complex

equivalent to constructability Kashiwara theorem.)

(This is a deep theorem by cons, the first functor δ transforms Building beams p. 1004

(complexes) 3 ∞ -modules that are holonomic. The only finiteness theorem implied by this result 691 (*)

(Not to mention Holonomy) is already in itself a remarkable new result. The thing even more

extraordinary however, **is that both functors are quasi-inverse to each other**. formally,

thus resembles bidualité relations, which can be expressed either in the category Cons^* or in

Cris category *

$\infty(X)$ hol - except that the contrafoncteurs "dualisants" (expressed in both cases

as a $\text{Rhom}_\infty(-, O_X)$) interconnect two categories **different**. It is this formal analogy

Mebkhout led to call the theorem that says isomorphy

$$\delta \delta \approx \text{id}$$

in Cree^*

$\infty(X)$ coh

(9)

the "**bidualité theorem**" for complex 3 ∞ -modules (terminology also likely to cause

confusing). This relationship, plus the fact that the functor δ is fully faithful (or more precisely, that δ

is an assistant, something he includes in his statement bidualité theorem) was obtained by Mebkhout

in 1977, before the theorem of complete good God. The theorem says "of bidualité" So basically means,

(like "my" bidualité theorem, which it derived) a complex of 3 ∞ -modules **holonomic**

can **reconstruct**, as an object of a derived class with the knowledge of the complex of operators

Differential (infinite order) associated, given simply as a C-vector beams complex (in

category suitable derivative); and more specifically, it can be reconstituted by the formula explicit inversion

(8) (first formula). A fortiori, a morphism between complex 3 ∞ -modules holonomic is a quasi-

isomorphism if and only if the morphism corresponding to complex differential operators

(infinite order) is in the naive sense (ie induces an isomorphism on cohomology sheaves) 692 (**).

691 (*) This result implies finiteness e.g. locally on X, the complex $\text{Rhom}_\infty(F, O_X)$ is isomorphic (in the

category derivative) to a complex of 3 ∞ -modules which is locally free finitely generated in each stage, and its modules

cohomology derived (locally), by extension of scalars, coherent three-Modules. In fact, one can even assume

these holonomic and regular.

692 (**) (26 May) In fact (as I pointed out below, start (c)) Mebkhout prove this result, even outside

any condition Holonomy, in the equivalent form: if the complex differential operators associated with a complex of

3 ∞ -modules is almost zero, it is the same of the latter (and ditto for 3-modules).

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(Mebkhout bidualité The theorem is somehow "half" of the theorem of God

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(for the 3 ∞ -modules), when it is taken in its strongest form, saying that the functors

(8) are substantially inverses of each other. This is the main result of the thesis Mebkhout submitted in January 1980. But this "half" in itself, is already a new result and (as far as I know) fully unexpected. It is a typical result, bridging the gap between the ideas of Sato and mine, but in the optick my long program formulated through "continuous" or "differential" (and with a view derived categories), the "discrete coefficients." As such, it seems to me that this result totally escapes me, by his spirit and his inspiration to the problems of the Japanese school of analysis. theorem constructability Kashiwara seems to have represented a "next", and not the starting point of a new theory of the coefficients. As publications for the period between 1976 and 1980 evidenced no possibility of doubt, Mebkhout was only then to develop such a philosophy. Mebkhout had spoken of his results to Kashiwara, visiting Paris, in January 1978, while ve-born to finish writing his thesis. At the request of Kashiwara, candid Mebkhout all happy to have finally found someone who looks like interested in what he has to say, sent him to Princeton chapter III all warm - that in which among other things says theorem "of bidualité". That was in February 1978. Three years later, the same result figure (with a semblance of proof do) in a famous article Kawai Kashiwara- 693 (*). It was renamed "theorem reconstruction" for the occasion, and without any allusion to some Zoghman Mebkhout. Moreover, it was also the memorable year of the Symposium Perverts - the glorious year of a "new style" 694 (**) won high hand (and without encountering any resistance. . .), This part of mathematics, among all, where I had once wont feel at home

...
(c) The fifth picture ("pro") (May 21) The "bidualité theorem" (9) is 1977. prou- p. 1006

ver the other half of the "theorem of God" for the 3∞ -modules, returning once to prove that the functor $\cdot \delta \infty$ is essentially surjective, the first difficulty was to prove that in Cons for F^* , and by defining the complex of 3∞ -modules $C = \cdot \delta \infty (F)$ by the first formula (8), that it could be obtained via the functor i , at least locally on X , using 3-Modules complex (holonomic, regular). A priori, according to the ideas of Mebkhout (ie following the dual theorem of God, implying that the functor i in (5) is an equivalence), the latter was to be one single almost quasi-isomorphism. I have not tried to understand how Mebkhout finally unraveled in his thesis for

build this 3-Module. It seems to me that the situation should clarify here, using the idea of Deligne procohérent the beam associated with a building C-vector bundle F 695 (*). This idea was developed by him in the context of varieties **algebraic** X , but must adapt mutatis mutandis the analytical cases, provided perhaps work "locally" on X , or each compact X . fais-CWater procohérent associated to F , which is (at least on each compact $K \times X$) an inverse system (F_i) of coherent beams (defined near K) can be defined quite simply as the beam

693 (*) Mr. Kashiwara, T. Kawai, is holonomic Systems of micro-differential equations, III Systems with regular singularities, Publ. RIMS 17, 813-979 (1981). The "reconstruction theorem" looted in Mebkhout is s. 4 of this long (received in November 1980). Labor main result is a weakened variant that the functor i in (5) is an equivalence categories. So this is an immediate corollary of the theory (geometric) of Mebkhout result that these authors obtained by analytical way (independent of Mebkhout). See for details the sub-note "The Mafia" n ° 171 (ii) Part (b): "First trouble - or Kaidis overseas Pacific".

694 (**) See, on this "new style" (which Kashiwara and Hotta are eminent rivals overseas Pacific) Note "The congratulations - or: the new style" (n ° 169 9).

695 (*) This is the idea that he had developed in his seminar at IHES 1969-70, then left behind. On this subject the sub-note "... and hinders" (n ° 171 (viii)).

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Pro-represents the functor

$$G \mapsto \rightarrow \text{Hom } c (F, G)$$

on the category of O_X -Module consistent G_X (in the vicinity of $K \dots$), wherein functor, being exact for left, is pro-representable. For example, if F is the constant beam C_Y on an analytical subspace closed $Y \subset X$, "extended by zero" on all X , we find the profaisceau consisting of O_{X_n} where X are the infinitesimal neighborhoods of Y in X . (NB The inverse limit of the inverse system is completed formal O_X along Y .) It is found (returning to the general case) that the pro-beam (F_i) is provided with a canonical stratification 696 (**). The idea of Deligne is that the "**functor (Deligne "** from the category p. 1007 Plot of C-vector bundles on X to the category of pro-coherent beams laminates, is **fully faithful**, and therefore allows to interpret the first category (which is transcendent nature) in Under a full subcategory of the category of laminates pro-coherent beams. The latter has a purely algebraic sense, and the full subcategory in question can also be defined (more or less tautological 697 (*)), in terms purely algebraic also. This is the category that I will note $\text{DRD}^*(X)$ ou $\text{Del}^*(X)$,

(10)

which is the "fifth picture," I did not want to explain yesterday 698 (**). I think I remember elsewhere Deligne that had bothered to develop its interpretation (and full fidelity previous statement) of so that it passes the derived classes (at a time when he had not yet been decided by my cohomologists students unanimous Deligne head to sell off the last), and this is the version "category derived" I denoted by (10), of course.

That said, the "algebraic part" in $\text{Rhom}_c(F, \mathcal{O}_X)$ must be able to define very natural as an inductive limit (in a suitable sense) of $\text{Rhom}_{\mathcal{O}_X}(F_i, \mathcal{O}_X)$ - in particular (from the beams cohomology) discloses canonical arrows

$$\begin{aligned} \lim_{\rightarrow} \\ \text{Ex d} \\ \mathcal{O}_X(F_i, \mathcal{O}_X) \rightarrow \text{Ex d} \\ C_X(F, \mathcal{O}_X) \\ (\forall d \in \mathbb{Z}) \\ (11) \end{aligned}$$

Using lamination to the pro-object (F_i) and tautological laminating the second argument \mathcal{O}_X , it must be possible to define on the first member (11) ie a lamination of 3-module structure, such that (11) is compatible with the homomorphism of operators Rings (corresponding p. 1008 $\mathbb{Z} \rightarrow \infty$). That said, the theorem of God to Mebkhout must clarify whether, saying that (11) identifies the second member $\mathbb{Z} \rightarrow \infty$ -Module derived from the first by extension of scalars 699 (*) - which implies in particular that the arrow is an **inclusion**. Thus, the left member must view as being a kind of **part "Algebraic"** (or "**meromorphic**") in the right hand member (which itself is liable 696 (**)) The concept of stratification for a pro-Module is defined in the same way as a module - the description in the notes of the previous day (part (a)) in principle applies whenever we have a notion of "relative" (such as modules, pro-Module concerning pattern etc.) assuming a concept of "image" reverse, ie resulting in a "fibered category" on the category to "Variety" on which we work. . . Attention if you will (F_i) is a pro-Module, a stratification of it can not generally be described in terms of a "compatible" system of stratification of F_i . - the envisaged objects are likely many More generally the pro-objects in the category of laminated modules.

697 (*) "Tautological" at least in terms of the known dictionary (first released by Deligne) between C-vector bundle locally constant (or "local systems") in the additional $Y - Z$ a Z divider in an analytic space Y , and coherent modules laminated to $Y - Z$ which are "scheduled" (in the sense of Deligne) along Z .

698 (**) Finally, this explanation (called a "circular"!) Is not given either here, at least not immediately. She however, will be given away (page 1011). We will focus the notation (10) refers to the variant "derived categories."

699 (*) In addition, of course, the first member (11) (consistent with the philosophy of Mebkhout) must be 3-Module **coherent**, **holonomic** and **regular**.

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"Transcendent").

The general situation is illuminated considerably on the previous specific example, $F = i^*(C_Y)$, where $i: Y \rightarrow X$ is the inclusion of a closed analytic subspace of X . Then the second member (11) is a local cohomology beam supports in y - an invariant **transcendental**, while the first member

$$\begin{aligned} \lim_{\rightarrow} \\ \text{not} \\ \text{Ex d} \\ \mathcal{O}_X(\mathcal{O}_{X_n}, Y_X), \end{aligned}$$

is the well-known phrase that I had introduced to the local cohomology in the schematic part. The fiber of the beam at a point $x \in Y$ is something other than the local cohomology on the spectrum $X_x \times \mathcal{O}_{X,x}$, the structural beam supports in the "trace" $Y_x \times Y_X$.

We see in this example how the idea of Deligne is close to those I had developed on the theme of local cohomology debut sixty years 700 (**). Still, the main theme the work of Mebkhout between 1972 and 1976 was precisely to study the arrow (11) in this crucial case

$$\begin{aligned} \lim_{\rightarrow} \\ \text{not} \\ \text{Ex d} \\ \mathcal{O}_X(\mathcal{O}_{X_n}, X) \\ \text{dfn} \\ = H_d \\ Y(\mathcal{O}_X) \text{ alg} \rightarrow H_d \end{aligned}$$

Y (Y X).

(12)

It proves in this case the relationship announced earlier, and more (something I had sometimes failed to include in statement) as the first member (12) 3-Module **coherent** and even, holonomic and regular. From there, the analogous statement for (11) must be an immediate consequence by unscrewing 701 (**), (including the p. 1009

case F, instead of building a C-vector beam is a complex in $\text{Cons}^*(X, C)$. The only cents, except the shaped construction of the functor Deligne, is in the definition of Rhom_{O_X} a laminates promodules complex values in a complex laminated modules ie in a complex 3-modules (in this case, O_X), as 3-modules of complex (and as an object of a category derived).

Modulo this grain of salt, we thus find a description of all that has simple and conceptual, the functor of God M "algebraic" (as opposed to the functor of God M ∞ "transcendent"), or rather Associated contrafoncteur Δ and its near opposite δ

$$\Delta = MD = DM$$

$$\delta = TND = Dm,$$

(13)

by a double-paraphrase formula (8). But to write it, using the equity method of Deligne

$$\text{Del: } \text{Cons}^*(X, C) \approx$$

$$\rightarrow \text{DRD}^*(X)$$

(14)

let@just watch the corresponding functors Δ, δ between $\text{DRD}^*(X)$ and $\text{DRM}^*(X)$, where the signs are supposed to remember that we will work (the "Building" side) with **pro-objects**. We then find the formulas outstanding (morally contained in (8), but this time linking coefficients "of algebraic nature @

700 (**). It will appear lower than the idea of Deligne is also closely linked to that I had introduced in 1966 (in [Crystals]): for any complex differential operators, I consider his "formal" $P \infty (L \cdot)$ as a pro-module complex laminates or, more preferably, as defining a **crystalline complex**, whose crystalline cohomology (global) is identified with the cohomology (overall) $L \cdot$.

701 (***) (May 22) I am a bit bright here! The "basic types" of Plot C-beams are more general than

only C_Y , (But it is true that the proof of the general theorem uses the same technique as the particular case of 1976)

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one and the other, and this by formulas "of algebraic nature @s well):

$$\{\Delta(C) = \text{Rhom}_{O_X}(C, O_X)$$

$$\delta(C) = \text{Rhom}_{O_X}(C, O_X).$$

(15)

So here we have twice the "same" formula, with the only difference that C is here a complex of faisceaux laminated pro-consistent (or what amounts to the same 702 (*), a complex crystal module pro-consistent), while C is a 3-modules (can be seen morally as a complex

O_X -modules ind-coherent layered, or, as a crystal ind-coherent Modules). It@the

"Even" essentially functor that passes from one to another, namely, the "ordinary functor Dualising"

(Coherent), old friend fifties. . . It is "obvious", of course, that it must share pro-objects

and ind-objects (even move to the inductive limit in these...).

(Of course, there is a foundation working to do, to give a precise meaning to these formulas - a labor p 1010.

the type made by Deligne in his famous seminar scuttled, or Jouanolou in his famous thesis

also scuttled (everyone quotes from the Symposium Pervert, and no one held in his

hands. . .). This is a job, I@ sure, that may be a little long, but essentially "sorital". The

"hard" part is contained in the theorem of God to Mebkhout completed by formulas Mebkhout

(8) called (improperly maybe) Formula "bidualité". Their algebraic translation by against, claiming

both functor (15) are quasi-inverse to each other, is indeed (morally) "the" theorem

Ordinary bidualité coefficients for O_X -cohérents, made ind pro-sauce and laminations in the key

(Who must "pass" without problems in the Dualising functor).

The correspondence between the two types of objects dual displays are perfect (without any work

foundations thrown in!) in terms of complex differential operators. (In this duality, moreover, the

provided Holonomy (and a fortiori, that of regularity) plays no role.) In such a complex $L \cdot$. The functor

$F \mapsto \text{Hom}_{O_X}(F, \mathcal{O}_d)$ (contravariant) proposed yesterday (in (a) (1)), combines a 3-modules complex

components locally free of finite type or C. On the other hand, the "formalization" of the L complex \cdot , in

passing the main parts of order $P \infty (L \cdot)$ (regarded as laminates promodules) provides a

Complex $C = P \infty (L \cdot)$ laminates pro-modules. That said, we see that these two complexes correspond

by formulas (15), in which here, obviously the Rohm reduces to Hom. (Just check this

to-one duality for components $L \cdot$, and it is then reduced to the fact more or less tautological

that "continuous" linear homomorphisms $P^\infty(L_i) \rightarrow O_X$ correspond exactly, as are linear homomorphisms $L_i \rightarrow \mathbb{3}$, the differential operators $L_i \rightarrow O_X$, using respectively the differential operator "universal" (infinite order) $L_i \rightarrow P^\infty(L_i)$, and "increase" $\mathbb{3} \rightarrow O_X$ Data by $\theta \mapsto \theta(1)$. As at least locally on X , any object Cris^* $\text{coh}(X)$, (ie all complex 3-coherent cohomology modules) are described by means of a complex of differential operators L_\cdot , we can consider that for all practical purposes, this case provides a perfect grip on duality (15) between the two types of coefficients provided to speculate 3-consistency and "3-pro-coherence" Suitable C and C , "dual" from one another. It is therefore sufficient to develop the "sorite" which I refers, limiting, or C "pro" side, complexes procohérents beams (laminates, p. 1011 locally, can be described (almost quasi-isomorphism) as a $P^\infty(L_\cdot)$. Compared to the original approach of Deligne, the fact that pro-coherent modules and complexes of such it introduces, can be realized locally by a complex of differential operators, is also a **entirely unexpected phenomenon**, brought by the theory Mebkhout. It seems to me essentially equitable 702 (*) See Note b. p. (***) page 1006, about this translation. 779

worth 703 (*) at Mebkhout theorem mentioned above (from 1976, even before the demonstration Theorem of God), for 3-consistency of H beams d

$Y(O_X)$ alg (which appear in (12) above above). This is a deep theorem culmination of four years of work, and using the full force Hironaka resolution of singularities (not counting the courage of the workers who cleared and proved to against the general indifference). The consequence 703 (*) I just mentioned is a deep relationship coefficients between De Rham (as I glimpsed them from 1966) and complex operators differentials, relationship I had nothing planned (or Deligne either, when he developed his first approach to the coefficients De Rham). As to the condition holonomy and regularity of the complex of differential operators considered, it must be equivalent (a posteriori, thanks to providential theorem God) to the condition of "finite" (more "regular") Deligne (I sometimes failed to explain, in intro- duisant category $\text{DRD}^*(X) = \text{Del}^*(X)$). It is this: cohomology pro-beams $P^\infty(L_\cdot)$ to "unscrew" locally by composition series, such that successive factors can be décroissent (via the functor Deligne) by local C -vector system has subspaces $Y - Z$ X (wherein $Z \subset Y \subset X$ are analytical closed subspaces of X). To complete to give this criterion a appearance "algebraic", just replace the local system of C -vector by a beam **coherent** laminate $Y - Z$, subject to the condition that the connection which expresses lamination (NB we can assume $Y - Z$ smooth) or "regular" in the vicinity of Z in the sense of Deligne 704 (**). (NB. The combined pro-beam is obtained by by growing the (crystal that has $YZ = T$ above infinitesimal neighborhoods of T , and "crushing" p. 1012

along Z , to have coherent beams everywhere, not just in the complement of Z ...)

(d) crystals and co-crystals - fully faithful? When one assumes more X smooth, it remains, to describe "De Rham coefficients" X , in addition to the "photo" of transcendent nature $\text{Cons}^*(X, C)$ the two "pictures" (crystalline in nature and the other one) $\text{DRM}^*(X)$ or $\text{Del}^*(X)$, which they have meaning purely algebraic. I outlined yesterday (in (a)) a principle of definition for $\text{DRM}^*(X)$, and today for category $\text{DRD}^*(X)$. It is the latter which now gives me perfectly intelligible.

As I reported yesterday (see (a), note b. P. (***) page 998), applicable here refine the perspective of Pro-laminated modules, by the crystal pro-Modules (pro-coherent) 705 (*). The only problem that remains even with this view, the sorite "pro" that require to develop, sorite who (according to my modest experience in such matters) may take prohibitive dimensions! These crystals promodules, associating, to each infinitesimal thickening U of an open $U-X$, a pro-coherent Module U , "Compatibly with mirror images" to morphisms $U \rightarrow U$ thickened, can not not even be interpreted as pro-beams on the crystalline site (or what amounts to the same, on the topos 703 (*) (May 26) Again, I am "a little lively", the result 1976 is not enough. Compare with commentary note b. p. (***) 1008 page.

704 (**) The regularity condition is introduced here naturally, given the equivalence of categories generated by Deligne between the local systems of C -vector $Y - Z$, and the fibers integrable connection on $Y - Z$, provided with a "Meromorphic structure" along Z , and regular connection along Z . This meromorphic structure (involving the possi- bility to extend the coherent Module $Y - Z$ in a coherent Module Y , at least locally in the vicinity of each point Z) was implied in the earlier description given.

I understand when one drops the regularity condition in the above condition (assuming simply given a meromorphic structure of E in the vicinity of Z , in order to associate a pro-coherent module on X entirely by the Deligne method), there is a description "cohomology" of the condition Holonomy. The definition is by Sato

way "microlocal" - I have never really learned yet, I admit. . .

705 (*) (27 May) On reflection, I even difficult to believe that the theorem of Deligne Cons * (X, C)

Del * (X) is true for X

nonsmooth when Del * (X) is defined as the Deligne without recourse to the crystalline site. This is perhaps to be realized he finally preferred to scuttle the whole theory, rather than consent to reintroduce the taboo site. . . (Compare note "... and hinders" n ° 171 (viii).)

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crystal X_{cris})! So one can not a priori implement them known cohomological formalism beams Modules on topo (commutatively) annealed, such X_{cris} .

The temptation here to go to the projective limit of profaisceau we have on each thickened.

Thus we find crystalline Modules (otherwise crystals Modules), the "value" of each U has nothing coherent or quasi-coherent. The hope is that at least for (the type of pro- crystals p. 1013

Modules of interest (those in particular obtained by the functor Deligne) such crystal pro-modules can be **reconstituted** from crystalline Module C deduced by passage to the limit, taking on

each U thickening "envelope pro-coherent" C zariskien the beam U , (C restriction to open zariskiens U) 706 (*). That seems to be the case at least for the pro-crystals associated modules

a coherent laminate module on a Y - Z as above, for example in the typical case where one takes the formal completed O_X along Y - Z and it extends by zero elsewhere (and ditto on the thickenings).

If my "hope" is justified, then the category $DRD^*(X)$ coefficients De Rham - Deligne X could

be interpreted as a full subcategory of ordinary derived category $D^*(X_{\text{cris}}, O_{X_{\text{cris}}})$ defined by terms like "finite" and "regularity" (themselves described in terms of unscrewing, as before

above) on the cohomology sheaves. It would be then a description amazingly simple, that

I also would have been able to give in 1966, if I had taken the leisure while continuing my crystal reflection. . .

This question "foundations" (if it is lawful to pass to the limit) clearly not depends on the question if X is smooth or not - it is not, is immersed in a smooth and X is reduced to the smooth case. If this

view (almost too good to be true!) walked indeed, then (in the smooth now) it

would place suddenly (I think) to interpret the formulas "of bidualité" (algebraic version) (15) as being $Rhom_{O_X}$

ordinary without the burden of pro-issues (but by simply being careful

to carry the stratifications ...). A first test in this respect is as follows: if $u: C_1 - C \rightarrow 2$ is

a morphism of complexes of 3-coherent cohomology modules, such that its image by the functor naive dualizing $Rhom_{O_X}(-, O_X)$ is a quasi-isomorphism in it is the same for u ? But this means

(By an argument mapping-cylinder) to ask if 3-modules of complex coherent cohomology, as its "dual naive" is zero (as defined cat. derived, ie at zero cohomology sheaves) is itself

zero (the same direction). Or, if you have the complex of differential operators L . He is the same to say the associated 3-Modules complex is zero cohomology sheaves, or so be it for

complex "formalized" $P^\infty(L \cdot)$, seen this time not as a pro-beam complex, but as a

Complex ordinary beam (passing to $\lim \leftarrow$). Mebkhout will surely be able to tell me. . .

((May 23) I even phoned Mebkhout last night - it@also good for a week or two I p 1014.

phone him almost every night for mathematical or historical questions - and in total, it@

a note of astronomical phone! But the apotheosis, which I loin me and I polishes for three weeks tightly packed, well worth it. . .

Still Zoghman that guaranteed me a result that the neighboring air "test question" on which I finished last night: if C in $Cris^*$

coh is such that the complex operator $L \cdot = DR(C)$ associated

is almost zero, then C is itself almost zero (analytical case). It was a complex homomorphism beams (C-vector), given by the "main parts of infinite order"

$L \cdot - P \rightarrow \infty(L \cdot)$)

706 (*) Speaking here of "zariskien" beam (as opposed to "crystalline" I liquorice surreptitiously in the schematic context.

Readers who prefer the analytical context has rectified itself.

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hence homomorphisms

$$H_i(L \cdot) \rightarrow H_i(P^\infty(L \cdot))$$

($i \in \mathbb{Z}$)

(16)

the cohomology sheaves. You want to say that this homomorphism (16) is always injective, and

identifies the first member to the sub-beam sections "horizontal" of the second (which would be a kind of functor of the accuracy of property "beam horizontal sections" on a pro-Modules category suitable laminates. . .). The injectivity already implies that if the second member is zero, it is the same First, so if this is true for all i (and from what assures me Mebkhout) 3-Modules complex associated with L is almost zero - what I wanted.

The injectivity in (16) also means that for a differential operator E

d

$\rightarrow F$, and a section of F that f

at each point $x \in X$ is "formally" in the image (passing to the completed local ring of the point), and such more than the "formal solution" (from equation $(g) = f \cdot g$) can be made, for x variable, dependent analytically x - Equation locally then admits a solution. Mebkhout said he did not know of such a result; yet the question is so natural that the answer should be well known!

To conclude the "five pictures," I would still come back here on both "crystal clear pictures" one corresponding to the viewpoint of Mebkhout 3-modules, the other to the dual standpoint. He good heard that one must work in the spirit of the derived classes - so a rendition of "crystalline" worthy of the name should reflect that. So the two crystal photos are "fully faithful" if the functor corresponding (ranging from Class D_b)

$\text{coh}(X, 3)$ (say), to a suitable crystal category,

p. 1015

such that $D_b(X_{\text{cris}}, O_{X_{\text{cris}}})$, is itself fully faithful. I hope that that is the case, **without even bother with holonomy conditions and regularity** of the complex of 3-planned modules.

The simplest case is probably that of the photograph $n \circ 4$, which is to interpret the category of Modules 3-like crystals of modules, resulting in a total derivative functor (called "Grothendieck" - for take the lead on fans of "unnecessary detail" and "technical digressions." . .):

$G: D^*$

$\text{coh}(X, 3) \rightarrow D^*(X_{\text{cris}}, O_{X_{\text{cris}}})$.

(17)

The crucial question here is whether this functor is fully faithful. It is only in this case the notation Cris^*

$\text{coh}(X)$ to the first member is fully justified - and with it, also, the lens view in cohomology Rham (at least in this case, in the complex analytical framework, or part of algebraic patterns on a body because. nothing). To prove the full fidelity, in algebraic geometry say, we are reduced by standard arguments in case X is affine (or, in the analytic case, in case a polydisk), and in case the two objects C, C envisaged in the first member (including the case of compare Hom in both directions) are both equal to 3 itself, with just a shift of degrees. (This reduction is no problem, at least assuming C, C bounded degrees, so by merely D_b)

$\text{coh}(X, 3)$, which seems quite sufficient for applications) We are thus led to verify finally formulas

$\Gamma(X, 3_X) \sim$

$\rightarrow \text{Hom}(G(3), G(3)), \text{Ex } i$

$O_{X_{\text{cris}}}$

$(X_{\text{cris}}; G(3), G(3)) = 0$ for $i > 0$.

(18)

(X affine, resp. Stein). I have not taken the time to check 707 (*), but have little doubt that this is true.

I demonstrated something very similar, I think, in [Crystals] (1966) 708 (**).

707 (*) I apologize, most of my time, for over a year, having been absorbed to track prowess

some of those who were my students. . .

708 (**) This is the result I have already alluded elsewhere, for a complex of differential operators L on a diagram

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(As for the photo five, there are several different prints. Deligne The original drawing is in terms of p. 1016

laminates pro-coherent modules. The first major retouching, for the generalization to non- X

smooth, is to interpret the animals in question as **crystal** pro-ons. But it agrees

there in the gear (uninviting!) endless pro-pro-cohomological foundations of algebra - and

loses the benefit of direct intuition topossique attached to X_{cris} . Also I prefer (if possible) outright

take another photo, the same angle of view pretty much via a functor **contravariant**

(Said also "Grothendieck" to the wise...)

$G \circ : D^*$

$\text{coh}(X, 3) \text{ opp} \rightarrow D^*(X_{\text{cris}}, O_{X_{\text{cris}}})$.

(19)

We can say that this is one that is derived from picture Deligne passing brutally limits beams projective on each infinitesimal thickening an open U of X . If C in the first member is associated (of contravariant way as in formula (1) (a)) to a complex differential operators L , Its image (19) is obtained by looking $P^\infty(L)$ (The "formalize" the complex L) As a complex laminates promodules (idea introduced in [Crystal]), or as a crystal complex pro-Modules, and passing to the projective limit on any thickening. Another way of saying this is at any O_X -Module locally free (e.g.) L_X , is associated with a lens module (which is not **not** a crystal modules, I believe), I note that $P^\infty(L)$ cries, in an "obvious" certainly (and my Students have long forgotten), which module functorially depends on L with respect to operators differentials, and therefore passes to complex differential operators.

One either preceding description of the functor (19) remains also incomplete, in particular because an object of the first Member does not necessarily come on all X , a complex of operators differentials. I suppose we can give an intrinsic heuristic interpretation of this description, the formula

$$G \circ (C)$$

~

$$- \text{Rohm} \rightarrow O_{X_{\text{cris}}}$$

$$(G(C), O$$

X_{cris}

) (Wherein G defined in (17))

(20)

but did not check it is correct. By standard arguments, it still brings back here (to prove that natural boom (20), where C is associated as above in L , Is an iso) where $C = 3$, and then (20) reduces to the formulas (

p. 1017

Ex i

$$O_{X_{\text{cris}}}$$

$$(G(3, O_{X_{\text{cris}}}) = 0 \text{ for } i > 0,$$

(21)

which quite resemble (18).

The sense of full fidelity (19) is in any case quite clear and is reduced again by unscrewing (and as in (17)) where $C = 3$, $C = 3 [i]$ (degrees shift of i), and then reduced to the formulas

$$\Gamma(X, 3) \simeq \text{Hom}(\mathcal{F}_i, \mathcal{F}_i), \text{Ext}_i$$

$$O_{X_{\text{cris}}}$$

$$(X_{\text{cris}}; \mathcal{F}_i, \mathcal{F}_i) = 0 \text{ for } i > 0,$$

(18.1)

when we asked

$$\mathcal{F}_i = P^\infty(O_X)_{\text{cris}},$$

smooth on (or in the analytical framework ditto, surely), the hypercohomology "zariskienne" L is identified with the hypercohomology

crystalline logy its formalized $P^\infty(L)$. Actually, this statement relates more directly the arrow (19) "dual" (17), and can also be expressed by saying that for C, C -Modules complexes coherent cohomology, the arrow

$$\text{Hom}(C, C) \rightarrow \text{Hom}(G \circ (C), G \circ (C))$$

is bijective, if $C = O_X$ (which is not bad and allows all hopes...).

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which is a crystalline Algebra all it is remarkable on X . It is assumed (for the nullity of Ex_i crystalline) that X is affine (resp. Stein).

Finally, what seemed to me yesterday "almost too good to be true," then I saw

even things through the photo Deligne suddenly beginning to look like everything he has reasonable there - a

Once things are written without the hassle of Holonomy terms (much less, regularity).

If God willing, and if no one else does the work for me before, I hope to get the thing

clear (and the validity of (21) and (18)) before the end of the year, with the part of Volume 3 of Reflections which will be devoted to the coefficients De Rham.

As I said, this is the picture five, the one who "sticks" as close to the topological intuition partnering with discrete coefficients, which is my preference. This is the heavy heart that I would learn that the formulas (22)

are false (although I would be less bored if this were the formulas (18), which, however, have

Air technically less screwed). This would show that he would return to the pro-perspective (the photo

Deligne retouched) - a perspective not so cheerful! Anyway, there's no doubt for me that

technical adjustments, we take indeed an excellent picture, including valid geometry

algebraic (and even on something as characteristic zero) and without hypothesis smoothness.

As for the photo four, whose loyalty is subject to the validity of (18), I confess again that I "Do not see much" still outside the smooth case (and in the smooth), and am not sure for X not smooth, crystal clear interpretation I have proposed march indeed such. It seems to me my endemic perplexities variance, for perspective Mebkhout 3-modules (and especially, my crystal interpretation of this view) are about to be solved by the introduction p. 1018

a dual notion that crystal, which I call **co-crystal**. It was as recently as yesterday that this feeling diffuse malaise that there was (for the "variance" of the 3-Modules by closed immersions) finally ended give birth to a "good idea" (in what seems to me, without really written anything yet). Sounds paste side "independent", as well as the notion of crystal (which is familiar to me) the "pro" side. On a smooth variety, two categories (crystals and co-crystals) are canonically equivalent (which is why I necessarily had tendency to confuse - it's excusable. . .), But it is the same for any X. The situation is quite analogous to what happens with the cohomology H ring . (X) and the cohomology group H . (X) or the ring Chow Ch . (X) and the Chow group Ch . (X), or Grothendieck ring (I apologize the odd. . .) K . (X) and the group of K Grothendieck . (X) (re-apology). There too long we confused the two types of objects when X is a variety (topological or algebraic etc. - depending on the case) smooth. It "explains" after the fact that the second term is provided in any case a structure the first module (the "cap" -produced - in the latter two cases it was introduced by an ancestor I dare not mention here. . .), And in the smooth case, we find that this module is free of rank 1 and provided with a canonical basis, which did confuse unintentionally with the ring (even more beautiful is heard).

Well so is the Cree categories

. (X) crystals Modules X, provided with a structure

"Ring" by the tensor product, and that Cris . (X) of the co-crystal modules, on which the previous

"Operates" by a cap-product, perfectly!

But it is time to end this long digression mathematical completely moved (I admit)

in scheduling a beautiful Funeral Ceremony. The interested reader to know what happened (bushy, it will

of course) will be reduced purchase volume 3 Reflections (if he complained his money), where an unrepentant deceased his confused account pursue "technical digressions" 709 (*).

709 (*) This time is it necessary to say, as a "collaborator" of another of my students, promoted long ago "father" of

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(e) The ubiquity of God (May 27) A "last" footnote page, added to the "Five Photos"

in extremis yesterday (before giving striking the first twelve notes of the Apotheosis), has taken yet "of prohibitive dimensions, "and I (finally continue" this long digression mathematical "by p. 1019 last (and short) section. Thus, "The Five Photos" will consist of the **five** sections (a) through (e) - as what all rounds and perfect will. . .

This is a comment on the true validity domain (alleged) the "theorem of God" of Mebkhout which far exceeds (in my opinion) the initial part of complex analytic spaces - not only by **philosophy** news he brings (and has now renewed the theme cohomological), but also in a technical sense.

Once interprets Building C-vector bundles on X (smooth), or in terms of Modules laminates procohérents (at Deligne) or (by passing the inverse limit on thickenings infinitesimal to open X) in terms of crystalline beams (Grothendieck), the "good of the theorem God "alias Mebkhout affirms the equivalence of two categories which, this time, are **one and the other** of nature "purely algebraic". In other words, this theorem is now taking a specific meaning in other contexts as complex analytical context: both the context of smooth patterns on a body (that there is not even be assumed characteristic zero - see this note b. p. (**)) Page 996 upper ; by bus. $p > 0$ the view "crystalline divided powers" is essential here) or varieties rigid-analytical of any characteristic or smooth patterns finitely Z (and so on...).

The "formal" part of the theorem of God concerns **all** the complex consistent 3-Modules, not only those who are holonomic, and said that the functor of God, revised and corrected by care ancestor (ie duality to the structural beam O_X essentially) is **fully faithful** of

Class $D_{\text{coh}}(X, \mathcal{O}_X) = \text{Cris}^*$

$\text{coh}(X)$, towards the envisaged class coefficients Coeff * socket on the person (taste). When one takes things well, it should be more or less "sorital".

But in the finish category is defined, "by unscrewing" two remarkable full subcategories, that of "coefficients.holonomes" resp. that of the "regular holonomic coefficients" (as at the end of (c)) and in Note b. p. (**)) page 1011). That said, the "Mebkhout theorem generalized" (as contemplated context) that he will have nothing but sorital certainly is surely deeper, say two things:

1. (The class Coeff^* hol of "coefficients" holonomic is in the image of the Creps category $\text{coh}(X)$ by p. 1020 functor (fully faithful) "of Mebkhout-Grothendieck". (NB. Morally this functor is the functor of Mebkhout but looked on Cris $\text{coh}(X)$ as a whole, and more "revised and corrected by care ancestor", for the purpose either Coeff^* that a purely algebraic sense...).

2. To characterize the inverse image Coeff^* hol and Coeff^* hol reg by conditions of "holonomy" and "Regularity" "microlocal" in terms of complex differential operators. For the latter (which for my sixties program may be relatively accessory) it has a characteristic zero Holonomy already provided all found. As for the regularity condition, it's time to see if the Japanese would not have just the right concept in their sleeves - but is not Mebkhout who teach me, as he has seen too much to want to hear about it. As for me who have not seen like him, it seems to me there **three aspects** different regularity, that complement each other:

1. Appearance "geometric" generated by Deligne by unscrewing in Coeff^* hol, By returning to the condition regularity for a "local system" (p. ex. connection to integrated fiber) in the vicinity of a divider crystals. . .

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singular.

2. Appearance "microlocal" or "Japanese" are making directly in terms of complex operators différentiels (?)

3. Appearance "cohomological" introduced by Mebkhout aspect that is currently understood (it I think) that in the complex analytic case. I have no idea if he has a chance to generalize analytic rigidly. The appearance $3 \circ)$ will of course be crucial whenever it will establish a **comparison theorem** between cohomology "zariskienne" and cohomology "rigid", for an algebraic variety defined over a value body complete, and holonomic coefficients. To my great "variances program" of the sixties, it is on the aspect of "geometric" that is the most important aspect of all. What is important is to define a formalism of the six operations the Coeff^* Reg hol . If there is even one for the Coeff^* hol As Mebkhout seems to believe, great. But (if I am not mistaken) reasons (which I have before (else) will not give birth to p. 1021 coefficients both holonomic and regular. I return to the question 1, which admits as obvious variant a "Question 1" (smaller), with coefficient hol substituted Coeff^* Reg hol . Once proven the full fidelity of the functor Mebkhout-Grothendieck it is visibly reduced to this: one takes on a smooth submanifold (not necessarily closed) Y with X , a fiber integrable connection (or an F-crystal C - consistent, depending on the selected context...), with necessary additional regularity condition to Deligne for it (the point $Y - Y$). The process of Deligne (possibly reviewed by the ancestor to go to crystalline context) allows us associating an object there Coeff^* (which by definition will even "holonomic" or "regular holonomic"). This Is the object in the image of the functor Mebkhout-Grothendieck? Or, what is the same, do locally on X , the object in question Coeff^* can be described by a complex differential operators X , by the patented process of the ancestor of passing to "formalize" said complex, performed or as complex to Deligne or as a crystalline complex? The answer to this question is in any case so (I believe) in the complex analytic case, and

in the case of smooth patterns on a characteristic zero without having to introduce the regularity condition. This is the "completely unexpected phenomenon, brought by the theory Mebkhout" I've already taken care of previously stressed (in (c), page 1011) ⁷¹⁰ (*). In the regular case (including "Infinitely"), it is essentially the theorem of God. In the general case, if I am not mistaken, this must result without tears what I called the "Holonomy cohomological criterion" (or "reciprocal: the Theorem constructability Kashiwara ") due to Mebkhout discussed in the following note "Three milestones - or innocence "(n ° 171 (x), see page 1028).

b2. Three milestones - or innocence

Rating 171 (x) ((5 May and 23 May) ⁷¹¹ (*) The philosophy Mebkhout has developed between 1972 and 1980 can p. 1022

⁷¹⁰ (*) Emphasize such facts became nowadays, at least in the part of mathematics in question here, a real **work of public health** , at a time when almost all publications on cohomological theme, and all (I fear) of those that appear in the now prestigious names are written in such a way to **evade** precisely major key ideas that sustain all these texts, and to **blur** or **eradicate** r the role and origin of such crucial tool (old or new emerged) such nerve concept in such fertile idea. There is **corruption** intellectual (signs of deeper corruption ...) which runs today in our science and in view of everyone, which I have no knowledge for no other science at any other time in history.

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be summarized in **three main theorems** , all three closely related to the ideas I had developed in the fifties and sixties, but I (or anyone) had been able to foresee any ⁷¹² (**).

The first main theorem is the main result of the work of Mebkhout between 1972 and 1976. It concerns bundles **local cohomology** H^i

$Y(O_X)$ (concept introduced independently by Sato and I) of the beam

a structural analytic complex smooth variety X , stands in a closed analytical subspace Y .

Observation essential here that no one had thought to do before Mebkhout is that operations

ring \mathcal{D}_X^3 of infinite order differential operators X ⁷¹³ (***) , as they (operate on the argument p. 1023

O_X , also operate on these beams cohomology. Furthermore, under "zariskien" geometry

algebraic, I described these beams (late fifties?) as inductive limits

Ext beams

i
 . This Mebkhout led by analogy, to introduce a "algebraic" part of the cohomology local, and a canonical arrow

H^i
 $Y(O_X) \text{ alg}$

dfn
 $= \lim$

$- \rightarrow$
 not

Ext i
 $O_X(O_{X_n}, O_X) - \rightarrow H^i$

$Y(O_X)$
 dfn

Ext $= i$
 $C_X(C_Y O_X)$,

(1)
 where X_n denotes the infinitesimal n.ème vicinity of Y to X , and C_X, C_Y constant beam C on X resp. Y

(The latter extended by zero $X-Y$). The second essential observation is that this time the ring \mathcal{D}_X^3 ordinary differential operators on X operates on the first member. It was well known that the kind of beams that got both the transcendent nature of RHS, which is on the left of "algebraic" nature were quite prohibitive dimensions as O_X -modules - nothing consistent, It's certain. It is also true that we felt (at least the algebraic side) there was still a

some type of "finite" or "cofinitude" in a sense that no one before has thought Mebkhout specify.

The remarkable theorem Mebkhout is that the first member is a \mathcal{D}_X^3 -Module, and again, the second member (who had even more intractable air) is simply derived from the first by the change of the Rings

$\mathcal{D}_X^3 - \mathcal{D}_X^3 \rightarrow \infty$

As the second ring is known to be flat on the first, it implies also that (1) injective. At the same time, saw the result of consistency / this can be considered a finiteness theorem

⁷¹¹ (*) This sub-note "The three milestones" comes from a footnote on page note "This work..." (N ° 171 (ii)). See the sign

referring placed towards the end of this note.

712 (**) As I pointed out in the note "The absurd questions" (n ° 171 (vi)), yet I knew a long time
Alternatively the theorem of global dual Mebkhout a diagram for clean and smooth on X/S , in terms of complex
related to differential operators. Specifically, if L and L' are complexes such "Assistant" of each other, then $f^*(L)$
and $Rf^*(L')$, as objects of the derived class $D(S, \mathcal{O}_S)$ are "perfect" complex (locally representable by
Free Modules complex finitely bounded in degrees), and the duals of each other in the usual sense for complex
perfect. In the case where $S = \text{Spec}(C)$, this theorem is more or less equivalent to that of Mebkhout (restricted to the case of a
analytical and algebraic variety that is clean), with this important difference, however, was missing the point of view
"Derived categories", to address complex of differential operators. Secondly and most importantly, I had no suspicion
These complex (subject to appropriate conditions released by Mebkhout) form a perfect substitute for "coefficients
discrete "(or coefficients Rham). It was clear to me, on the other hand, since 1966 at least, there had to be such
substitute algebraically constructible C-vector coefficients, having a sense for patterns relating to characteristic
any, and my crystal ideas were just a first approach in this direction. As discussed in [Crystals]
(these are exposed cited in the previous note "The five photos (crystals and 3-modules", n ° 171 (ix)), the internal logic of
my thoughts were crystal clear to me yet again brought in contact with the complex differential operators. I was then
already close to the philosophy of Mebkhout. It was my cohomologistes students (especially Deligne Berthelot Illusie)
are blocked by the syndrome of Burial, not to have cleared this philosophy soon thereafter. (Myself
was then fully occupied with other tasks foundations, and had left the crystal theme care of my students.)
713 (***) For a definition of these operators, whose name is scary at first, but that result in a formalism in all
point parallel to that of ordinary differential operators, see part (b) of the previous note "The five photos (crystals
and 3-Modules)" (n ° 171 (ix)).
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very strong on the second member (to which person before Mebkhout did not understand) - it is
including finitely presented as 3^∞ -Module (but perhaps not consistent, since we know whether 3^∞
itself is consistent).

The first case treated Mebkhout that of a normal crossing divisor, the subject of his thesis
Postgraduate, passed in 1974. Already this case is not trivial, and of course, entirely new - the
same question resolved by Mebkhout had never been seen. This case also proves to be the crucial event,
which happens Mebkhout (successive approximation, of increasing generality) to return to 714 (*), with blows
resolution of singularities.

(The result that I just mentioned, by itself, seems to me such an extent that under conditions
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so slightly normal, they have earned their author international recognition. Also, the first
critical cases treated by him already denoted an originality of vision that "normally" would have earned him the en-
warm agement of those among their elders (like each of my former students, without exception) who were
able to enjoy the flavor. Let©move. . .

In fact, in these four years, Mebkhout reaches a more detailed result yet as I
just stated. It proves that 3-module he studies is not only consistent but more **holonomic**
(a notion he found in Japanese school) and more **regular** 715 (*) (in a sense that it defines ad hoc in
Inspired by my comparison theorem for the cohomology of algebraic-analytical De Rham). Better
again it proves that the building C-vector bundle starting C_Y (which falls within the definition of
second member (1)) is **reconstructed** from the complex of 3^∞ -modules $\text{Rhom}_{3^\infty}(C_Y, \mathcal{O}_X) = C$,
the extraordinary inversion formula:

$$C_Y = \text{Rhom}_{3^\infty}(C, \mathcal{O}_X).$$

(2)
No one had ever dreamed of such a formula - and nobody will dream until J five years later
when the power of philosophy reveals and gives also the signal for the burial, the co-
sides of the ancestor of the one who had brought it. . . To dream, it would have not have buried philosophy
Ancestors (with blows of derived classes, with or without Rohm underlined and other "unnecessary detail"...);
and more, to appreciate a geometrical situation any innocuous and yet full of mystery (the coho-
logy to local media in a divider normal crossing), and go **to the end** of the mystery. This
"End" it is not yet in the splendid 1976 theorem that I have just described - but from that moment
Mebkhout has a clear vision: the double "theorem of God", one for 3-holonomic modules
regular, one for 3^∞ -modules holonomic, and the double inversion formula (or "bidualité") which
discussed previously 716 (**). It is also the solution of a marvelous simplicity, the problem of
the relationship between discrete coefficients (Building analytically) and "continuous" coefficients.
(But I look. When he proved the theorem that is the first major milestone of his work and

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philosophy, the "end" clearly perceived, yet it seems dizzyingly far. If he had found at
him a competent and caring elder, and with a minimum of experience and mathematical acumen, it

would have disabused: obviously, he was already close, and the difficulty to overcome, as so often in the Working discovery (if not, always...), was more psychological than technical. But before

714 (*) For the Mebkhout theorem on the local cohomology, see: Local cohomology of a hypersurface in Functions of several complex variables III, Lecture Notes in Mathematics n ° 670, p. 89-119, Springer-Verlag (1977), and Local Cohomology of analytic spaces, Publ. RIMS Kyoto Universe. 12, p. 247-256 (1977).

715 (*) The original definition (transcendent) of Mebkhout regularity is recalled in the note "The work ..." (n ° 171 (ii)), Note b. p. (*) page 950.

716 (***) In the previous note "The five photos (crystals and 3-Modules)" (n ° 171 (ix)), part (b).

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embarking in pursuit of the infinitely distant, it tackles the global duality theorem - the one who was "Cap" the duality theorem known both for consistent coefficients as coefficients discreet. The underlying motivation, omnipresent in the work of Mebkhout that connects the two issues, the local and that of the global cohomology duality is the u feeling **not essential unity** between discrete coefficients and continuous coefficients. This was also my thread in my crystal approach 1966, which attempted to apprehend the "coefficient de Rham" (essentially discrete nature) in terms "continuous". . .

This is not the place to come back here on the statement of Mebkhout duality theorem 717 (*). his demonstration ran into serious technical difficulties due to the transcendent context, it overcomes to blows cohomological descent techniques and nuclear EVT (techniques that my person did not most were foreign, although Mebkhout is the only one that still persists in the name ancestor. . .). From the point of view his philosophy of duality, this theorem is a milestone. If one keeps in mind, with Mebkhout applied to complex 3-holonomic modules it contains global duality for the coefficients dis-analytically constructible decrees 718 (**), in addition to the consistent duality, we can say that already contains the seeds, too, all the philosophy of the 3-Modules to Mebkhout. Its scope, as soon as he told me about the first time in 1980 (the year after defending his thesis 719 (***)), appeared to me as a thing obvious. I do not think I had the honor of inspiring work of comparable scope, no student working on my contact 720 (*).

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Mebkhout has also had great difficulty in getting published this theorem, which felt "the grothendieckeries" full nose. (The Annals of Mathematics the sacked him, making him understand that that kind of Things did not have the required level. It ended up looking the same, in Mathematica Scandinavica in 1982 721 (**).) I think it was there his favorite subject, when he gave lectures on phi-phy-3 modules, but in a very different spirit from that of the Japanese. He told me that this theorem had every gift to amaze listeners or casual partners, except precisely in every time, those who are part of the establishment 722 (***). This is one thing that comforts me. She 717 (*) This statement is recalled in the note "This work..." (N ° 171 (ii)).

718 (***) As Mebkhout establish its global duality theorem (1976), it has also not proven yet that all beam analytically Building C-vector derived from a 3-modules complex. But he had no doubts about it.

719 (***) See Note "from beyond the grave Love" (n ° 78).

720 (*) I am thinking especially of the students who prepared a thesis with me. If Deligne is at hand, as he spends his thesis after my departure, and without also pronounce my name, while the inspiration from his work (in cohomology Hodge-Deligne) came to him from my issue of "coefficients" of all kinds, which also provided a formalism the "coefficient Hodge." The work of Deligne is a first step in this direction, much more fragmented than accomplished by Mebkhout in the (closely related to that of Hodge) of "De Rham coefficients." It is true that Mebkhout faced with severe disabilities due to indifference and scorn of his elders, was not distressed by cons the burial syndrome that has paralyzed my students. (On this subject see the note "... And hinders" n ° 171 (viii).)

721 (***) theorems overall duality for coherent 3-modules, Mathematica Scandinavica 50 (1982) p. 25-53. See also "Poincaré duality" in seminar on singularities of Paris VII (Pub. No ° 7), 1977-1979, and especially "The Poincaré-Serre Verdier duality" in Proceedings of the Conf. Of Algebraic Geometry, Copenhagen (1978), Lecture Notes in Mathematics n ° 732, p. 398-418, Springer Verlag (1979). The introduction to both of these presentations, especially the second, represent a sketch of philosophy given by Mebkhout at a time when he was the only one to be the custodian and the lawyer.

722 (***) (May 24) This overlaps well with my own observations. Apparently the man situation with a view predisposes such sufficiency, for whom "nothing is good enough for it deigns to rejoice." I do not know if these are the rule throughout the scientific world today, even, forever. That was my big chance of being welcomed in my early days in an environment where such a spirit of complacency does not exist - yet.

He had come on tiptoe, over the years, settling permanently in some and in others, little by little, without anyone us (apart Chevalley only...) noticing. Everything seemed the same as before - and yet everything was different already. It was already like a thin layer of dust on us, covering the original freshness of things. I was touched by this dust, like the others. And today, when I am again faced with one of those who were students,

shows that this spirit of sufficiency force-fed, which tarnishes the beauty of all things, however beautiful she did not become General in the mathematical community. It occurs primarily (if not exclusively) in the upper echelons, where I had ample opportunity to actually get to know the past ten years. . .

(It should complete this duality theorem overall by the result already mentioned local in nature, p. 1027

too deep, saying that the functor natural Dualising for 3-modules complexes, bundles coherent cohomology, wherein complex holonomic in holonomic complex transforms (and ditto for regular holonomic complex) is more compatible with these functor De Rham CD ("complex of differential operators associated ", regarded as complex C-vector bundles to cohomology Building gy) for the functor natural Dualising I had brought on them 723 (*). this compatibility is obviously an essential ingredient of Mebkhout duality formalism for understanding meaning its overall duality theorem. For some reason that escapes me, he calls "duality theorem local " 724 (**). This deep theorem, as the famous " match "(called" Riemann-Hilbert " when we deign to name) is processed by "everyone" (Verdier and Deligne head) as a thing "Well known" that would go without saying, and above all without ever naming some unknown (which "everyone" knows although it is important not to quote). . .

(Finally, I come to the third major milestone in the work of Mebkhout. Technically speaking, we can say p. 1028

it consists of three (or two) distinct theorems, but so closely linked in the mind of Mebkhout they appear as inseparable. Since January 1978, he proved the appearance "3 ∞ -modules": that the restriction $m \infty$ (where "functor Mebkhout") of the functor "De Rham complex associated" with complexes 3 ∞ -modules holonomic is an equivalence of categories (with complex beam C-vector to building cohomology). Knowing already that this functor commutes with functors dualisants it is natural to reformulate this theorem by passing contravariant functor associated .delta ∞ given by $C \mapsto \rightarrow \text{Rhom } 3 (C, O_X)$

(3)

or friends, often I feel that this dust then accumulated in thick, dense layers, and it formed as a sealed armor, impenetrable, which concerns me through them. . .

723 (*) This is the duality became the meantime, the general consensus of my students and old friends, "Verdier duality" (both the complex analytic case $qu@talé$). . . (On this subject, for example, the note "The good reference" n \circ 82.)

724 (**) It was under this name that the result contained in Chapter III of the thesis Mebkhout. It said he was inspired, for that name (like that of "bidualité theorem") of terminology that I introduced - yet, for me "Local duality theorem" was just another name for the "bidualité theorem" I had cleared, he is importantly, the "geometric" appearance.

This result compatibility (explains Mebkhout) was an important step in its demonstration of what he calls, in this same chapter, "bidualité theorem". (See, regarding the latter, the previous note "The five pictures", part (b).) Demonstration issue aside and the point of view of a "philosophy" or "yoga" was something "obvious" Although the functor of God had to switch to dualisants functors (since there is a good God!). Comically, Kashiwara (Mebkhout who had the opportunity to talk in person in January 1978) does **not believe** that this theorem is true! That is to say how much he was out of his mind, while the geometric vision (style "six operations") lacked. This does not prevent him later after Mebkhout communicates Chapter III (February 1978), to appropriate this result (of course without mentioning its author) in his big article with Kawai already quoted (see note b. p. (*) page 1005) (prop. 1.4.6 s. 4 loc. Cit.). This is the work which is also suitable without further ado (as the "Theorem reconstruction") the "bidualité theorem" (loc. Cit. 1.4-9 s. 4). This means how much emulated across the Pacific the great masters of the "new-style" born in Paris (in lieu of a "school of Grothendieck" who had vanished without trace. . .), Are not outdone by their French colleagues.

My bidualité theorem (for discrete coefficients) is also in the same inexhaustible by. 4 of the same work Kashiwara-Kawai (Prop. 1.4.2) But then we plunders shamelessly and without thinking twice about the posthumous pupil and unknown,

notoriously left behind by the bosses, we did it rigorously hat to the illustrious colleague opposite, citing as it should be "good reference" provided by Verdier (itself a plundering never named the deceased...).

These deceptions are also notorious among knowledgeable people, and Mebkhout had several echoes in this direction. But obviously, they are considered séantes and welcome for the occasion when it comes to removing the ancestor incitable and unfortunate successor.

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and it is the same to say that this is a functor (anti) equity. This theorem can specify then

by the beautiful **inversion formula** (or "reconstitution" or "bidualité") of Mebkhout giving expression almost as inverse functor

$F \mapsto \rightarrow \text{Rhom}_{C \times} (F, O_X)$

(4)

In the process, Mebkhout also shows a **reciprocal** of constructability Kashiwara theorem, know this: if a complex of 3^∞ -modules (or 3-Modules) for coherent cohomology is such that the complex of De Rham complex associated (as a C-beam vector complex) is constructible cohomology then it is holonomic (**Holonomy Cohomological criterion**). In the case of complex 3^∞ -modules, where it poses no regularity question, this implies that in (derived category (where p. 1029 person for a long time not worked, in 1978 and until 1981. . .), The complex (or rather its dual) is "reconstituted" single isomorphism, by the inversion formula.

As I explained elsewhere 725 (*), from that moment Mebkhout has in hand what it takes to prove Theorem of God also for 3-modules: the fact that the functor m functor restriction

De Rham complex of regular holonomic 3-Modules, is an equivalence of categories. The result inspires less because there are not, apparently, of inversion formula to the key 726 (**). All ways, even his beautiful inversion formula is neither hot nor cold person - starting with its thesis quasidirecteur Verdier (who nevertheless make him the honor to serve as president of the jury). It is not exactly an encouraging atmosphere to remake the technical effort to prove one thing it sure feels anyway, and he feels he has what it takes to prove it. He did attention will once started the "rush" triggered by the demonstration of the conjecture deemed unaffordable (not the Weil this time, but the Kazhdan-Lusztig).

It was, as if on purpose, just the other side whose sudden people were in urgent need. Of Anyway, "everyone" is in such a hurry then use the new "Iron fracture" brand new, which had to appear on the market, and it is so much understood by all that is important not to raise the issue a demonstration - the time it would appear that the work would be done by a incitable - nobody apparently he had the idea, except the person himself, to copy and put the pieces of the 3^∞ -theory already written to prove the theorem it takes 3-theory. It seems that the only demonstration published to date 727 (***) is indeed that of Mebkhout published last year (and received in June 1981, the same month Pervert memorable Symposium. . .).

I explained in the previous note (part (b)) a simple principle, inspired by the approach to Deligne coefficients Rham, to retrieve a "inversion formula" (or "bidualité", to use expression (of Mebkhout) within the three-Modules (regular holonomic). I do not know, since we p. 1030 made seminars around the world on the new "cream pie" 3-Modules, whether this very natural approach was clear - Mebkhout has not been informed in all cases. What is certain is if Deligne had reflexes that "my time" was regarded as self-evident, is himself

and from having read the great ideas of an unknown in June 1979, which encouraged him to write also demonstrating the 3-side modules (nearest the algebraic) of its crucial result and it have suggested that "pro" version, actually quite obvious, his beautiful inversion formula. Also, from that moment to Deligne who had paid to know, it was obvious that the ideas were Mebkhout

725 (*) See Note b. p. (*) P. 952 to the note "This work..." (N ° 171 (ii))

726 (**) We have already seen that there still has - and I come back to this point a little lower

727 (***) Reference: Another equivalence of categories, Compositio Mathematicae 51 (1984), 63-88.

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give the coefficients De Rham missing, at least in algebraic geometry on a body characteristic zero; the obvious thing was to encourage him to make the adjustments that were necessary to state a theorem of God (or rather, of Mebkhout in this case) for algebraic varieties complex 728 (*).

But other times, other customs. It will not be said that a new start in the cohomology of varieties Algebraic was accomplished by lonely and persistent efforts of an unknown wave, claiming a deceased which nobody in the beautiful world for ages, not dares to pronounce the name 729 (**). He will not be said that the revival will come through the kind of mathematics, specifically, that for ten years the heirs of deceased were buried, while sharing the oripaux. Mebkhout innocent, if he wanted to "survive" (and "pierce" p. 1031

had only to follow the path mapped out the "new style" 730 (*), like other bright young people (and even young) were quick to do so. What mania also cite the source (unspeakable) of his ideas, when it is so easy to drown a fish and mention only those who **should** be cited. mebkhout I believe that your account is good!

You have landed in a world for which you did not - and I am however happy for you, that you am not for **this world - there**. You have done the work you felt you had to do without worrying about you to mode, without making calculations of returns, simply trusting your own instincts - even if it means your path in the desert. You have done **your** work, rather than watching for subtle signs (and less discreet) of those

who decide what is good and decent and what is not. You did not tacked to please, you do not have says "white" when you see black or vice versa - and it is with **your** eyes as you look. I do not have to thee congratulations - you did not seek the praise nor mine nor those of anyone. And all this, I happy for you and for all.

b3. The master role (2) - or the gravediggers

Rating 171 (xi) (May 5) ⁷³¹ (**). The natural question here, of course, is whether there is an algebraic geometry formalism "six operations" for 3-modules (or "crystal") not necessarily like DRM, which "Coifferait" those I had introduced into coherent and discrete case - assuming first, to secure the ideas, which is on the body C. The first difficulty is that the concept of 3-consistency is not stable by natural concept of tensor product crystals by either the inverse image operation analogue ⁷³² (***)). To hope for a formalism of the six operations must (therefore work with a category p. 1032

⁷²⁸ (*) As I have already had occasion to point out, in the algebraic framework, when held to paraphrase the discrete coefficients algébriquement constructible, necessary to impose complex planned 3-modules, in addition to the condition Holonomy and local regularity, regularity condition "on Deligne - Mebkhout" to infinity.

⁷²⁹ (**). We have not yet found a way, indeed, to find alternative references for EGA and SGA. But these Angel markings contain no allusion to a name that you must stay. As everyone knows, the SGA means an acronym algebraic geometry seminar hosted by the care of Mary Wood, and under the leadership of a number of mathematicians all what is good and perfectly nameable like M. Artin, JL Verdier, P. Deligne Illusie L., P. Berthelot, N. Katz P. Jouanolou or other less known but equally quotable. Obviously there was then a flourishing school of geometry algebraic, called "Marie du Bois", the heart and soul was the brightest among the names cited. For more details about this " **school of Mary Wood** " and the acronym AMS is the expression, see in particular the notes "Eviction (2)" and "funeral -" Im Dienste der Wissenschaft "" (n ° s 169 1 and 175). (See also p. 899, paragraph 3, the note "The double meaning - or the art of the scam ", n ° 169 7).

⁷³⁰ (*) See, on this style (which took the place of a "school of Grothendieck" disappeared without a trace...), The end of the note "Congratulations - or the new style", n ° 169 9 .

⁷³¹ (**). This sub-rating comes from a footnote on page note "This work..." (N ° 171 (ii)). See the reference to this sub-rating, placed toward the end of the note cited (p. 956).

⁷³² (***) (22 May) Mebkhout informed me that he has proved that the condition holonomy and regularity is stable operations tensor of total product ($O \times$) and the concept of mirror image, and that the functor of God **contravariant** δ commute there. 792

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bigger even than Cree

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coh (X), perhaps that of the crystals "quasi-coherent" (in an obvious sense) - but suddenly there is little hope of recovering a bidualité theorem! In addition, the former natural functor O voltage scalar $x \rightarrow 3 \times$ obviously not switch to the tensor product - thus, even there would be a theory of six operations for the crystals, which would extend the (morally known soon now through Mebkhout) crystals Rham - Mebkhout (obtained by "transport structure" in From the "discreet" theory, via the functors of God), it does not extend that of $O \times$ -modules consistent ⁷³³ (*). This may not be excluded, however, there may be a "global duality theorem" Version quasi-coherent crystals, for a proper map (say) type schemes ended on a body characteristic zero, which "cover" (in an obvious way) the duality theorem "known" (morally, by transport of structure yet) for crystals Rham - Mebkhout and the theorem of similar duality known (without quotes) in the coherent case ⁷³⁴ (**).

(I was quite flabbergasted that Mebkhout itself is either not asked at least this last question, from p. 1033 the moment when he had arrived at the formulation of the duality theorem "absolute" (corresponding to case the purpose variety would be reduced to a point) - recently even he did not seem so much "feel" ⁷³⁵ (***)).

This makes typing for me how a certain "philosophy", which in the first half of the sixty had become second nature to me, and (it seemed to me ...) to my students too - how this philosophy has been forgotten by all, starting with those who are responsible to make gravediggers, rather than transmitted. And I see that it is there as the main cause of this staggering stagnation experienced by after I left a theory (that of the diagrams cohomology) that I left booming.

Admittedly Mebkhout placed himself in the transcendental analytic complex context, instead of the context schematic. This introduced considerable technical difficulties, somehow "parasites" when it is to reach an understanding of the essential variance phenomena. Again, his elders failed in their task, which was to put their experience, gained at my touch, available to the new (For cons, the functor of God covariate m no switches, and it transforms ordinary mirror image in mirror image Extraordinary.) It can be shown, using this result, there is no formalism of the six operations for the coefficients De Rham - Mebkhout that "extends" the two fundamental operations already known tensor product and inverse image.

In particular, the DRM category $\mathfrak{b}(X)$ has no operation "internal Hom" (playing the role of Rohm), and $f: X \rightarrow Y$, the functor f^* does not admit in general assistant right f^* . The functor $f_!$ introduced now Mebkhout by $(X, Y$

smooth and clean f) is an assistant to **the left** of f^* . (NB The $Rf_!$ operation $!$ On the coefficients De Rham - Mebkhout was defined such that the functor of God **covariate** are switches, and similarly for f^* - wrongly or rightly. . .)

This shows that in terms of "natural" operations that are available in the context Rham -Mebkhout, these do form **not** as such a "theory of the six operations", but a sort of dual theory. The question therefore is to see how this one extends to 3-Modules (quasi-coherent say) that are no longer supposed holonomic and regular (e.g., holonomic without further - provided that is retained by the tensor product and inverse image). he would seem in particular that the global duality formula can be written for complex 3-cohomology modules consistent (or nearly consistent only), and a map $f: X \rightarrow Y$ any separate schemes of finite type on a body K because. zero (say), so as to style both theorem consistent duality, and the discrete duality, at least as follows: the Dualising functor "exchange" functors f^* and $f_!$.

733 (*) It is appropriate to reformulate this assertion rather in terms of a "dual theory to six operations", see note b. p. former.

734 (***) may be considered such a duality theorem in three different forms. Is saying that the functors in dualisants up and down "exchange" functors $Rf_!$ And $R^* f_!$, is saying that two properly defined functors $Rf_!$ and $R^* f_!$ are associated with one another, either by writing a "projection formula" (which cover one and the other statement):
 $R^* f_! (R^* f_! (F), R^* f_! (G)) \approx R^* f_! (f_! (F), G)$

735 (***) (June 8) Mebkhout yet assures me that he had indeed asked for a long time. If I had the impression of Rather, it is surely that this issue remained to him entirely platonic.
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come (as I had made them...), and thus guide (or at least the light) in his choice of investments, particularly.

Inform and guide but is also **used**, although they had long been without opted for sharing the role of the master.

b4. The dead pages

Rating 171 (xii) (May 5) ⁷³⁶ (*) Mebkhout told me that before I talk to him when we met there two years ⁷³⁷ (**), he had never heard even utter the words "six operations" - although he wondered of what "operations" I wanted to talk! Obviously he had never thought (nor anyone else, it seems, except me) to review the main ingredients of a certain formalism cohomological simple, note that there were six or functors bifunctors fundamentals, grouped into three pairs functor assistants, with such arrows and compatibilities etc. These were things that seemed so obvious, that I imagined that any player (either "Residues and Duality" outlining the elements of p. 1034

consistent duality, or SGA SGA 4 or 5 exposing the discrete elements of duality, with essentially the same form elsewhere, will be amused (as I had done since the fifties without going to After I recognize. . .) To set up for his own use a form more or less systematic and or less complete, the main isomorphisms and major compatibility - for that is just, and in no other way, we manage to penetrate the mind of a new language, to assimilate closely at the to "own". This is so and not otherwise, surely, had done the pioneers of calculus for achieve a delicate and sure intuition of the infinitely small at a time yet where the conceptual tools lacked to apprehend as rigorous guns appeared (or reappeared) later. . .

With a decline of twenty years, I realize that in the "reference documents" cited, made with the most great care, even brilliantly - whereas all the "real work" (according to the current desiderata) is made, culminating in "the" main duality formula, the formula of addition between $Rf_!$ And $R^* f_!$ (practically the only judged worthy of attention and effort, even forget the next day, as we forget the trees when we did not see the forest. . .) - as yet in all these texts the **main** is not said and has not gone from author to reader (Assuming it is seen and felt by the author himself). "The main" is a "yoga", a "philosophy" a conductive wire foolproof through (in this case) the cohomology jungle Algebraic Geometry (and elsewhere). We can develop it extensively over fifty pages or a hundred, when "everything is fact "(so called), as can also be content to evoke in a few pages and leave to the reader care to develop for its own guidance as far as it deems necessary for its own needs, or his own satisfaction.

It is these few pages then, whether on the "six operations", or on the grounds, or on many others Things ⁷³⁸ (*), pages that I felt strongly but why I was not able to feel how it was important that I write them - they are the ones who missed, especially in my written work. I was absorbed by meticulous and endless tasks at (service of all, the big "work room", the only one that was p. 1035

supposed to publish - I was not able to feel that there was more essential pages, I was **the only one** in power

to write. **Much** as I had to say has not happened in the pages written, but word of mouth only
736 (*) (May 22) This sub-rating, as the previous one, comes from a note b. p. on page "The work of..." (n ° 171 (ii)).
See the sign referring to the end of this note, p. 957.
737 (**) It is about the meeting in the note "Dating from the grave" (n ° 78).
738 (*) After these lines were written, I could see that for les six operations, I@ here error - in fact, I
was misled by publishing-killing SGA 5, which Illusie took care to eradicate any trace of "yoga for six operations"
I had developed extensively in oral seminar, with full form copiously commented.
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- when it wanted to spend! Or, in a pinch, it was in between the lines, perhaps, endless
volume basis - but there he is someone today who can read between the lines?

The key, then, is what was given daily to those who, in my mathematician@life were
figure "close", and first of all, to my students. That was one thing that was obvious, nothing deliberate.
The idea would never have occurred to me that somehow I was investing the well of a **power** considerable.
It@not that I felt the strength of that I designed and transmettais but that strength, too,
was obvious. In my opinion, surely, mathematics, at least, "strength" and "beauty" were and remain a
same thing. The idea would not come to me that we can abuse it, these things filled me
peaceful and intense life, have to live and create. When I left, so my faith can not
most unexpected, I had about them a shadow of concern. These pages that I had never thought of writing - it
There was no doubt in me that their message had long welcomed and registered, and that these "close"
would be so many living pages, that would tell the message and enrich what they would better
to make.

Those to whom I addressed with confidence and respect, as to younger brothers and I in
recognized myself, chose to bury and keep quiet. And when he came, true to himself, in whom they
recognized me, they filled all chose to leave their front doors closed - a stranger and
intruder. I do not know you ! And those unwritten pages, those pages say in vain, become dead in these pages
opulent houses with haughty and closed doors, we had somehow found the challenged brother in the
himself, in long and groping labors. Only, he had to fight his way through the tangled jungle
the thousand and one hundred thousand volumes. One who has been there, even if he was lucky, like me once, of
have the fraternal aid of experienced and caring guides, knows what I mean. . .

He has made a way, painfully, as the days and years - a chugging way without a compass
He sometimes seemed to me afterwards, no other compass or, at least, a flair that is still trying to
through a (painfully experience and hard-won. He did not rewrite his use these ready-made pages, p. 1036
compasses those pages, pages become haughty died in homes - if only in bits scattered. he
wrote **other** pages, **its pages** , painfully hers. He wrote them chugging along stubbornly in
the indifference of all. Yet these pages often clumsy and worthy of a cad, my brilliant and
plush students once (if they had bothered to read them) would certainly regarded with pity and
nothing to see - these are pages that **were to** be written, as a natural consequence, "obvious", these
pages I had never even thought to write, so it seemed to me self-evident. . .

c1. Hatching a vision or intruders

Rating 171 1

(April 15) 739 (*) Building on the recent visit home from my co-buried Zoghman Meb-
khout in person, I would like to give some hot details on all its strange mishaps, such that
made me a hand himself in snatches sparse here and there during our conversations.

Zoghman had the honor of an "interview" with his "boss" 740 (**) JL Verdier on three occasions. The

739 (*) (30 May) The three following notes (n ° s 171 1 to 171 3) were written between 15 and 18 April (1985), at a time when
"The Apotheosis" is still reduced to a rating of ten pages. These have greatly expanded over
in May, following the relaunch of the reflection on the Four Operations, triggered by the passage of home Zoghman
Mebkhout. The ten pages have become more than a hundred, of which almost all is a later vintage than the three notes
that follow. It follows some partial rehearsals, certain facts or events being mentioned or described under
different light, in earlier grades and in those that follow. For the sake of preserving the spontaneity of the writing,
I did not want to make adjustments to eliminate these repetitions.

740 (**) (24 May) Mebkhout insists that the term "boss" (even with quotes) is moved here. Since its inception in 1972 until
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First up was in 1975 - he needed a technical result, which was contained (as it appeared
thereafter) in bidualité theorem for discrete coefficients analytically Building - a
when Zoghman even know the concept of constructability. (This is a concept that I had introduced
since the fifties, and had been taken as part of the topology spreads in SGA 4.) At this point

this notion was not "well known" in the analysis, as it (is today. It is that it is

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the notion exactly he needed for his work. Houzel (which followed SGA 5 together Verdier, but that was to have almost forgotten what I had told), advised him to go to Verdier. It was where the first "interview" with the great man. Verdier taught him when he asked (two discrete complex that had "duals" isomorphic were isomorphic) was true under certain conditions Technical (the "constructability", actually), he would find exposed in the manuscript that he would give him. It was one of the "good reference" ⁷⁴¹ (*), where (among other feats of the same ilk) he pretends to invent buildable beams and discover the bidualité theorem (and its proof), things he had learned through my mouth twelve years earlier (1963) ⁷⁴² (**). He breathes not a word of me about it, not more in this interview that the manuscript was published the following year. Zoghman anyway go again filled and full of gratitude for the great man, who provided him with exactly what he needed at that time, and in the following years again, where the concept of constructability would play a crucial role in all its work.

It was in early 1976 that it began to be interested in the duality, and to be intrigued by the analogy of formalismes duality that I had developed in the consistent case and the discrete case "spreads", which had been taken over by Verdier in the topological discrete case. This is at a time when, for years, this formalism fell obsolete, and where my students had instituted a boycott (tacit and rigorous on derived categories, p. 1038

constitute natural language. The notion and the very word "formalism six operations", which was One of my main key ideas from the fifties and throughout the sixties, was de-came (and remained until today) strictly taboo soon after my departure. (When Zoghman came to me two years ago ⁷⁴³ (*), he had not heard even pronounce the word "six operations", and know first what "operations" I meant - as I thought it was for twenty years a concept familiar to all!) This means that the conditions were adverse to move in this direction, where he was sentenced to work in complete solitude. This does not prevent him from 1976 to release a duality theorem on the non-singular complex varieties, which "cover" both the duality theorem Today, he did his job without a boss, in making do by yourself. Verdier was merely president his thesis committee. Apart from that its role was limited to communicate Mebkhout "good reference", which has been very useful, a

when SGA 5 still continued to be kidnapped by the combined care of my cohomologistes students (and for purposes precisely operations such as that of the "good reference." . .).

⁷⁴¹ (*) This section JL Verdier, homology class associated with a ring, Asterisk n ° 36 (SMF), p. 101-151 (1976). It is issue in detail in the two consecutive notes "The good reference" and "The joke - or" complex weight "" (n ° s 82, 83), and more briefly, in the note "Episodes of escalation" (n ° 169 (iii)), with episode 3.

⁷⁴² (**) From the second half of the fifties I had been interested in notions of "constructability" of all kinds for discrete beams (in the algebraic sense, complex analytical, analytical real, piecewise linear - meanwhile the context of moderate topology. . .), In addition to the concepts of consistency, as natural concepts to express conditions finiteness sheaf in the frame, and had raised the issue of the stability of these concepts by the "six operations". It©further development (in 1963 and following years) of étale, who brought me back on these issues in spreads, and develop techniques (unscrewing and resolution) used to treat by a standard method, which apply also to transcending context of complex analytical and algebraic varieties complex. The bidualité theorem, valid (and with the same demonstration) as part spreads (for purity and resolution) and the transcendent context was cleared by me since 1963. It appears also in the first set SGA 5 (in 1965), where he survived the massacre of publishing-Illusie 1977.

⁷⁴³ (*) It is about the visit in the note "Dating from the grave", n ° 78. For comments on the boycott instituted the "six operations", see also note "The dead pages", n ° 171 (xii).

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Serre and discrete duality (which he calls "Poincaré duality-Verdier") in terms of a duality statement Modules for the 3-complex (which also contains a comprehensive statement of duality for complex opera-Differential tors). The "coefficient" it takes are also a generality that far exceeded the If Serre (limited to locally free beams) and Poincare (limited to discrete beams locally constant) faithful that in mind that I had introduced into these themes with the formalism then generally repudiated the "six operations".

When Zoghman explained this theorem it two years ago, I felt both its interest, which was obvious for me, and its limitation, because in the minds of "six operations" it was also clear to me that " good "statement was to be a statement about a morphism of analytic spaces $f: X \rightarrow Y$ as (for example) a statement adding between two RF functions ι and $Rf \iota$. It is true that the act of placing in a transcendent environment introduces significant additional difficulties, which strongly acted (I think) to obscure Mebkhout for simplicity essential algebraic mechanisms in

duality - while nobody around him, and especially not among those who were my students would have known (or deigned. . .) Make him feel. Still, he had pinpointed a "principle" significant - the one that Theory 3-modules (I myself prefer to call "crystalline modules" ^{744 (**)}) provides a "denominator common "to" cap "the (phenomena (of duality, in particular) discrete cohomology and cohomology p. 1039 consistent. The momentum then, encouraged by someone who was "in the know" and with a minimum mathematical instinct of ^{745 (*)} and of benevolence, no doubt he would have developed in the space of three or four years following a full formalism of the six operations in the context of algebraic geometry characteristic zero (at least), providing a "paradigm" purely algebraic faithful of the same formalism (repudiated, it is true) in the transcendent framework for C-vector bundles algebraically buildable.

Feeling that he had discovered something important, Zoghman all happy seeks and obtains an interview benefactor to expose his result. It was **the** answer, precisely, the question I asked Verdier ten or twelve years ago, without having the air securely holds ^{746 (**)} - there are chance he had even completely forgotten. Anyway, his benevolence towards the young man who came from nowhere and did things on which he, Verdier had drawn a great feature long ago, was exhausted. He did not even want to hear the explanation of the ins Zoghman and outs and the proof of the theorem. He made it clear in substance (and politely) that he, Verdier, no longer believed in Santa and the young man had better pack up.

Extraordinary thing **anyone** around Zoghman "not hang" this result ^{747 (***)} - probably it was ^{744 (**)} For the reason (obvious) this terminology "crystalline", reflecting a more intrinsic understanding of 3-Modules (my students had learned by me and they are long forgotten), see the comments in the note "My orphans" (n ° 46) (in particular p. 179) and the sub-grade n ° 46₄ (p. 188) (x). About "blocking healthy schools" against links evident from the philosophy of yoga Mebkhout with the lens that I had emerged in the late sixties, see note "Spoofing" (n ° 85 @pp. 350-351).

(x) (May 24) See also note "The five photos (crystals and 3-Modules)" (n ° 171 (ix)).

^{745 (*)} It is not my cohomologists former students are devoid of a "minimal mathematical instinct" - otherwise no of them could have done with me the good work he has done. But this instinct is misguided or blocked syndrome Burial of the master.

^{746 (**)} (June 5) On this subject the note "ancestor" (n ° 171 (i)), including the note b. p. (*) On page 946.

^{747 (***)} (June 3) There has been a misunderstanding. As was said in the note "Three milestones - or innocence" (n ° 171 (x), page 1026) this theorem had the gift to amaze often casual contact. But it would appear to be far remained platonic - the theorem does not become a tool, something we know and which are used without thinking. this is surely related to the fact that not one who looked forward to the obvious beauty of the result was one of those who "set the tone"

and decide what is "important" and what is the "bombinage". (And it is not unusual, for these times, the "Bombinage" of yesterday becomes the "cream pie" of today. . .) - In his comments of 22 April, Zoghman writes: "... There was an embarrassment in front of this theorem. Some secretly envied. But very few people who encouraged, 797

too "grothendieckerie" years (sixty, we exceeded that these days, thankfully! Maybe I p. 1040

was it two years ago, the first person he met, who feel the importance of the result and "Philosophy" news that he carries the seeds - that of a vast synthesis between "discrete" aspects and "Differential" aspects (or "analytical") in the cohomology of varieties of all kinds (and algebraic Analytical to start). This theorem, which is one of the chapters of his thesis, was finally published in *Mathematica Scandinavica* in 1982 (vol. 50, pp. 25-43). The same article was submitted to the *Annals of Mathematics*, who made it clear to young presumptuous it was not necessary to be published in the periodical of standing.

Even still today, this theorem is usually ignored or scorned in the beautiful world, while has already embedded this new philosophy, via the theorem of God (aka Mebkhout) gave means a dramatic renewal in the cohomology of algebraic varieties. But "all the world, "including my cohomologists former students (one day yet I have known endowed with a healthy instinct mathematics), rushed en masse to the new "cream pie", namely a powerful tool (that "Everyone" yet affects name only by allusion or circumlocution as "the relationship between Plot beams and holonomic differential systems ", or as" that which should have normally find place in these notes " ^{748 (*)}...), and the " art "(the intersection cohomology), while the **vision** p. 1041

Innovative who has identified the tool is ignored as much as before, and the father of one and the other is treated stooge.

The situation here is the same as my vast unifying vision topos, derived categories, six operations, cohomological coefficients and beyond again, that memorandum. It is this vision that came out tools like the étale and crystalline cohomology, that this same "everyone"

used today as we turn a crank, while the vision itself, powerfully alive yet the day I left, was buried the same day. And I see clearly that the staggering I see stagnation in splendid about 749 (*) Fifteen years after leaving booming, is not due to a lack of intellectual capacity or donations (which are brightest in more than one of those I so well and not well known) but the provisions of gravedigger, or shameless nepotism or both - provisions the opposite of innocence which recognize, and which find it simple and essential.

To develop its new philosophy Mebkhout was inspired by the spirit of derived categories and six operations, at a time when the derived categories were treated humbug grothendieckienne and where he had not had the opportunity to hear even pronounce the name "six operations". Today, with the rush on quite the contrary. "

748 (*) This is a quote (from memory) the "memorable article" Beilinson-Bernstein-Deligne (written by Deligne) he was issue in the note "The day of glory" (n ° 171 (iv)). For details on this paraphrase one, worthy to be remembered (As a reminder and as a warning...), And the ins and outs of the context, see note "The prestidigit-feeler "(n ° 75)". The quote that preceded ("Plot of the relationship between beams and holonomic differential systems") is extracted from the article Beilinson- Bernstein (the year 1981) which will be discussed in the following sub-rating ("The mafia ", n ° 171 2), where we will have the advantage of also getting to know the contribution of Brylinski-Kashiwara at flowering

This kind of style in the service of the same scam.

749 (*) I speak for the first time this impression of "sullen stagnation" at the end of the note "Denial of inheritance - or price of a contradiction "(following" My orphans ") n ° 47 (p. 195). This impression has only been confirmed in the year that has passed since the writing of this note, with the same restriction, essentially, as I express in the sub-grade n ° 47 3 in note cited: the work of Deligne on Weil conjectures (Weil I and II) and the new departure that followed the "rush" on the theorem of God (eliminating and God, and his servant Zoghman), and the intersection cohomology. But these successes localized strike me as disproportionate to the brilliant ways, even exceptional ones I know of for having "settled" for this "splendid subject" - while fifteen years have since my departure; and also without common measure with the richness and vigor of key ideas that I had inherited, and I found today bloodless. . .

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the new tool appeared inseparable derived categories, were exhumed in great fanfare in recent in concealing the name of both the one who had emerged from nothing for years of solitary work, that of one who was inspired, too lonely, to finally hatch a new theory coefficients connecting topology, complex analysis and algebraic geometry.

The Deligne, Verdier and others flock to the brand new innovations shouting (with discretion p. 1042 rigor and genuine, it goes without saying) "it@me, it@me!". None of them managed to find itself courage and loyalty to itself, to mature a vision in solitude, wear heavily for months and for years, far applause, as they would only see and they could share what they see with anyone in the world.

But I digress, it@time I return to my story of **the birth of a vision** . It is from the same 1976 Mebkhout which demonstrates the duality theorem that "cap" Poincaré duality and duality of Serre, he comes to the idea of the equivalence of three categories, which respectively embody the aspect of "topological "appearance" algebraic "and appearance" analytical "(transcendent) of the same reality, of the same type objects. In the context of a general theory of "cohomological coefficients" 750 (*), I will call these objects "coefficients Rham - Mebkhout" 751 (*). If X is a smooth analytic space 752 (**), there are on the one hand p.

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750 (*) This idea of the " **types of coefficients** " different, each of which was presented to me as a particular incarnation of formation six operations ism (and bidualité), identifying more or less near the "type coefficients" the finest of all, the type "absolute" or "universal" or " **pattern** " - this idea was perhaps the main idea force that guided me throughout the years sixty, and especially since 1963, in the development of my vision cohomological algebraic and other varieties. The strength of this idea in me is clearly visible from the very first note I devoted to a retrospective of my work, and these vicissitudes the hands of fashion: "Orphans" (n ° 46). I return insistently in various places of reflection on the Burial, especially in "The melody in the tomb - or sufficiency" and "The tour of building sites - or tools and vision (n ° s 167, 178). It is also the first mathematical topic among those buried under the care of my former students cohomologistes and those of fashion, I think develop as a result of Crops and Seeds to give him instead it deserves in my mathematical thinking.

Strangely, this central thrust of my work cohomological, and algebraic-categorical structure (easy to background) that expresses it, was never explained in the literature, not even by me during the sixties (x). She appears between the lines in my written work, and was particularly conveyed in oral communication. In my mind, it was obvious that one of my students do not fail to spend a few days or weeks it took to present systematic form this set of ideas, whereas myself was fully occupied with the tasks of the foundation

EGA and SGA.

Looking back, I realize how better account of non-formal texts (if only a few pages in this instance
ence, and without any effort to accurate and systematic formulations), making just feel these "key ideas" rarely
appointees who are hidden behind texts often technical appearance - how such texts are important
to guide researchers, and bring occasionally a breath of air in a literature that tends to stifle by
its technicality. In this regard, Zoghman told me also that some passages of this kind that he found in the texts of
my pen has been of great help. Among them, it still me recently highlighted the few words of introduction
tion that I had joined the volume of Hartshorne "resigned and duality (volume essentially exposing the formalism of six
operations that I had developed in the second half of the fifties, in the coherent framework). I now measure
how that introduction would it even more useful if I had bothered to include, not least a page or
two non-formal, explaining the "yoga of six operations" and stressing its importance as a pervasive thread
in building cohomology theories still waiting to be born. . .

(X) (May 24 and June 1) After these lines were written, it appeared that from the very beginning of the oral seminar SGA 5 (in
My second presentation), I had taken great care to develop extensively the form "abstract" of the six operations,
would dominate the entire upcoming seminar. (On this subject see the note b. P. (*) Of 8 May in note "The Ancestor" n ° 171
(i)

page 942.) In addition, throughout the oral seminar, I did not fail to constantly refer to the ubiquity of the formalism
cohomological that I developed, in principle, to all sorts of other types of "coefficients" as "coefficients
l-adic ". Illusie was careful to root publishing killing both the Narrative dedicated to the formalism of the six
operations, that any reference to a vision of "cohomological factors" beyond the particular context being
Senior Seminar.

See also in this regard the note "The dead pages" (n ° 171 (xii)), and also "The unnecessary details" (n ° 171 (v)), part b
("Machines to do anything...").

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category ("derivative") of the C-vector complexes "Building" X, Cons

* (X, C) or simply

Cons * (X) (**aspect of "topological "**), the complexes to cohomology coherent beams 753 (***)
generalizing complex infinite order differential operators, I note DRM

*

∞ (X) (**appearance "analytical**

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tick " transcendent), and finally the complex category 3 ∞

X -modules beam cohomology co-

herent, generalizing complex ordinary differential operators (of finite order), I note that DRM

* (X)

(**Look "algebraic"**). There is a functor scalar expansion tautology of coherent Ring 3 x
to the ring 3 ∞

X

i: DRM * (X) → DRM *

∞ (X)

inserting into a functor diagram (essentially commutative):

DRM * (X)

i

//

m

©

OOOOOOOOOO

DRM *

∞ (X)

m ∞

wwoooooo

(1)

Cons * (X)

where the oblique arrows are arrows "associated Rham complex" 754 (*), which is none other than Rhom D (Sp *, .),
where D = D x or D ∞

X, Sp and where * is the "resolution Spencer" W X by locally free 3-Modules
754 (*).

The existence of vertical arrows comes from the "constructability Kashiwara theorem," which implies
the Rham complex associated with a 3-holonomic modules of complex beam cohomology
Plot analytically. Kashiwara had demonstrated this important theorem in 1975 755 (**), in a

Optical completely different though. He worked with a single 3-module holonomic, which he took the De Rham complex and proved that its cohomology is constructible. Until September 1979 and the "Rush" further triggered by the theorem of God, him nor anyone else in the beautiful world was working in the minds of derived categories, and the idea to write the vertical arrows in (1) was occurred to anyone!

Once the three arrows (1) written as arrows between derived categories ^{756 (***)}, the question arises if those are equivalence classes. Mebkhout was convinced in 1976. The conviction was him endressant came an array of ten typical examples (reproduced in his article with expository p. 1045

Le Dung Trang ^{757 (*)}) of building C-vector bundles can be called "elementary", which ^{751 (*)} (30 May) In the note (written later) "The five photos (crystals and 3-Modules)" (n ° 171 (ix)), I am terminology a little different, denoting by "coefficients Rham" (short) the "same object", which we will give three here **descriptions** (or three "photos") **different**. Two of them have the "coefficient de Rham - Mebkhout" (or simply, "to Mebkhout"), "infinite order" and "finite order" respectively.

^{752 (**)} (30 May) In the original version of these notes, leaving me away by my predilection for the view "geometry algebraic "I had assumed that X is a variety **algebraic** C. This does not fit the context in which was placed Mebkhout initially, besides it made me express a variant of the "theorem good God," for complex 3∞ -modules, which is true as it is assumed that when X clean. So there were misunderstandings in my mind, and Mebkhout had to gently remind me to order. Retyping the net these pages, I made the adjustments that are needed.

^{753 (***)} As regards the definition and first soritiaux facts concerning the modules and 3-modules theory, the reader Refer to note "The five photos (crystals and 3-Modules)" (n ° 171 (ix)), especially the parts (a) and (b) ("The album" De Rham coefficients ", " and "The formula of God").

^{754 (*)} (May 24) See note cited "The five pictures..." (N ° 171 (ix)), part (a).

^{755 (**)} Masaki Kashiwara, On the maximally overdetermined System of linear differential equations, I Publ. RIMS, Kyoto university 10 (1975), 563-579.

^{756 (***)} Strictly speaking, it would probably be more correct to say that these are full subcategories (defined by conditions of "buildability", or consistency, Holonomy and regularity) derived classes in the ordinary sense.

^{757 (*)} Lê Dung Trang Zoghman Mebkhout, Introduction to linear differential Systems, Proc. of Symposia in Pure Mathematics, Flight. 40 (1983), part 2, p.31-63. Zoghman advised me this short article as the best introduction that exists in 800

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are of the type as those who constantly involved in the "unscrewing" bundles familiar with the theory of étale. Of this crucial year 1976 for each of these beams, it happens to build a remarkable holonomic complex, both $3 \times ($ " **algebra** ") on 3∞

X (" **analysis** "), having (the

perspective of six operations) an algebraic or analytic cohomological meaning very simple, and whose the De Rham complex is the beam in question. Remarkably, as he left a bundle building and not a beam complex, in a number of cases the holonomic complex gives birth is nevertheless him not reduced to a single cohomology bundle. It showed him well that, in the spirit of "six operations" (which he did not know the name...), if equity ago had, she could not infer an equivalence between modules beams categories (C, or D) themselves, but she took his meaning only passing derived categories.

For me it is clear that **the act of creation**, in this case, was to see and write both m and m arrows ∞ **obvious**, and nobody yet had deigned to write - to ask the question "every beast" if it would not, sometimes equivalency classes, so providing an algebraic interpretation differential, and another differential analytical, the beam topological notion (or complex of beams) Building C-vector. There was the **matter, and a clear awareness of the crucial nature this issue**, its scope - and by the same token, and as a matter of course, an interior attitude **assumed** this issue, which would make the bear to completion. The "experiment" with preliminary the "typical" or "elementary" examples was a first step in that direction.

It was there not childish and essential, that which is done only by one who knows how to be alone. Once this not then accomplished, the first of my students came cohomologistes using unscrewing the technical and Resolution learned my contact in SGA SGA 4 and 5, was able to prove it in a few days, or p. 1046 few weeks - as long it catches only course he feels (as Mebkhout had felt

and his guts) meaning, the **substance** of the issue. But there was not one of them, not even Deligne who withdrew to clear the unifying vision that goes **beyond** the key idea of "six operations " ^{758 (*)}, which was missing to connect discrete continuous coefficients and coefficients - not one who has been able to see the scope, obvious yet Mebkhout of ideas, this unknown wave that stood still Grothendieck©spitting image. . .

As for the "unknown wave", reduced to his own and his reading, the question of equivalence categories lence must seem to him (rightly more) like the obvious thing and most of the child

world, or to come to the conviction that they were definitely there equivalencies. By cons, for lack of experience and encouragement by more experienced older than him, he was a world of the demonstration, which long seemed completely out of reach.

Still, he manages to find a demonstration after a year and a half already, first for the boom m^∞ , in March 1978. He said that psychologically, my comparison theorem for co-literature to philosophy he has developed since 1976. It also found there, in the bibliography, a list (full?) of Mebkhout publications on this subject, at least until 1983.

758 (*) (June 5) In my rereading, this formulation seems hasty and somewhat i: next key idea of "reality Actually my." six operations "was inseparable from a" philosophy of the coefficients", which included (and very clear at least since 1966) a "theory of the coefficients De Rham" (closely related to my crystal ideas) with the same formal properties essential that the theory of l-adic coefficients, and forming with them (for variable) as many "achievements" different the same type of ultimate object, the "pattern". The work of Mebkhout completed between 1972 and 1980, appears to me as a first

great step towards achieving this intuition - not for whom everything was ready, almost, at least in 1966 with the start crystalline yoga, when the problem of a theory of the coefficients De Rham was found clearly stated in my mind at least. If this was not done by any of my students cohomologistes and this from the sixties, it seems mainly due to locking mechanisms of spontaneous creativity, which missed by no one. On this subject the note "... And hinders" (n ° 171 (viii)).

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homology De Rham algebraic and transcendent, he was a great help, to put on the road demonstration. For some reason I did not quite understand, he also considers his theorem (ie said that the functor m "of God," especially for Mebkhout not say ..., is an equivalence) as being a "generalization" of my comparison theorem. From that moment he knows he has the tools p. 1047

need (with the technique of solving Hironaka) to also handle the case of m , by far the most integrated resant for algebraist surveyor like me. He, as an analyst, was initially attached to the case the functor m^∞ , which had a preference 759 (*). He returned to the issue, which seems to show him some accessory after the defense of his thesis and demonstrates the following month (March 1979) that the functor m (the one everyone today uses circumlocution calls without ever writing it, not having to appoint a nameless author. . .) Is an equivalence of categories 760 (**). So, it follows that the functor "ring of change" i ranging from "algebraic" (in which he was interested even that far) to "analytical" (transcendent), was also an equivalence.

*
*
*

In March 1978 Mebkhout was his third interview with his "benefactor" Verdier, he had not p. 1048

seen for two years. He then explains the ins and outs of the (future) "theorem of God," he modestly calls (evil took him!) "equivalence Riemann-Hilbert". Looking back, Mebkhout was confident that his explanations had to go over the head of Verdier. What is certain is that Verdier went absolutely not aware that his "protected" had to submit ideas that deserved some attention. It speaks to anyone around him, not even Deligne, who teaches the theorem

759 (*) (May 24) Another reason, stronger perhaps, is that in the case of 3^∞ -modules he had a beautiful formula inversion - see the note about "The five pictures" (n ° 171 (ix)), part (b), "The formula of God."

760 (**) Mebkhout has written in the form demonstration that m is an equivalence (demonstration on the same principle as that for the functor of God "analytical" m^∞) two years later, the end of 1980. This demonstration is presented in the second of two consecutive sections (the first deals with the functor of God analytical m^∞ resuming his thesis) "An equivalence classes" and "Another equivalence classes", in *Compositio Mathematica* 51 (1984), pp. 51-62 and 63-88. (Manuscript received on 10/6/1981.) But from March 1969 and in subsequent years he communicates result (along with the one on the functor m^∞) wherever the opportunity presents itself, and particularly from Deligne June of the same year.

I think because of its extreme isolation, and its "glasses" an analyst, he does not realize that it is especially functor good algebraic God would interest people like Deligne and others because it forms a "bridge" between the topology and algebraic geometry (pending arithmetic, I seem to be the first and only glimpse ...), a range comparable to that provided by the tool Cohomological spreads. Otherwise he would have taken care to make an essay in form

immediate and publish illico presto - especially considering the manners (he still did not know...) the strange environment in which he had

misguided. Yet his first mishap (with Kashiwara), in March 1980, it should have put a flea in the ear (s).

This is also the same in March that appears a note to CRAS Mebkhout "on the Riemann-Hilbert problem"

(t 290, 3 March 1980, Series A - 415), where it states the equivalence theorem of his thesis (for m^∞), and says cautiously

that "it is hoped show, using the method of cohomological descent as for the duality theorem [7] that functors S [I called m] T and therefore [I called i] are also categories of equivalences. "In fact, her demonstrations showed that they are equivalencies "locally on X ", which already implied, including, the famous theorem Kawai-Kashiwara (which will be discussed in the next sub-note), that the functor i (scalar expansion) induces equivalence between the category of $3 \times$ -modules regular holonomic and that of 3∞

X -modules holonomic. I note in

passing the final result of Mebkhout is considerably strong, even when applied to **modules** (instead of complex modules), because it says the same time as the canonical arrows

Ex_n

D_x

$(M, N) \rightarrow Ext_{No}$

D_o

X

(M^∞, N^∞)

from the functor "extension of scalars", are also isomorphisms (not only for $n = 0$).

(X) (25 May) In a letter of April 24, Mebkhout precise besides me: "I must tell you that after my thesis I blew a little. It was four years I was under great pressure. "

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God (along with that of duality called "Poincaré-Serre-Verdier" in which the same Verdier absolutely wanted to believe three years before ...), from the mouth of Mebkhout more than a year after only the Bourbaki seminar June 1979 (four months after the defense). Still, that gives Verdier green light for Mebkhout present its results as status doctoral thesis, which he agrees to establish and chair the jury. If the defense is not made until a year later, it is because of delays Administrative imposed by the famous "Theses Universities Commission in the Paris region" (Verdier institution which holds the apple of his eye...).

As I said in a previous note 761 (*), the defense is going on in indifference mood

General. Mebkhout has also beautiful send his thesis aplenty right and left, it continues to unnoticed - no deign to acknowledge the pavement.

Mebkhout yet does not let down. Despite evidence to the contrary, he feels a part, he a "Family" - people, after all, doing the same kind of math - those he has learned, in large part, attending my writings, and even more, by putting in opening provisions, listening with respect to a p. 1049 some **spirit** in these writings 762 (*). He does not realize yet apparently not at the conscious level at least, that this spirit has long repudiated by the very people who form this "family" in which he believes to be entered, and that for these fine gentlemen who entered on mathematical high wool carpet, it is a layabout and an intruder.

c2. the mafia

Rating 171 2

(April 15-17)

(a) **downsides (family)** But Zoghman friend, who does not suspect anything yet and everything isolated as it is, is not unhappy. Since 1973 he has the chance to have a lectureship in Orleans, that her let the leisure to quiet the math of interest, and so what if this time they interested as him. He continues to live in the Paris region, to attend seminars to acquaint the literature. . .

If it was a little off on the thing, he would have realized yet that all was not well in this "family" who pretended to ignore it when he felt a part, he had come to realize account attending my writings, that much at least "good reference" that was for him like manna, was not of the growth of his "benefactor" Verdier. The concept of constructability was developed extensively in SGA 4 in 1963, twelve years before Verdier make mine to invent in this article. With the publication of SGA 5 in 1977, even in the form of publishing-killing of Illusie it 761 (*) See note "... And the windfall" (n ° 171 (iii)).

762 (*) One may ask (or wonder) what is this famous "spirit" so special in my writings that have inspired my "Posthumous pupil" Zoghman Mebkhout, and that would have been "repudiated" by all my other students, Deligne in mind, and by a fad

has followed suit. If I try to find a descent to this spirit (since my knowledge allows me more than parcel of the history of mathematics), I would say it is one in the line of **Galois, Riemann, Hilbert** . If I try to define it in terms of dynamic forces at work in the psyche, I would say it is a spirit that manifests itself a harmonious balance of creative forces "yin" and "yang", with a "base note" or "dominant" is **yin** , "feminine". A more detailed description of this approach to mathematics, and discover the world in general, emerges during the discussion in the notes "The rising sea", "Nine months and five minutes," "The funeral of yin (yin yang buried (4)) "(n ° 122, 123, 124) reflection in the recovery notes" Brothers and spouse - or the dual signature ", " Yin

the
Servant, and new master ", Yin the servant (2) - or generosity "(n ° s 134, 135, 136) For a discussion on some rejection mechanisms "visceral" in the contemporary world, vis-a-vis this "spirit" see the two notes "The fact Providence - or Apotheose "and" disavowal (1) - or recall "(n ° s 151, 152).
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appeared that this famous "bidualité Verdier" for complex beam C-vector analytically
ment or algebraically constructible, was copied outright on the first set SGA

p. 1050

5 (the same one to which he referred in a volume with a strange name "SGA4 1

2

"By" various supplements

are given in SGA 5 I " 763 (*)!). In this same strange volume, the author likes to express himself
a superb disdain on the planet volumes SGA and SGA 4 5 around him, he could see a presentation on
cohomology class associated with a cycle, which had relieved (it was not clear why) the volume
"Technical digressions" SGA 5 (supposedly later...); he was able to realize at the same time as the appearance
cohomological (dual of the homology appearance) of the theme which gave its name to the section of his benefactor,
was also copied to SGA 5. For any of these three themes 764 (**) in "good reference" there
had however alluded to my person or 5. SGA. .

He could not know yet, of course, that what remained of Article Verdier (except three pages on cin-
quante) was "pumped" out of my presentations on the homology of formalism spread and homology classes
associated with algebraic cycles, missing exposed (by chance), and without even the trace of a hint
their existence, publishing-Illusie of bleak memory, but the few facts available to him were
certainly more than enough to put a flea in the ear of an informed and enlightened man. This was, in short,
any situation similar to that which I had found ten years earlier, flipping Article Deligne
on the degeneration of spectral sequences, where escamotait both the initial motivation and all yoga
weights (and the role of my humble self), the contribution Blanchard@ideas, using
precisely theorem Lefschetz "cow" for the fibers 765 (***). Like me once, then had Zoghman
silence the lucid perception of an unpleasant reality, saying (in this case) that there should be a
"Connivance" of use between teacher and students, the teacher closes one eye when students are as
their ideas, techniques, results they directly take him 766 (****). As it often goes
such cases, this interpretation (which suited well Zoghman) was not without an element of reality, which
p. 1051

Furthermore. More than once, I had indeed been involved in such situations of ambiguity. (But he
is also true that before I left, never before things had reached this point, where the work of the
master becomes the remains of which we share shamelessly pieces. . .)

Moreover, in the more extended family formed of all those who are interested in the cohomology of varieties,
including the Japanese Sato school, all was not so much for the better either. This same Kashiwara,
whose 1975 constructability theorem was providential order to define the "good functor

God, "as it had pretended to attribute authorship of these unfortunate Plot beams that
Suddenly everyone was tearing almost! He had renamed "finitistic sheaves" for purposes of the
because, in s. 2 of the cited article, which contains more or less text message SGA developments to 4
subject. From what I have heard from various sides, Sato school is familiar with my work cohomological,
even though they quote me sparingly 767 (*), and it is hard to believe that was not Kashiwara
aware of the concept of constructability at least in the context spreads, which is the notion of finitude
central to the whole theory. It goes without saying that a year later Verdier does not cite more Kashiwara to the notion
"finitist" (sic), that breath word of a deceased or of a seminar 768 (**). We may be the
763 (*) For this priceless understatement to ownership (by him, Deligne, this time) of the unfortunate theorem
bidualité, see note b. p. (**) Page 872 in sub-note "Trojan Horse" (n ° 169 3).

764 (**) These are the "three areas": constructability, bidualité for Plot bundles, cohomology class (and homology)
associated with a cycle.

765 (***) for details see the beginnings of the note "Eviction" (n ° 63), and note b. p. (**) on page 233 of this note.

766 (****) (30 May) And while treating kindly humbug to boot. . .

767 (*) Mebkhout writes about it (24 April 85): "The only references to you that I saw at Sato of the Japanese school concern
Chapter III 0 EGA / while they were inspired shamelessly your work. ""

768 (**) Coincidentally, this seminar (LMS 5) was that precisely (with SGA 4) which, by agreement between my students
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beautiful world one and the other, and the same "family" may be why not - but when it comes to steak

vanity of authorship, everyone grabs for himself. . . 769 (***) I think it was easier for Zoghman to p. 1052 that such Japanese he had never seen 770 (*) was definitely "swindler", than having to see prestigious elders, one of which was for him as a powerful and distant father and benefactor, seniors he had the opportunity to work in seminars, and with whom he even had the honor of being with you and you (as is customary in the mathematical environment in France since the time of Bourbaki).

(b) First trouble - or big shots from beyond the Pacific Paradoxically, Zoghman of the trouble began when some people began to realize the power of the tools that was made in the wake of a philosophy (a kind yet that was as decidedly exceeded ...). He had told Deligne in June 1979, who had listened attentively to his explanations the duality theorem, and more (one suspects) the theorem of God. He even told her very kindly he had read the introduction of the thesis, and he thought there had to be in this working beautiful mathematics 771 (**). Life was good for Zoghman, that day - but not for long.

The same year, in September 1979 he participated in the Symposium Houches 772 (*), where he made a presentation p. 1053 cohomologists and in the words of their leader Deligne was intended to be "forgotten" (through the publication of digest-Kick saw his pen. . .).

769 (***) (May 24) Mebkhout tells me I blacked out a little table here. Verdier entirely ignorant Article Kashiwara as the notion of holonomy that Mebkhout taught him during his "interview" with Verdier in 1976. (This was before the publication of good reference (published end of 1976, it seems), but logically one can not expect it cites Kashiwara when he knows that both his colleague that he himself "pump" on the same unnamed source. . .) Conversely, Kashiwara ignored the "good reference" and my bidualité theorem (contained therein under the paternity Verdier) is Mebkhout who introduced him to in January 1978, along with the results of Chapter III of his thesis. These were by Following the appropriate shamelessly (and practically without proof) in the article cited Kashiwara-Kawai - see this Note about "The five photos (crystals and 3-Modules)" (n ° 171 (ix)), particularly page 1005. That was unaware Kashiwara bidualite the theorem for discrete coefficients shows, among many other signs readings here and there, how it was away from the philosophy of duality Mebkhout directly inspired by my work

770 (*) (May 24) He had glimpsed once anyway, these famous Japanese! Mebkhout writes about it (22 April 85):

"The school Sato came in full force in 1972 for a conference on hyperfunctions. They hid well their methods. For a long time their results remained unaffordable. There was a certain mythology around This school, which is now Kashiwara can afford what he does. "

(June 4) It must be said that if it is true (as Mebkhout seems to suggest here) that the school would Sato initiated method to be surrounded by darkness in order to dominate, this process has found imitators of this side of the Pacific, which now are not left on their masters! And it is them, and not the Kashiwara and others, who have mounted the incredible mystification Symposium Pervert in which Kashiwara was used as a "pawn" convenient to prepare the ground - and then be dropped. . .

771 (**) (3 June) Mebkhout had already got a compliment equally free, the previous year and from the mouth of Illusie the Symposium of p-adic analysis in Rennes. On this subject the note "Carte blanche to pillage" (n ° 174 4), 1091 page (especially note b. p. (**) page).

772 (*) The Proceedings of the Symposium of Les Houches (1-13 September 1979) were published in Lecture Notes in Physics n ° 126 (1980), Springer

Verlag. In these Acts include both the presentation Mebkhout "On the Hilbert-Riemann problem", exposing all philosophy (I would call it the "coefficient de Rham") perfectly clear and references to support for demonstrations and a presentation by Kashiwara and Kawai. Any reader of good faith can verify, by comparing the two articles, there is no beginning of a philosophy of this kind, nor any mention of something like "Theorem of God", in the article by two authors.

(June 4) In its comment letter dated 22 April, Mebkhout is expressed in the same direction about the International Congress Mathematicians in Helsinki that had occurred the previous year (August 1978):

"I must say that I attended the Kashiwara conference was keynote speaker at the Helsinki conference (Aug 1978). There was no philosophy or far or near which may be akin to comparing coefficients discrete and continuous. I have taken care to write my illico Copenhagen conference which took place a week before and make available to the mathematical community that is supposed to be a judge. The conference this even Kashiwara is published in the Proceedings [Helsinki]. "

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"On the Hilbert-Riemann problem", with its equivalence theorem. His presentation seems Passer completely unnoticed. One of the "nails" of the Symposium, by cons, was a Kawai few conference days before announcing a remarkable and unexpected result obtained in collaboration with M. Kashiwara. Under a form somewhat convoluted and incomprehensible pleasure (according to the particular style developed by Sato school 773 (**)), this theorem stated that a complex manifold (smooth), the functor "change scalar" 3 to 3∞ induces an **equivalence** between the category of three-Modules holonomes "regular singularities", and that of 3-holonomic modules. Their demonstration was going to be a very long section of more than one hundred and fifty pages, also published since 774 (***). Mebkhout instantly, like all the other listeners, it was slightly dropped. This theorem, presented as

sensational and nobody really understand what it was exactly, yet had for him a "I whatever "familiar. In the days that followed, he stewed slowly but surely, in his p. 1054

habit. I can imagine that in the eddies of the Symposium, he has must have taken him a day or two, nothing that to put the theorem in a form understandable to a non-Japanese. From there, it was won!

I bet also that not a Western present had any idea what it is that these "sin-

Regular larities. "But Mebkhout him, he had already defined some years before, for the purposes of "philosophy coefficients" that still seeking a concept of 3-Module holonomic **regular** 775 (*).

That one, at least it had a specific meaning for him - and taking the **derived class** suitable and passing more "on the other side of the mirror," he could interpret this category in terms of the derivative corresponding category sponding of "buildable discrete coefficients." At least he had shown far and wide in his

thesis analogous interpretation in terms of the same category of discrete coefficients "the other side"

category 3∞ -modules holonomic - and he knew he had to hand everything necessary to

prove also similar in the case "regular holonomic 3-Modules". That what he did in his thesis,

practically, as a result **local X**, which is already enough to involve the "sensational re-

Result "Kashiwara-Kawai. Thus, the perspective of derived categories, and that the game between coefficients

continuous, discrete coefficients, gave a result of the type of Kashiwara, Kawai, but in principle many

even stronger, since it gave simultaneously an isomorphism between Ext_i superiors, and not out ONLY

ment at the Hom (which was all we got, working with 3-modules without more, instead

Derived classes formed with such modules). This saw, it was the devil if this Japanese concept

"regular singularities" was not equivalent to its own - so the result would be prestigious

is a pure and simple corollary of his philosophy of the coefficients, which nobody previously had deigned interest is.

When the Conference at full strength just to honor with his presence the presentation of an unknown wave planned

the program no one knew why, and at the end of the conference 776 (**) with arrows and

charts (the kind of stuff that were made in the sixties and were not long

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for among serious people), this chap then ad without laughing that the famous "nail" the symposium (including person knew too would repeat the statement, which made it more impressive. . .) - that "nail", therefore, was

773 (**) (4 June) On this subject a previous note footnote (footnote (*) page 1052). Especially in the wake of the Colloquium

Perverse, it seems that the style of deliberate obscurity has been perfected to this side of the Pacific, a method

systematic deception and ownership to the muddle.

774 (***) Mr. Kashiwara, T. Kawai, is holonomic Systems of equations microdifferential III System with regular singularities, Pub. RIMS 15, 813-979 (1981).

775 (*) For the definition of Mebkhout regularity of a complex of 3-holonomic modules (along a Y divider), see

note "The work..." (n ° 171 (ii)), note b. p. (*) 950 page "Regular" for short means: regular along **any** divider

(On all open).

776 (**) (4 June) Actually Mebkhout had taken care to make it alluded at the beginning of his lecture, naively thinking that it would the gift of hanging his listeners.

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an immediate corollary of a category equivalence theorem (they ask you a little!) it would

obtained between the **derived categories** corresponding (what is that those animals?) and another

that did not seem to have much to do with them theorem that is contained in a **thesis** (the

bouquet that!) he swears he long ago sent to Mr. Kashiwara and many others among

distinguished colleagues in the large audience, it has the air of a bad joke. There is a silence

embarrassed, knowing smiles. This is (probably) to dispel the discomfort caused by the young lout, that Mr.

Kashiwara in person asks to use. He still looks a little stunned it must be said, it must

wonder if he dreams 777 (*). . .The typical person, he does not let dismount either. It just that it will

not start a second conference over the first - we seen everything!

The next minute, our chap Zoghman finds himself alone in front of the blackboard with its beautiful

charts before an empty room. . . Nobody that day or the following days, has deigned to inquire about

ins and outs of the so-called "results" of the lout, we had the wrong to invite a Symposium

distinguished.

It still had to work in the head of Mr. Kashiwara, once past the flons-flons of

great occasion. Still, a few months later only, the seminar Goulaouic-Schwartz 1979-

80, in an oral presentation of 22 April 778 (**), he announces **as of his own** this same theorem, which had p. 1056

had the gift of a chill at some symposium! Yet it was the "kindness" to add, on page 2:

"Note that the theorem is **also demonstrated** by Mebkhout **by a different path** " (that me

emphasis added) 779 (*).

It "also shows" worth its weight in Kashiwara, while it is a theorem which he and nobody

doubted, and he had just learned (a few months before) from the mouth of the person himself, not having deigned to read the thesis that the latter had sent him for almost a year! If he had known before this theorem, for sure he would not have bothered to give a demonstration of 167 dense pages to demonstrate an analytical result "cow" which was an immediate corollary, even the corollary of a corollary. The "by a different route" is priceless. In the account in question there is not the slightest trace of a demonstration, nor indeed in any subsequent work Kashiwara or his Japanese colleagues, Zoghman assures me that there is no demonstration in the literature of his Theorem other than his own, and I doubt (see the kind of demonstration, which is familiar to me and because) we never found. It is a demonstration which corresponds to a geometric approach things, using the resolution of singularities to Hironaka - a tool that has become for me (and for my students) second nature, and analysts (including those of the school Sato) ignore. To such Point as Kashiwara obviously do not feel able to just **copy** the demo Mebkhout. . .

777 (*) (4 June) Mebkhout writes in this (April 22):

"After the conference Houches someone told me it was even Kashiwara his article with Kawai was empty. But he has worked hard to catch up dishonestly. It©been five years [since his 1975 article constructability proving his theorem] he had not touched the discrete coefficients. His sudden celebrity [by this Article] due to any other problem allowed him to take care of things more "serious" - especially not bombinage! Enter 1975 and 1980 I was the **only one** in the midst of general hostility (something I© understood after) to develop this philosophy child I learned in your writings. "

778 (**) (4 June) Seminar Goulaouic-Schwartz 1979-80 presentation by Mr. Kashiwara of 22 April 1980, "Building Beams holonomic systems of equations and linear partial differential at regular singular points. "For details on this memorable seminar session where **Mebkhout was present** , see note "Carte blanche to pillage", n ° 171 4 .

779 (*) I quote the statement of the written text, which was written by Kashiwara a year after the oral presentation. For details, see Note cited in the previous footnote b. p.

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This kind of scam sewn (very big) white wire can work, **as long as there is a consensus General which covers** the expense (here) of an unknown wave. All these people 780 (**) would be wrong to interfere, while clearly said unknown is left behind by the very people best placed to know p. 1057

the facts firsthand, and have a direct and personal responsibility vis-à-vis the person: JL Verdier (chairman of dissertation committee) and P. Deligne (the first who felt the scope of the result he had learned from the mouth of Mebkhout the previous year).

Since I am kingpin overseas peaceful Kashiwara, so finish this chapter, with the epilogue the total elimination of the unknown service, the momentum of the striking example given three years Pervert at the Symposium in June 1981. This is an article by R. and M. Hotta Kashiwara "The invariant holonomic System on a semi-simple Lie algebra "(Inventiones Mathematicae 75, 327-358), published in 1984 (Received on 03.02.1983). This article, as it appears from the line 6 of the introduction, is one of many applications uphill "correspondence Riemann-Hilbert" called of God (or the unknown service). In this article, **the name of the stranger said is more pronounced** , and it does not appear in the bibliography. already knowing the mentality of the second author, but can not prejudice the bad faith of the first, Zoghman wrote to inform him that he was the author of the theorem there used critically, and to object the fact that it was not mentioned as such. Instead, the reference is to the paper cited Kawai-Kashiwara (167 pages), wherein said, theorem FIG moreover no 781 (*). Hotta told him that he they had not seemed necessary to mention it, since in any case **it was well known that the correspondence in question was due to Kashiwara and Mebkhout** . Curtain. . .

(c) The entry price or a promising young man But Japan is far away, and if my friend Zoghman is slaving for years to break the Japanese distant center spears, it©probably because he was far more painful to him to assume the reality of a mafia which is not confined to the continents poles apart, but who has the hautdu pavement in both upscale seminars in Paris, in Moscow or p. 1058

Tokyo. It is time to return to the sweet country of France, and the "little family" formed by my dear former students cohomologistes, and (that, a little larger) that formed around them since the distant days of my "death".

The news travels fast sometimes. Current 1979 and 1980, Deligne and Symposium helping Houches, "We" had to end up realizing that he had just appeared on the market a mathematical theorem, my faith, promising, unfortunately due to a belated wave grothendieckien; but there was a subsitut all found at this paternity little exciting, in the person of the well known Japanese Kashiwara analyst, who asks to play the fathers of the famous "correspondence Riemann-Hilbert".

In January 1980, Mebkhout a presentation on his unfortunate theorem "seminar Singulari-

tees "Le Dung Trang, Paris VII. Jean-Louis Brylinski does not attend the presentation, but Lê Dung Trang him speaks and had him read his notes. From what he reported itself to Mebkhout when Brylinski acknowledges Mebkhout theorem, he exclaims, but with that, we will prove the conjecture Kazhdan-Lusztig! (Guess who was considered "unaffordable" as of right, by omens.)

780 (**) (4 June) to a "parade" of actors who participated directly and actively spoofing scam-around the work of Zoghman Mebkhout (or at least those I@e read), see note "La Mafia" (n ° 171), section (f) "The parade of actors - or the Mafia." This parade is also not complete - for a more complete list (aligning names thirteen internationally renowned mathematicians), see note "The day of glory" (n ° 171 (iv)), note b. p. (*) Page 962. We still lack the name of R. Remmert, appeared in the meantime (see note already cited "the mafia" part (c1) "The memories failing - or the New History ") - and fourteen (Besides an unnamed referred -... and fifteen)

781 (*) (25 May) As already explained elsewhere (in "The five photos (crystals and 3-Modules)" footnote ° 171 (ix), see particular page 1005), the work in question contains a "half" only the theorem of God, half looted in Chap. III of the thesis Mebkhout.

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One might think that Brylinski will contact the applicant to be attributed to him in a more detailed mysteries of holonomy conditions and regularity, giving a precise meaning to the theorem he needed. But from what he himself has candidly explained Mebkhout "on" advised him not to speak to him, but to Kashiwara eminence. He did not specify who this "we". but obviously he had a good ear (in addition to a sharp mind), and it was then as unknown as Mebkhout is even just today. He did not say the thing twice, and he went to find out from Kashiwara, which was to be in the area again. That was his absolute right. The result was a joint article with Kashiwara, published by *Inventiones Mathematicae* "64, 387-410) in 1981 (received on 19 December 1980), with Title "Kazhdan-Lusztig conjecture and holonomic Systems". Brylinski was left star of the day next day, which was well-deserved, and Kashiwara added a flagship addition to an already loaded charts 782 (*). Everything would be for the best in the best of worlds, but ... It seems that the same "we" had to p. 1059 also suggest that the less we speak of a vague unknown, the better it would be. There is always that in the manuscript sent to *Inventiones*, **name Mebkhout was not included** either in the text or in the bibliography.

Mebkhout had knowledge of preprint of the article, and he complained of the process to Brylinski, and wrote to R. Remmert, the editor *Inventiones*. Brylinski responded "flexibility" (in a style that is me now well familiar ...), adding on tests at the end of the bibliography (excluding alphabetical order) three references inch to Mebkhout (for that matter!), without making any reference in the text referred Mebkhout 783 (*). A reader of this article, if by extraordinary sees the name of a famous unknown added late in the bibliography God knows why, will say that we had put it there to please a buddy. . .

Brylinski has entered into stardom by a scam . The truth is that the guesswork shows was unaffordable, as long as a new tool appeared. Regardless of the same **paternity** of that tool, nothing in this article highlights this new tool, whose role is retracted early (lines 6-8) by "explanation" (sic) neither fish nor fowl:

"The method employed here is to associate holonomic Systems of linear differential equations with RS on the flag manifold with Verma modules, and **to use the correspondence of holonomic Systems and Building sheaves.** "

(My emphasis). There is not any reference or explanation about this famous "correspondence "unspecified." We "had to listen to the young first that" correspondence "was supposed become part of the well known of all things, for which there was no need to invoke p. 1060 a particular theorem, and thereby lift accessories paternity issues and (especially) premature. And Brylinski, a young man of the future, not the is not repeated twice. . .

As for Remmert, he forwarded the letter of the Unknown complainant referred to article Brylinski-Kashiwara. The referred dismiss the complaint, expressing the view that "the result **was known independently and pro-** 782 (*) Involve the Kashiwara celebrity demonstration he had found, and where Kashiwara had had no hand while ignoring the crucial role played by his younger colleague unknown, was the "entry price" that Brylinski paid without being asked, for entering a "middle" of famous people - the middle which gives its name to this paper "The mafia "...

783 (*) The introduction of the article Brylinski-Kashiwara ends with thanks expressed to various authors, including Jean-Louis Verdier (and without reference to the unknown service, is it necessary to say). She followed that with a par. One dedicated to

a summary of the "holonomic differential systems with regular singularities" (this is the Japanese name for 3-Modules regular holonomic). In the first lines of that paragraph, it says: "For the details and proofs, we Refer to the reader [6, 15-17]. "The reference [6] is Article 1975 of establishing its constructability Kashiwara theorem, while [15-17] (added on tests) is the "reference-thumb" to Mebkhout. The honor is safe no matter what happens for the "young man

blement earlier by Kawai and Kashiwara ", referring to the "theorem Reconstruction" he attributes to these authors (referring to p. 116 in the article cited authors, in the "Seminar on Micro-local Analysis" Guillemin, *Annals of Math*: studied, n ° 93).

This appreciation referred, which is supposed to know what he is talking, is scandalous to two titles, and shows that is an integral part of the same fraud in collusion with (at the moment) and Kashiwara Brylinski. It is already outrageous, on a simple **presumption** 784 (*) are earlier results obtained independent p. 1061

ently (according to the same expressed by the referred opinion), to admit that the alleged post (as by chance the one that is unknown. . .) Is not mentioned at all; such practices, obviously, open the door (and have long since opened the door...) to the most serious abuses 785 (*). But there is more. The "theorem 784 (*) (4 June) I even ignored here that this presumption was unfounded. The letter Remmert (from 01/26/1981) transmitting referred the answer does not expressly mention the date of the seminar Guillemin (quoted in the letter) and Statement

Kashiwara. I come in extremis to revive Mebkhout Italy (telephone ...) requesting clarification on this reference, and date. I learn that the presentation of Kashiwara is up in 1978, a few months after it has Mebkhout press Chap. III of his thesis (in January 1978) - Mr. Kashiwara has not wasted his time! As the defense thesis took place in February 1979 (due to the slowness of the unit represented by the Universities Theses Commission Paris, so dear to JL Verdier. . .), This could give a plausible basis for the "presumption" of grandfathering referred, regarding the "Theorem Reconstruction" at least. But if the referred (in addition to being in good faith, which, already, is clearly not the case) had done his job conscientiously, he would have noticed that there is nothing like a **demonstration** of the "Reconstruction Theorem", in the statement quoted Kashiwara.

Mebkhout is also returned to the charge, in a letter dated 25.03.1981 where he points 1 °) that the theorem put forward by it referred was "one of the most important results of his doctoral thesis" and had communicated this, with its demonstration to Kashiwara (but forgets to say **when** - Zoghman never done in others), and 2 °) that this theorem was "Largely insufficient to establish the equivalence in question categories." R. Remmert has not responded to this letter, from a claimant nameless and support.

Zoghman me sometimes said (I will eventually know everything by dint of stress ...) he is aware of the scam Kashiwara Guillemin seminary the following year, in 1979, the year of his thesis defense. So this is his first confrontation with the kind of use in processes in "the mafia". At the Symposium of Les Houches, in September this year, so he knew already what to think about the big star Kashiwara. But like his philosophy and Results were written down on paper and published, demonstration and all, it would not never imagined it could be issue to retract his work altogether, once its importance is recognized. And the first sign of the power of his approach is just appeared at the Symposium of Les Houches, about Kawai-Kashiwara theorem. Of course, in January 1978, Mebkhout (which still had no reason then to be wary) had talked to not only Kashiwara what he called the "bidualité theorem" (later renamed "theorem reconstruction" for the needs of a scam) but also the theorem of complete good God, which was in fact a "half (the" half "the shallower of the two). He said that for bidualité theorem, Kashiwara was well "hung", it seemed that he had already wonder Questions like that; but obviously he had not the slightest idea how the show. (However, the demonstration Mebkhout does not use the resolution of singularities.) As for the theorem of God, it went off completely over head - so much so that he had completely forgotten the thing at the Symposium of Les Houches. Yet Mebkhout had sent him, like everyone, its complete thesis at the beginning of the same year (1979) (at a time so that he did not realized the scam Seminar Guillemin, the year before). Another thing that shows that the theorem of God had completely escaped the boss is that he has not even thought of the pocket and also for conscience for so to speak (even if he did not understand what was going on...), in the same presentation at the seminar Guillemin. Not having had the advantage so far to hold this presentation Kashiwara (*) in the hands, I wondered if it was not not such as to justify the impression, in a casual reader, that philosophy developed by Mebkhout was known Kashiwara (and his own, as he says) as of 1978 at least. Zoghman promised to send me a copy of the statement in question, which, to me he says, allow me to disabuse me. There is (he said) an accumulation of

statements technical, more or less (in) comprehensible (Kashiwara least could do...), without proof and without thread apparent or anything (nor in its conference in Helsinki the same year, or that of Les Houches Symposium year after) that looks like a "philosophy of the coefficients" coefficients between continuous and discrete coefficients. (x) (June 16) Mebkhout says to me that the paper was in fact presented by **Kawai** , as a joint work with Kashiwara.

785 (*) This is exactly the same attitude as that expressed three years later with the same cynicism, R. Hotta (in response to Mebkhout cited above): the new "rule", or rather "the law of the underworld" is to include people in positions of power (even outside the place) and not to mention the unknown (even though their contributions are crucial and attested by unexceptionable publications).

I do not doubt the good faith of R. Remmert on this occasion. But I see that as a publisher to inventors

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reconstruction "he cites (and which is also looted in the thesis of Mebkhout 786 (*), where he appears under p. 1062 name (unfit) of "bidualité theorem") is still far from the equivalence classes (called "Riemann Hilbert ") used in the demonstration of the offending article of Brylinski-Kashiwara, equity due to one Mebkhout and does not imply 787 (**). For me, the bad faith of the referee, relying on the connivence of cohomologiste establishment to boycott the name and work of an unknown wave the "benefit" famous people, can be no doubt. Anyone provided with a minimum of Culture cohomologico-Analyst, and a minimum of interest in a fascinating theme, can convince himself of the reality facts, and see a gross deception, to which the anonymous referred compete just 788 (***). The situation is even less ambiguous than in Kashiwara or in any other Japanese specialists or other differential systems, the word "derived class" is pronounced until 1981 789 (****), and again least there he has any reflection in the sense of a "philosophy" connecting discrete and continuous coefficients - p. 1063 philosophy which is equally absent in truth, vague references to the subsequent scrambles to some "correspondence (sic) between systems (resic) holonomic and buildable beams (reresic)" - No these fine gentlemen had this honesty until today, **only explicit black**

white (as I did earlier) **categories in the presence**, and the other to one of the arrows that establish their equivalence. By cons, a series of presentations of seminar notes and articles from Mebkhout 1977 attest to its pioneering work accomplished since 1972 in complete solitude 790 (*).

I must admit that before being confronted with the thing, and have looked at and discussed at length and every angle 791 (**), I never would have suspected, even in a dream, as a collective dispossession shameless can ever take place in the world of science. And it is a strange thing to have to tell me this iniquitous hoax was staged primarily by the combined two treatments among my most close old students; and furthermore, that the signal was given by **the appearance of a follower of my work** - a work in which I invested myself with passion, by putting what I had better to 792 (***). After my departure, this work became the target and prey to the greed of those p. 1064 doubt) it has been misled by a dishonest referred. The referred expressed "hope" (cynical, given the circumstances) " **As a courtesy**, and Kashiwara Brylinski would mention the result Mebkhout". It was the role of R. Remmert, in As a publisher, to ensure that the result of Mebkhout is duly mentioned in the text, not as a "courtesy", but **respect for the basic rules of ethics mathematician profession**.

(30 May) Since these lines were written, I became aware of a new fact which throws an unexpected light on the role of R. Remmert in the scam around the work of Zoghman Mebkhout, showing its active participation in fraud around mine. So vanishes for me the presumption of good faith that I kept for him (for old habit, and failing irrefutable evidence to the contrary). The interested reader will find details of this "new fact" in part (c 1) (the note "The Mafia") follows, as "Fading memories - or the New History".

786 (*) On this looting, see note "The five photos (crystals and 3-Modules)" (n ° 171 (ix)), end of part (b) ("The formula of God"), p. 1005.

787 (**) See note cited above (Part (b) also) for the relationship between the "bidualité theorem" of Mebkhout and Theorem "The God" of which it is a half - the shallower of the two. It does not appeal to the resolution, while the Full theorem uses the strength of the resolution of singularities of Hironaka (which is a tool typically "Geometric", which was ignored by the Japanese school at least until the early 80s).

788 (***) (30 May) and which R. Remmert, as publisher of Inventions, provides support without reservation. . .

789 (****) (25 May) Mebkhout tells me that it is necessary to qualify this statement somewhat to the punch. While derived categories are virtually taboo in France soon after I left, the Japanese school continued to make a parsimonious use. This was a convenient technical means (to avoid the use of spectral sequences, in particular), but not the language "made on measures" to an intrinsic geometric vision of "coefficients" in cohomology of varieties and spaces of all kinds.

790 (*) For a list of these items I need for me to go over here or even to enumerate, I refer to the article already cited Mebkhout and Le Dung Trang (in Proceedings of Symposia in Pure Mathematics, 40 (1983) part 2). (25 May) See also bibliographic references in the pages in the note "Three milestones - or innocence" (n ° 171 (x)).

791 (**) (1 June) I did it first last year, in the week of May 2 to 9 (writing the "Procession VII", named "The Symposium - or bundles Mebkhout and Perversity"), and again for nearly two months, writing "The Apotheosis"

792 (***) In this page retyping net (quite heavily crossed out), I thought is coming if my investment in this

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same that were closest to me, and a secret violence, beyond my person and my work still strikes those who openly were inspired. . .

(c1) **Fading memories - or the New History** (30 May) Six weeks after

wrote the preceding pages, I pause here in the story of the misadventures of my friend Zoghman, for some dwell on the "new fact" which is alluded to in a previous footnote page (note 793 (*) 1061 page). We can read the following pages as an interesting supplement the flowering of the "new style" which discussed elsewhere (*), which style excels in the art of writing (To the satisfaction of all...) A "New History" (a certain theme of contemporary mathematics, as it happens...). The hurried reader to know Following the misadventures of my friend Zoghman (misplaced in a circus he could not have envisaged) can continue directly with "The General Repetition (before Apotheosis)" (part (d) below, dated 16 April).

I have read the introduction and bibliography of the book "Not Archimedean Analysis" by S. Bosch, U. Guntzer and R. Remmert 794 (**). This book presents the theory of rigid-analytic spaces, having rightly notes ("private") J. Tate of 1962, "Rigid-analytic spaces", as the point starting from the theory. It is stated in the introduction that R. Remmert "could get a copy" of this rare document, which had represented somehow the Birth Certificate of a newcomer the Areopagus notions of "varieties" (analytical, case).

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Remmert had forgotten that it was I who had taken care to multigraphier this document care the IHES (which formally started) and to make him a copy, and other specialists complex analytic spaces - history of drawing attention to this unexpected extension of their theme predilection. This was at a time when none of them even pretended to be interested in the basic body other than real or complex - but you never know. . .

Remmert had to forget also that if I was so interested in such a point spread among my friends that text confirming the emergence of a "universe" new geometry is (among others) because I had been associated with Around this birth. The very name of rigid analytic space was found by me before Remmert

no one (not even Tate!) have heard the name or have only dreamed the **thing** that this name was Express. I was the first to see the "rhumb" theory of elliptic curves Tate as before

be a "passage to the quotient" to a kind of "analytical" varieties that do not yet exist, and which should lead to algebraic-analytical comparison theorems like "GAGA" Serre. There was a

Another motivation that showed me the way to the same type of new objects: the need to define a "generic fiber" for formal schemes of finite type over a discrete valuation ring.

work focused (among others) such fruits, unexpected and unwelcome, it is probably that this investment in himself and in the spirit that animated me, there was not this "best of myself" as I like to point out here, but there was also the "worst". This is something that had appeared quite clearly, certainly, in Fatuité and Renewal (first of Crops and Seeds), but also something that egotistical mechanisms of great strength push me constantly to forget! I begin to realize that this "worse" was that **glimpsed** in the reflection of last year, I have not done a really thorough examination, or "tower" that reveals me to really detail the various faces. This is why the knowledge I have is superficial, like the action of this knowledge (in my relationship Burial, in particular).

This fourth part "The Four Operations" Crops Sowing especially represents a working recolement méticulous of **facts** gross related to Burial. This work "stewardship" has nevertheless helped to make me feel that an understanding further to the Burial does not come as me of the kind of work I am doing for nearly three month simpleton of a deepening of the work done in Fatuité and Renewal, that is also: a deepening my knowledge of him that I was, in those distant days of "before I left." . .

793 (*) See note "Congratulations - or the new style", n ° 169 9 .

794 (**) Grundlehren der Mathematik, n ° 261 (1984).

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As third indication pointing in the same direction: I had heard that Krasner (well known in the fifties and sixties in the Parisian mathematical circles as an original that housed home an army of cats, and walking in all seminars with his big coat and Russian its always beaming. . .) - that Krasner therefore "made of analytic continuation" on bodies not valued Archimedean. I do not know anymore and I'm not sure I met someone who had read the work of Krasner on this issue - but the thing was enough to intrigue. It must be said that the term "analytic continuation" did not by itself virtue to break my heart stronger (rather the contrary, it reminded me memories unchallenging of my student days. . .); but once glimpsed the need for a new type of geometric objects, it could only make tilt. . .

Going back to Remmert - if his memory is so faulty item, original text of the Tate (be prides to own) could nevertheless refresh him. In his notes, Tate makes no secret of the role I had played in the development of the theory 795 (*), writing among others (I quote from memory) it followed "to p. 1066 way fully faithful "a supervisor (for the concept building process" glueing pieces ") he was holding me. I had him again provided some type of" building blocks "(or of "location method" in restricted formal power series algebras), for the purposes of the fibers

formal schemes. He had completed the first "pieces" (or "processes") with those of a second type, somehow complementary.

This new concept would probably not see the day (no more than étale nor cohomology nor crystalline nor many other things that followed in the wake, including even the last "pie Cream", the famous 3-Modules...) if I had not had the common thread of "generalized spaces" (now thereafter **the topos**), whose theory remains to be done, but was already foreseen for four years. It is this intuition that showed me the way to a type of "varieties" that precisely **out** of context spaces topological (locally annealed) common.

From the moment the **local theory** of rigid-analytic spaces was started by John Tate, it is me who also asked and popularized the statements of theorems crucial first "global" to prove about these new varieties, statements that had been present in my mind right before a first working foundations be fulfilled: theorems of algebraic-analytical comparison for own diagrams relating to a rigid analytic space, finiteness theorem for $R_i f^*$, for a morphism own f -rigid analytic spaces - problems solved by Kiehl in the years following 796 797. But it is true that following the wind blowing today, it is regarded as something unimportant, p. 1067 795 (*) More than twenty years have passed since those distant days, when a close friendship linking us, Tate and I and his family and mine. For years I have received life-sign him. I did not have either knowledge that it is moved, nor any other among my students and old friends who could not fail to take notice of this book of the retraction of me that is made in the introduction. Other times, other manners. . .

796 (**) I note that as soon as Tate laid the foundations of a theory of rigid-analytic spaces, it was clear to me that the context in which it was located was still provisional, and in no way exhausted the intuitive content I tried to express in the name of "rigid analytic space" - any more than the type of schemes over a body exhausted intuition associated with the word "scheme". A common thread to a substantial widening of the context Tate (I put in prior to anyone who would listen. . .) Was provided by Tate himself, who wrote a "universal Tate elliptic curve" on a some topological ring (the subring of the ring of formal series $Z[[t]]$ that are convergent for t in the disc open unit in the complex plane, if my memory is correct), which ring obviously had to be considered "the ring of affine coordinates" a rigid analytic space, of a type which does not fall within the range offered by Tate. Given the general contempt in which fell soon after I left, all questions of fundamentals, it is not surprising that the conceptual apparatus developed by Tate in 1962 has not moved a muscle since.

797 (***) (4 June) I was also the first to insist on the need to introduce for-rigid analytic spaces, "points" more general than those considered by Tate (with values in extensions **finished** only the basic body). This need was suggested both by analogy with algebraic geometry, by the desire to find a concrete interpretation "points" of the topos associated with the rigid analytic space considered.

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and ultimately, just humbug, than providing new concepts, to identify prime contractors, and ask the questions that real mathematicians wind load solve. . .

Anyway, my name is not pronounced in this introduction, to have something to do with rigid-analytical areas. He Krasner either, for that matter - on the contrary, the theory of Tate is presented as introducing "a rich enough structure to make the impossible possible: the continuation analytical on totally disconnected body" - so that in 1962 said analytical continuation ("impossible") was already ten years, if not twenty or thirty (I can not say), the "name" official (So to speak) of Krasner. No Krasner either trace or me in the extensive bibliography. My Yet name appears in passing towards the end of the introduction, in the name "Grothendieck topologies"; for This concept is referred to notes Artin (1962), in superbly ignorant (following the example set by the cohort of my former students in full force. . .) Development of meticulous work done in SGA 4 (since 1963 and throughout the sixties, but in a noticeably unwanted fatherhood. . .). no mention either, not surprisingly, the role I assignats to-rigid analytic spaces in the development of crystalline cohomology at a time (1966) where Remmert (no more than any of its distinguished colleagues Analysts complex) still showed the slightest inclination to be interested in these funny (so-called) "varieties", say "stiff-analytical" (just asked you...), which had been concocted in some corner of their algebraic geometers - like complex analytic spaces were not sufficient to fill leisure analysts and surveyors seriously. . .

Just be informed first hand on the true story of the genesis of the theory presented in p. 1068

the book, to see how spreads in this introduction the same cynicism that was also expressed in the response by an anonymous complainant referred to a stranger (with the blessing of the same R. Remmert) obviously, in the minds of the authors, it is a simple matter of "courtesy" yet, a "kindness." In short, they are free to grant or deny, if they go or not to include in their "historic" (sic), the name of such or such who had played a crucial role in the genesis of the new theory. For them (as Also, should we believe, for almost all of the mathematical establishment, who cashes it without flinching kind of falsification. . .), The "History" is not **what actually took place**, but is something that can

be **decided** sovereignly by the person who claims the right to write it, or the consensus of a handful of people who decide what happens to be, as to what happens to have been. These people love to make hot sips of what happened and is still happening in the Soviet Union, and not a louveront (I know whereof I speak) to sign manifests for the "defense of freedom" (of thought and all that...) **among others**, while exercising the same dictatorship of the lie, where it is **them** who have power.

(3 June) Evoking the previous pages, there are a few days, the picturesque figure and endearing Krasner, came to me the question whether he was still alive. He was my elder generation or two, and it felt like an eternity (although fifteen years, if not twenty) that I had not heard him say his name. While I strongly remembered character, it took me a few seconds yet before I return his name. (It is true that this is the kind of thing that I often now, helping age. . .) Krasner had to be very hospitable reputation and his Russian origins were another point common that could bring us closer. But I was too stuffed into my math for availability to link me to just friendship "for fun". Our approaches to math to be sure poles apart from each other. We did have a chat together once or twice, between sessions of a Bourbaki seminar if it is, but not math surely. And there was little that math so that I really hung. . .

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Still today I get a note Deligne, just a few lines on a matter p. 1069

practice inconsequential story perhaps to remind my good memory (must be a few months there was no letter of exchange between us); and also to place a postscript, I beg to reproduce here (assuming the agreement):

"PS I was sad to learn that Krasner died there two weeks. I

always reminds of an exposure river he gave in Brussels, there are about twenty years, which of course went over my head, but I stayed a the last few listeners.

It struck me that it does not appear in your picture fifties 798 (*), where he made beautiful things - even though foreign to the spirit of Bourbaki, and a genius for evil definitions flared. "

So here another Praise of Death, for one of my co-buried this time. In it I think I see conveyed a sense of sympathy, or perhaps a reflection of such a sentiment that had once been alive. But just as in my praise of Death, my friend Peter did déserrera teeth to say, in honor of this Once a disappeared without return, **what** were these "good things" which he likes to refer without the appoint. Yet he knows as I do that these "things" have prepared the advent of a theory today full bloom - and for reasons he may know, the New Masters have more to bury prematurely (and with me) this precursor good child, draft and "evil flared" which has just disappeared; one, surely, who "made the analytic continuation" on ultrametrics body, at a time when Tate Remmert or I "did" yet the case of equality of triangles and the Pythagorean theorem, and when the friend Peter was still nose (and wipe...) By his mother!

(d) The General Repetition (before Apotheosis) (April 16) But I must return to the series "Misadventures" of not stitched to my posthumous student Zoghman Mebkhout. I have no idea what happened in Deligne head in June 1979, when he learned from the mouth of an unknown wave is p. 1070 claiming Grothendieck ideas, elegant solution to a crucial problem 799 (*), on which he had striven decade earlier for a whole year without reaching an answer that satisfies him. Given its provisions long, we suspect that he was not going to congratulate the young man to have succeeded where he, Deligne was failed. But I have the impression that its provisions are so gravedigger failure point flair (as I knew surprising) that either did not hear him even now (after six years), the true scope ideas and vision of the unknown wave. Like everyone else, he saw finally that "cream pie" unexpected tool that everyone expected, iron fracturing "problems proverbial difficulties." A day, however, he had endorsed a comprehensive vision that another had communicated - to bury and vision and one in which she was born, and grab a tool still turned also in "Iron fracture". . .

The first trace that I may be known of any reaction to Deligne theorem is Mebkhout a short handwritten undated letter to Mebkhout letter received October 10, 1980 800 (**).

798 (*) Here there is a clear misunderstanding of my statement in the first part of Crops and Seeds, "and Fatuité Renouvel-LEMENT. "At no time was it about to paint a" picture of the fifties "mathematical, if only that of Paris medium or that formed around Bourbaki. My main purpose was to discover my past mathematician. This is what led me to talk about my relationship with such colleagues or students, when it appeared as important in my life, or could enlighten me about myself.

799 (*) (25 May) It is possible that Deligne had long since lost the sense for that character "crucial". On this subject the note "... And hinders" (n ° 171 (viii) ©

800 (**) This is the document "statement under the seal of secrecy, and which I here say a word...", Which was discussed in

Note "Victim" (page 309). Looking back a year since, Zoghman has kindly allowed me to reproduce right here.

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"Dear Mebkhout

I sent Bernstein and Beilinson my copy of your thesis: they need your results for their proof of the conjecture Kashdan-Lusztig (I have an abstract, in Russian, of their work, I will send you if you want). Could you send me another one?

Thank you.

P. Deligne "

I assume from this letter that Deligne had to inform two Soviet mathematicians on the Theorem of God, perhaps suggesting that it could be used to prove the conjecture in question; either that he be realized by itself, is that the noise was already running that would Brylinski ideas on this subject. The presentation of Mebkhout that had "tripped" Brylinski was already in January 1980. Articles of Brylinski-Kashiwara one hand, Beilinson-Bernstein on the other, proving the famous conjecture using the unnamed even less of an unknown named theorem, have been received, one December 19, 80, the other p. 1071

December 8, 1980, so eleven days of each other. Mere coincidence?

The thought even came to me why Deligne, who had knowledge of the new tool before all others, in June 1979 (since nobody, including Deligne, had bothered to read the pavement of the wave unknown) - why Deligne has not thought himself to apply it to this conjecture, and reap so new laurels instead of helping his Soviet colleagues to pick? He does not mind though less bright Brylinski that? It could be that from that moment he saw the possibility of recovering by a band Paternal theorem of God himself, who (as he had the feeling) should have been hers since Ten years already; it was a sort of unacceptable maldonne this young uncouth presumptuous had assumed the right to prove things on which he, Deligne, had already addressed long and unsuccessful conclusive. He had finally failed him just a bit to get there, it was not just another harvesting where, he had sweated in vain. . . But if he wanted to recover that, in fact, was his by right (According to the unwritten law that eventually prevailed in a high-class world he feels the center and the boss ...), he had to maneuver with a different fingering, and not try too to swallow time 801 (*).

Still, that Zoghman, already smarting from the strange episodes with Kashiwara and Brylinski, Judge prudent to inform himself MN. Beilinson and Bernstein theorem which Deligne said they needed - both of that so as Mr. Deligne forgot to remember, talking them theorem, which was the modest author. It was fortunate: the following month, on 24 or 28 November 1980 there Moscow was the "Conference is Generalized Functions and their Applications in Mathematical Physics" to Moscow. Mebkhout will give a presentation on his theorem, published in letitre "The Riemann-Hilbert Problem in p. 1072

Higher dimension "and he is careful to talk to Beilinson and Bernstein in person to explain in detail the ins and outs of the result.

It came at just the right time. It©just ten days after the conference that the two authors fend their work on Kazhdan-Lusztig form of a note to the SARC (t 292, 5 Jan 1981, Series I -. 15), "Theory 801 (*) This is of course a simple presumption that the purpose of ownership on the famous "correspondence" was present from the time Deligne has read. I for one am convinced. It is true that the letter quoted above seem give a presumption to the contrary. I personally see the sign yet of a challenge - that he, Deligne had absolutely not paying attention so little it is, the time it was an unknown wave, **which does not move, all ways** , while he was alone against all; that he, Deligne, could afford to "commit himself", as he could also allow, for the provocative name "perverse sheaves" to proclaim, symbolically, yet brilliant, the true nature of its provisions. On this subject the note "The perversity" (n ° 76), and (in a psychological context enough similar but less extreme) the note "The joke - or" complex weight "(n ° 83).

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Groups - g-module Location "Note Alexandre Beilinson and Joseph Bernstein, transmitted by Pierre Deligne. As just the name of Mebkhout was not mentioned on their manuscript - apparently Deligne had entirely forgotten to tell them about the unknown wave, he started off well their com-qué the thesis, for just ...? Figure it! Mebkhout comes with great difficulty in convincing Beilinson ("the most honest of the two" me-he says with great seriousness of the world) and in Article Kashiwara-Kawai they quoted in the literature, there is anything but "construction" (replacing here Uphill "correspondence") which too, like everyone else, speak only by allusion, (surely

Deligne, while communicating their thesis of the unknown where the desired result was indeed ⁸⁰² (*), has owed to suggest that perhaps it was more reasonable, if they wanted to give a reference to cite item Kashiwara and no matter the background which, as no one would watch so closely.) Are promised when even stranger audit appeared there in person, we would think of him and that would rectify the shooting for Kashiwara. Sorry - the story of the misadventures of my friend is decidedly Zoghman repetitive! In the note of these brilliant writers, **transmitted by Deligne** (which I have reproduced the letter, written a few months before) **Mebkhout name is not pronounced** . He Kashiwara not either (and I already see there point a piece of an ear ...). There are cons by a double reference on the run in the last part of the note (proving Kazhdan-Lusztig) to a " **building set forth in** [4], [5]..." ⁸⁰³ (**), "construction" which (you p. 1073 guessed it!) is none other than the functor never named the unknown service, much less named. The reference [4] is an article Kashiwara (provisional surrogate father). In this article of course (not more than in Kawai-Kashiwara, which goes to profit and loss), there is nothing that closely resembles or far to the "construction" as reported by these authors; This article is also of 1975 ⁸⁰⁴ (*), so almost five years before the presentation of an unknown wave at Les Houches Symposium gives this same idea Kashiwara it would not be so stupid after all to utter the word "derived class" and appropriate way, according the simple law of the strongest, the credit for the labors made by others. As to the reference [5], it is exposed Mebkhout of the Les Houches Symposium in September 1979 - the same one where Kashiwara learned that derived categories, it could be useful, and something else to rip an unknown left behind by his bosses and seniors. . . .

⁸⁰² (*) (April 17) There was at least in theory a very similar result, even if the version in the form used by Beilinson-Bernstein (and Brylinski-Kashiwara) was not included in full. See Note b. p. that same day (footnote (**)) page 1047) for details.

⁸⁰³ (**) We admire its value the wave of "building **exposed** to...", Leaving open the question completely which is due to this "construction" (or "match" or "relation"...); that issue will be resolved with the virtuosity that known six months ago, during the famous Symposium (see note "The Conjurer", n ° 75 ") will be taught there in the article Beilinson-Bernstein-Deligne, the terse reference [4] [5] (in two places, surely, construction should be well (Luckily) "exposed") was pure courtesy, and the brilliant father of the "match" is the one we guess. . . But even apart from the conjuring trick that I just mentioned, it is already a scam in itself as to refer to a new theorem, deep and hard by the term "construction exposed in ...", as if it was a simple "Construction" precisely who allegedly dragged there by sheer chance and the perpetrators would have chosen, for the greatest of chance also to use here for their brilliant demonstration. I recognize the same spirit as that of the operation "SGA4 ₁

2 - 5 APG ", which consisted for recall (passing)" exposed construction "in APG APG 4 and 5 with a formalism cohomology spreads (and the "matrix of non-sense" whose brilliant author was forced to extract), before mine up his sleeves and start making " **real** math...."

(May 25) See, on this "new style" note "Congratulations - or the new style" (n ° 169 ♪).

⁸⁰⁴ (*) made verification, it is Article Kashiwara already cited, where it demonstrates its constructability theorem, which plays well secure a crucial role to define "functors of God" (functors that person yet except Mebkhout never had dreamed before the rush of 1980). This is a gross fraud that pretend to confuse this theorem of Kashiwara (that nobody thinks to question it) with the theorem of God, incomparably deeper, and a different scope. Demonstration perspective, this theorem uses the power of resolution of singularities to Hironaka. From the point of "Philosophical" view, much more importantly, it builds bridges that were missing in the cohomological formalism between the topology, algebra and analysis (pending arithmetic, though some I see end up finding fossyoiant the use of their healthy schools. . .).

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No more than in the article Brylinski-Kashiwara, anything that would give the slightest hint at a player p. 1074

that would be really good "in the know" that this brilliant score would not have seen the day without the apparition of a new and providential tool retracted under the euphemism "construction exposed in ...". I

also recognize the proven ⁸⁰⁵ (*) flooding of a fish, called "dilution" by "docking"

the person he is retracting (though we like to be "go" yet and we need to say

the city. . .) With another that has nothing to do with the issue or whose role is minimal, as if to say

here (between the lines, and yet very clearly) that unknown wave that put it there (out of courtesy and given its insistence) has no more to do with the famous "construction" (including the new consensus

control came to speak only through allusions and as a well known thing of all. . .), Such section

appeared in 1975, at a time when nobody in the big world still deigned pronounce the word "category derived" (if not just as a joke...).

(e) Market fooled - or puppet theater I do not regret taking the time to

my benefit as much as for that of a mathematician player who would be interested in the thing, having spent here through the three preliminary scams around the theorem of the unknown service. these scams

are raw Kashiwara to Brylinski-Kashiwara (with the assistance of a referred remaining anonymous), and

Beilinson-Bernstein, with a Deligne in the wings ⁸⁰⁶ (**). They reflect a uniformity of style striking, on which there is no need to dwell further. This is the style I have read ad nauseam throughout my long investigation into the burial ⁸⁰⁷ (***), and is prefigured strikingly in the 1968 article of my most brilliantly gifted student, the same Pierre Deligne ⁸⁰⁸ (****). And this circumstance also enough to remind my good memory as an ambiguous attitude and complacency p. 1075

vis-à-vis Deligne and others, I saw brilliantly gifted, I am not without having contributed my share corruption that I see spread everywhere today.

It also becomes clear that the apotheosis of Perverted Conference of June 1981, just six months after the third episode we just go over, do not fall from the sky. Strangely enough, this conference was (to my knowledge) the first and only after I left, which was devoted (to say the course, and yet unequivocally) to exhume a component of "mathematics grothendieckiennes" for the occasion unexpected suddenly appeared a new tool, which has proved irreplaceable. This tool that was livable an approach things the consensus of fashion had long ago as rows as outdated and vaguely ridiculous ⁸⁰⁹ (*). And by a strange turn of events, due to the particular genius My former student shining, this striking confirmation in practice and under the pressure of needs, a approach disowned by him and by all, as was the opportunity, through the same Symposium, from burial total and definitive of the deceased master and not appointed by the posthumous student company (equally unnamed) who had had the good fortune (or misfortune...) to move all these people.

⁸⁰⁵ (*) For other examples of this so-called "dilution by assimilation", see sub-note "The real math..." N ° 169 5) Note b. p. (*) Page 885.

⁸⁰⁶ (**) (June 5) The role of Deligne "behind the scenes" is clear at least in the third episode, and there are strong presumptions tions in the same direction for the second. But it seems that Kashiwara has "fired" (for scams around the work of Mebkhout) for its own account in 1978, at a time when so (apparently) Deligne was even aware You@ welcome. On this subject part c) of this note ("The entry price - or a young man of the future"), note b. p. (*) page 1050.

⁸⁰⁷ (***) See about this style, including the end of the note quoted above "Congratulations - or the new style", n ° 169 9 .

⁸⁰⁸ (****) See the beginning of the note "Eviction" (n ° 63).

⁸⁰⁹ (*) For the psychological mechanisms at work behind this "consensus mode", covering with some "reaction vis Cerele "rejection front of a mathematical approach to style, see notes already mentioned" The providential circumstance - or Apotheose "and" repudiation - or recall "(n ° s 151, 152).

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This conference did not fall from the clouds, no. A feature among many of my friend Pierre Deligne is that he knows to wait and seize the right moment. The three episodes around the "cream pie" with the almost complete elimination of any mention of previously unknown service, showed him the evidence that the time was ripe for picking discreetly and with the smiling and affable nature that characterizes it, which anyway was supposed to return him right. I presume that there has been careful consultation with Verdier which he had to understand that it was time to exhume large bands categories dérivées and "paternity" long repudiated; at the same time, buried under the spotlight and the unknown wave, and the master has long deceased (of time someone would have the wrong idea remember that it was something to do with all these beautiful things were suddenly figure "trendy". . .).

Kashiwara as father-to-the-sly of a theorem-the-good-never-God-appointed, it was well p. 1076 for a moment ; just as long it was understood that we would neither name nor write Theorem in question. Kashiwara itself was not too hold them responsible, to this theorem which he still included less if it is, Verdier in person - he had the pocket passing as inadvertently and the opportunity of habit. Deligne him who waits, knew that this theorem was not going to stay forever theorem no address and no name. It was, in short, a theorem **in search of a father worthy of him** , and that would be able to appear in the full light of day once the "real" paternity, which normally should have been hers (and for twelve years already ...), would be the subject of consensus General and intangible. The article "perverse" jewel of the same name Symposium was a first step in this meaning, posed by the principal party with his usual skill.

I feel that Beilinson and Bernstein probably flattered to be associated unexpectedly fatherhood on said beams, too (but wrongly) pervert, and a guy prestigious yet, were actually manipulated by Deligne in order to serve as his alibi "in case..." As the article is written, any reader that would be very well informed can only think that it is none other than Deligne, of course, who is the author the providential "match", though never named or stated in clear (because everyone is already supposed to know. . .).

This leaves just the shadow of ambiguity (carefully calculated) in this great turn of phrase about "the relationship" non.nommée which "ought to find its place in these notes..." ⁸¹⁰ (*). That was how

"thumb!" to listen carefully and clearly, without saying in words, as said relationship (if any noted) was due at least in **one of three authors** of the brilliant article, or (at the utmost rigor) to the three together. But it was also clear that when the time (for the those who wait. . .), It would not be Beilinson, Bernstein nor who would argue a paternity already Deligne almost acquired. There had to be a market ⁸¹¹ (**), tacit if not expressly stated: at Beilinson and ^{p. 1077} Bernstein conjecture Kazhdan-Lusztig and (for good measure, given that there was already Brylinski-Kashiwara ⁸¹⁰ (*) See note on this subject already quoted "The Conjuror" (n ° 75 ").

⁸¹¹ (**) The presumption of such a "market" came to me by association with two similar situations. On the one hand the market (perhaps be implied, but clearly apparent) between Deligne and Verdier, this "sacrifice" Lefschetz-Verdier formula that goes to profit and loss for "business purposes SGA 4 ₁

2 - 5 SGA "but" picking "in consideration all the inheritance" duality " the deceased, and derived categories (Article discount) bonus. (For the detailed story, see subscores group "The Formula "n ° s 169 ₅ - 169 ₉ .) Moreover, there is the "market" concluded by Deligne said with a dead master, who had in any case disappeared from circulation and was not likely to react, about 7 seminar SGA is shared during two years from 1967 to 1969, which was "shared" by three years of half and half, one for the deceased, and the other for a Deligne makeshift teammate. (For details, see p. Ex. "Episodes of climbing," said n ° 169 (iii), episode 2)

It also associates with the "market" with the same deceased (do unsuspecting) for the said guess (MacPherson dixit) "Deligne-Grothendieck" (see episode 1 in the same note already cited): the first half for "factor" that Deligne MacPherson was informed of a conjecture (kept secret until now by the care of my cohomologues students), and second for the deceased, in his capacity as "collaborator" of the first. . .

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above) co-authorship on said beams (by agreement, I guess) "perverse" ⁸¹² (*); to the Deligne famous "relationship" nameless, waiting for the day will be soon and without modesty having to disturb, where everyone will call "theorem of Deligne". And the future "father" was pretty much the end nose to know at least this, about this child (he had repudiated once rather than consent to accou- expensive. . .) That concluded there a "good deal" ⁸¹³ (**). As for Kashiwara, his role was over, and it is no more mention of him in the brilliant article about the providential "relationship" as the unknown service. All against one when it is an unknown wave, okay - but once cleaned instead of an intruder, every man for himself. . .

(f) The parade of actors - or the mafia The "family album" opened there three weeks hardly ⁸¹⁴ (***), comes unexpectedly to enrich a few new faces. The "family" has greatly enlarged die, obviously, and I@ crumbling has trouble recognizing it, especially as times have exchange. This time and by order of appearance, it was **Mr. Kashiwara, R. Hotta** ⁸¹⁵ (*), **JL Brylinski** and ^{p. 1078}

the **anonymous referee** of the article Brylinski-Kashiwara to Inventiones. A group of "hard", that@for sure, the reflexes running smoothly, and most agree the finger and the eye when it comes to scam a particular wave, a discreet sign on the Grand Chief in the wings (or even without waiting for a sign...).

And again I find the appearance of a **mafia** ⁸¹⁶ (**), reigning supreme in their undisputed fiefdom whose heart is the cohomological theory of algebraic and other varieties. Shiny, hard people with brains immaculate, I have revised the work over the course of four successive episodes of the so-called operation "of unknown service ", culminating with the Symposium Pervert. In addition to the four guys I just mentioned (including anonymous), I remember the good memories of the five other members of the "hard core"; it actually nine that have mobilized to bury **the intruder one that is not of their** .

There is the Grand Chief, **Pierre Deligne** - one who always knows "wet" the least, while pocketing the more. There his second, **Jean-Louis Verdier** says "benefactor" - the same one who presided over the jury of certain thesis of a stranger, and he still was one of the organizers of a memorable Symposium robbing shamelessly that even unknown. There is the other main organizer, **B. Teissier** , who signed jointly with his memorable introduction to memorable Proceedings of Symposium memorable.

Unlike the others, it seems that he simply acted sidekick and nominee, while ^{p. 1079}

had nothing to gain for himself - if not the only fun to be nice to people he knew prestigious and unscrupulous. And finally there ⁸¹⁷ (*) **A. Beilinson** and **J. Bernstein** (I just do here ⁸¹² (*) See note "The Perversity" n ° 76,

⁸¹³ (**) This is a "good deal" who seems at the same time a very bad deal; and this even (and especially...) in the case where everything happens wishes for the person, wasting precious gifts and a creative force to play gangsters.

⁸¹⁴ (***) See Note of the same name on March 22, n ° 173.

⁸¹⁵ (*) A careful reader may be surprising not to find in this "parade of actors" (in the scam-mystification around the work of Zoghman Mebkhout) the name of Kawai, co-author with Kashiwara article repeatedly cited, including by. 4 pillages

shamelessly Chapter III of the thesis Mebkhout. (See the note about "The five photos (crystals and 3-modules" n ° 171

(ix), in particular page 1005) Mebkhoust insists that you can not put Kawai in "the same boat" with Kashiwara (be merely follow with his eyes closed. . .). He described me as a guy just dropped and I felt he took almost affection - it is in fact his "good Japanese," and it does not matter to him that I touch! That is why also, no doubt, he refrained from writing it (as he had written to Hotta, another teammate Kashiwara), to report to him Scams in his article with Kashiwara and thereby put an obligation to show solidarity with its explicit teammate and boss.

816 (**) This unusual printing had already imposed on me last year in the note "The Symposium" (n ° 75 Ⓞ(which we guess...) given an atmosphere of racketeering as we would have said we dream, or that we are witnessing "a film about the reign of the Mafia in

shallows of some distant megalopolis. . . . "This impression was with me again, step by step, throughout the this peregrination through the misadventures of the unknown wave service. . .

817 (*) (May 25) This "finally" proved premature - other gang members were reported to my attention since. On this subject 820

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better acquainted), moved delicately by invisible strings. . .

And I wait without impatience and without illusions, what other Symposia Pervert the future holds with acquiescence without reserves of the whole Congregation for the greater glory of "Science" and for "the honor of the human spirit."

c3. Roots and loneliness

Rating 171 3

(April 18) On completion of this fourth day at follow step by step the misadventures of my Zoghman friend, I understand better than last year attitudes and dispositions, to me in particular, which had seemed strange even last year. In short, with his work that he felt the scope, he thought enter "a big family", just one of the deceased person whose master never spoke, this is true, and yet this even without talking about. And now he found himself in a world of sharks with polished tunes even affable, and the merciless teeth - a snap stripped of what he brought, the fruit of eight years of solitary work; after which he made clear that had seen enough: a and unwelcome intruders. There are not many in his place, which would have been traumatized. I do not know if it is open to a living soul on his troubles, if only by bitter allusions, and so vague that they are mine still testify against him as an embittered, associated it a little at the edges.

Though I will not be named, though I did figure of "Father" of this world without scruple neighborhood, and there was really no reason to trust me that. Our first meeting it is true, in 1980, while still a thousand miles from suspecting what was coming, had laid the foundation for confidence, and I did feel as towards and against all this foundation then was preserved until today. Basically, he knew, while "Father" of sharks as I am, that I was not going to like them. But there was a **grudge**, for sure, and she liked to take the air of mistrust would have desired visceral, and p. 1080 which nevertheless (and the least I felt) was "pressed".

It's easy to "fight" for what is believed to be its rights, when you're part of a group so small it may be, with which one feels in unison. But one who is alone against all, the excluded, unwelcome abroad, it is as a private tree from its soil. The force that is in him is of no help to him, it becomes bitterness who turns against itself, like to chime with the world, which rejects.

When I held the hands that book devoted exhumation patterns along the ENTER- surely the worker who made the show, this book signed by four authors among the brightest of brilliant generation (I helped train) - when I finally made aware by the greatest chance (because nobody until then had nothing noted in particular that was worth inform me of...) - to this time I knew for the first time in thirty-six years that I had become acquainted with the world of mathematicians, **I was alone against all**. Many things that had happened over the eight recent years, suddenly assembled and took all their meaning. It's a strange feeling when suddenly we rediscover this solitude- there. I have had to catch my breath on that day, and throughout the following weeks, taking cognizance every day of the whole dimension of the Burial - a Burial to the measurement of the work.

But that has nothing in common with Zoghman, "left behind" by his people even before he vraitment could take root. To me, the fate had smiled. With seniors who welcomed me (and no matter basically they are dead or retired and dealing may not math for ages) -

Note b. p. (*) Page 962, in the note "The day of glory" (n ° 171 (iv)).

(30 May) Latest news: yet another member, R. Remmert, has been identified. See part (c) of this Note ("Fading memories - or the New History").

821

thanks to the fraternal welcome found in my younger years, I have, myself, "take root" in the ground that I myself selected. These roots have plunged and pushed, and over the years they have become deeper and powerful. These roots are then firmly planted in soil that is not that of "consensus" nor no way - deeper perhaps than any of those who find satisfaction in making modes and monitor 818 (*).

I may, in short, of being "alone against all" - say what I have to say, and go my way.

p. 1081

(25 May) 819 (*) It does not take much imagination to understand the frustration of Mebkhout that suddenly feels "swept" 820 (**) like a wisp of straw, once the strength of its main result is recognized. He writes to me (in a letter of April 24, after a recent visit home): "I put eight years to climb the results used in the proof-Kazhdan Lusztig. They put a week at the show. "A modesty restrained him, again, to go after what he really felt, surely, and I take on I here add the "unspeakable": and once the thing done, "they" are strutted proudly together with the tool

p. 1082

another had brand new shapes in solitude, making clear to the workers that we had enough seen. . .

The thing is such a huge point, however, that instantly Zoghman do not yet believe, quite the testimony of his faculties healthy - just as I had myself not believe the testimony of my own, May 2 last year, taking knowledge of the Proceedings of the Symposium of Luminy 821 (*). By taking Knowledge of these Acts in January last year, three years after the "General Rehearsal" Kazhdan-Lusztig that Zoghman eventually realize finally somehow what really happened.

818 (*) If I never bothered to follow me or do fashion, either in mathematics or anywhere else, I know that this is a events just strong roots that I had the chance to develop in my childhood. Having had

upfront strong roots in myself, my energy mobilized in large investments is not dispersed by cravings compensation such cravings to set the tone, or to be and appear consistent with the "tone" of rigor.

I speak concretely about my childhood and about these "roots" (without that word, I think) in the note "The innocent cence (nuptials of yin and yang)" (n ° 107).

819 (*) The two pages are from what was first anticipated as a mark of b. p. in note "... and the windfall" (n ° 171 (iii)). I had some hesitation where to insert them, and am finally decided to include in this note "Roots and loneliness. "This is the only note in" The Apotheosis "Indeed, I@ tried, from my own experience, to understand as well somehow how Zoghman himself experienced the events and situations that I got columnist.

820 (**) The term "swept" is taken from a letter from Mebkhout (from two days before the one quoted in the main text), which I reproduce here the relevant passage:

"It is true that the constructability theorem [Kashiwara]... I was able to trigger me. Besides from this time someone like Deligne would have found in a wink all my results including the theorem of good God in all its forms, with demonstrations in four shots spoon as you say. This is why that all this was swept away in a few days. "

I think Mebkhout clarified there, exactly, the "reasoning" of a tacit Deligne, appropriating the fruit of labors of others because it **could have** (and **should have**) find himself (with his means, luggage and all) "by four shots spoon. "The only problem with this reasoning there (that very often it is tempting to do in similar situations), it is that **the whole thing was to think about it** - and that@Mebkhout and not Deligne nor anyone else who has "thought" indeed. Creation

is not about the **technology** , which when finally seen something that nobody had been able to see, "sweeps" a situation in less time than it takes to write. Creation is not in the "scan", but in **the act of seeing** that person has been able to see; to see with his own eyes, not "follow" person. And this is part of probity in the exercise of the profession mathematician, that to distinguish between one and the other - between the act of creation, and the location of a crank which rotates round.

821 (*) See about this Symposium (June 1981) note "Iniquity - or meaning of a return" or "Days of Glory" (n ° s 75, 171 (iv)). Actually, writing, during the first week of May last year, the "Procession VII: The Symposium - or bundles Mebkhout and perversity "(n ° s 75-80) has not been sufficient to overcome this inertia almost insurmountable "to believe the evidence of my faculties healthy" in a situation where it is strictly one to do use. Only five months later, finally seeing me face the reality "in the flesh" so to speak, in the person of my friend Pierre (Deligne) came to see me in my retirement, a secret and tenacious incredulity eventually vanish. On this subject the note "The accomplishment - or the moment of truth" (n ° 163), especially pages 782 to 784.

822

18.5. THE FOUR OPERATIONS (a corpse)

The shock was terrible, I grew to understand - Zoghman at the time, he believed he was going to let them skin. It@solid, fortunately, a man - Zoghman is still alive, even today, and he even married meantime and became father of a child ... But I believe that even at that time again, when he held the hands of these "acts", he still could not believe it completely. Something had

"block". If it is, there still does not believe totally in the moment even as I write. I have to say that already in terms simply "rational" or "objective", the thing is so incredible point to such a huge point that until today **nobody** but me (except maybe him, and yet...) has dared to believe his eyes and see, while it is bigger than a cathedral!

But for one who is hit head-on by injustice, cynical and **free** the hands of his senior adminis- res, filled with all - surely this thing is those that can never believe everything-of-fact, those "**Beyond comprehension**". . . And these are also those who, thus, can devastate the life of a man. What gives them this destructive power is the obscure perception, hopelessly repressed and yet p. 1083 unexceptionable, of **the intent** to destroy, like that, for nothing, "**for fun**" - for the pleasure of a crush casual gesture which for you is the price, this same (if possible) that the substance and the salt of your life. This is perverse pleasure in malice "for nothing", that truly "beyond comprehension". . .

I believe that Zoghman has never really told anyone, either before the big bang, or after - if only by monosyllables, indecipherable to anyone but himself. The only episode Kazhdan-Lusztig already was too huge, too improbable for him to hope that anyone would believe it. The established consensus sweep as straws the most obvious facts, the most obvious, the most unexceptionable. And there it was something so painfully close to the point "on high" in his being, that the only risk to whom he would open reject the unwelcome message that his distress at "this beyond belief" is not allowed - this risk or probability that taking the size of **intolerable**, what we do expose any price - even to bursting on site, whether to die. . .

To me, two years ago, he had spoken well "monosyllabic". Maybe deep down he himself hoped that I would understand, these monosyllables, not only in their literal sense, but I also hear everything he dared not say in person (perhaps not even to himself ...). It was a crazy hope, certainly (in a situation where everything seemed raving mad!); I was miles away from anything imagine what I have since learned, of sure knowledge. It could not be otherwise, in the absence of meticulous and detailed information 822 (*). And Zoghman, meanwhile, was a thousand miles too daring me to give that information. It was crazy, and that does not stop him from blame me. It was necessary that he wants someone, someone close enough, tangible in short, on which defer some at least from what had triggered in him by "what is beyond comprehension," and releasing so little either what gnawing.

c4. White card for looting - or High Works

Rating 171 4

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(June 2) It will be two months since I had the satisfaction to the "end point" in the p. 1084 Burial, with the final note "De Profundis" (April 7th) - and it©been two months since I worked hard to put "the last hand" to the last part of the Burial! This is the reissue, almost of what happened last year around the same time - while I was not finishing 822 (*) (1 June) It would be more accurate to say he "could be otherwise" in the state of opening and limited presence that is mine, except on very rare occasions. I believe, however, that we all have an "ear, in the ear", perfectly able to hear the unsaid - but most often we take care to exclude from the field of conscious attention the messages caught by that ear. . .

823

finalize what was to be the first part of the Burial. It was, as now, the "last minute" that dragged on - even to the point that I forgot to drink and eat it and most of all, to sleep. It went on like that until the moment my body broke the ball rolling. It was exactly a year ago (within a few days), and I had to let go, for more than three months, fully busy to get out of an acute state of exhaustion 823 (*). But this time I© suspicious, and I© very careful do not resume the same path. I care about my skin. . .

This time again, it was the "investigation" that never stops bouncing. I expected a score of ten pages to break everything, which would have name "The four operations" and which would summarize, by "putting in order", the results of last year©gale survey. And it©going to be four months since the investigation resumed from more beautiful, the ten pages have become three hundred or so, and again it is not yet (quite) completed ! I do not dare to make predictions - it©the ninth month since the resumption of work at the end of September, that I am "about to finish"! I know it©really finished the day only when the last packet of notes will have been typed in the net, read again and corrected, and handed over to the duplication. (After that, the rest is no longer my job.) All I know is that I can not wait to be there, as I look forward to seeing the end of a

long and grueling illness; and that I have to go all the way, the best I can do, without letting myself jostling with imaginary deadlines. I will stop to breathe only once at the end, as for all that was to be seen and **now** says, has been seen and said.

It is this damn "Apotheosis" that will have given me the most harm - I can not say why. These "four operations" are the only part of Harvests and Seeds that came together, in bits and pieces and struggling - when in principle it had to be cooked at all, a simple "putting in order" yes; nothing that engage or challenge my person so

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neuralgic, so as to mobilize resistance forces, a

p. 1085

"**Friction**". And yet God knows if there was friction, and with Apotheosis more than for all rest ! Where is he from ?

Already with "The maneuvers" it was laborious. This is where it began to stretch to infinity. It^over by making eighty pages tightly packed just for that operation - and now, a month later, the Apotheosis has come to double. And yet, except perhaps a few pages (a little ^oery "on the edges ..." in "The maneuvers" (where I enter, perhaps, more than it would have been indispensable in the stringy details of some "scam" not possible. . .) - apart from this detailed "work on parts" and a bit of trouble probably for a reader who is not "in the know", I do not feel that these hundred-page packets that I ended up aligning there are superfluous, or even hair in four. What held me spellbound, it was precisely the abundance of **new substance** and unexpectedly poured over me, and that I absolutely had to fit, whether I like it or not - including same, yes, mathematical substance! At times I felt overwhelmed, so much many things at once I had to put black on white dare dare - things hot, see hot, and yet we are obliged to deal with them one after the other. . .

Such wealth, however, is in itself a powerful stimulation in the work, it is by no means of nature to arouse "friction", on the contrary. This friction, it is sure, does not come from the substance by itself, but from the strength of my egotistical investment in the work undertaken. Something that may seem paradoxical, it is my impatience even to "finish", to "throw on the carpet" what I have to say, about such and such things that are going on right now and that concern me and touch me closely - it^othis impatience (I believe) that creates friction, the dispersion of energy. Friction is a sign of a division, forces pulling in opposite directions, each exasperating the resistance opposed by the other:

823 (*) See note for the episode "The incident - or the body and mind" (n^o 98).

824

18.5. THE FOUR OPERATIONS (on a body)

in a hurry "to finish", to "let go" the piece since I polish it - and there is the requirement to go until end of what makes me glimpse the present moment, not to be satisfied with more or less, not to let me to shake things up, or to let me lock myself into a "program" to complete, in a "schedule" fixed in advance. I know although from the moment I exclude the unexpected, this hindrance to go around in circles, my work loses its quality and its meaning. he

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becomes "paper scraper". I became very sensitive over the years, this "small difference" p. 1086 who looks like nothing, and who is everything. It still happens, rarely, that such a turn begins, in moments of great heaviness - but never for long. When it takes this way, the kid he sends all wander - it^onot even worth trying to keep going. The desire of the work itself, that **desire** is anything but the craving to accumulate pages or to place an endpoint - desire and sudden desire are gone, and you found stupidly to blacken paper. It is really more worthwhile then - it remains for me to correct the shot, and right now!

There is always some **impatience** in the work (an old friend of mine...), Who constantly pull me forward. It seems to me that this is not the same as the one that weighed heavily on me, since I have struggled with these "Four Operations". The other impatience is not a weight that weighs, but a pulling force. It is the sign of an appetite, not that of weariness or fatigue, or of satiety. It is not impatience to accumulate, or to finish, to "close" a program, but that to know the unknown before me, about to surrender. It is the impatience of the naked child, alone in front of the infinite sea, to dive into it to know it. . . 824 (*)

But it is time to return to the story of the misadventures of my friend Zoghman, in this note intended as last end of the Apotheosis. As I said before, this story, Zoghman himself only gives it to me by snatches scattered, here and there, random letters, phone calls, meetings, surely, the progress of reflection and the writing of the Burial was felt, in the part, at least, devoted to the vicissitudes of my friend. I feel better now the meaning of this reluctance, while any attachment to a role of "victim" (that I had thought I detected last year) has fainted (assuming he was indeed present). There must have been also at home, at times, a certain saturation, expressing itself in an attitude like "does not throw

more, for pity! It should not have encouraged him, I was annoyed, I must say in a joke "the Japanese" here and "Kashiwara" there, that Zoghman had to sing for four years or five, and he had seen with them, it's true. But I knew that if he had seen, and if his work was thus delivered to the looting, so almost official: "Go good people, use galore, do not mind me especially...!", it was **not** because from some distant

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Japanese. It was **because of "his people"**: those of the "little family" ^{825 (*)} - well ^{p people. 1087} with us, and that he never named except to quote their works with all the respect due to their high reputation.

I did not want to hear about it any more, Kashiwara and others! Obviously it was blocking, and Zoghman had then the wisdom and patience to give up, without losing interest in my work, and without ceasing to bring here and there a discreet and effective competition.

It was at his last visit to my home, beginning of April, that I finally got to know him "Japanese package". It was a bit of my body, first of all. I thought I was going to piss off in inextricable ultratechnical stories and illegible papers (and in Japanese still, if it is ...), that anyway I will never read - and no! It was simple as hello - a little "pick-up story" pockets "in Parisian subways (or rather, from Tokyo) .Fun fun, to put it mildly (at least as long as it is the other who is mowing his wallet. . .).

824 (*) This is the picture already appeared in the note "The child and the sea - or faith and doubt" (No. 103 ◊).

825 (*) (16 June) Mebkhout wishes to emphasize in this regard, it has entirely ceased to identify with the "little family" in question.
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And so the situation was unblocked between Zoghman and me, and I got snatches and pieces of his misadventures, by flashes, here and there. Episodes I had recorded a little in style "technical information sheet" were enhanced by reminiscences on the spot; the kind of things precisely those which seem to be banned forever from scientific texts, in their impassible "attention to you", and even letters between colleagues - you would not want to! He even had to shake me well, in "The Four operations ", so as not to fall back precisely in this style, the style" conclusions of investigation "(even," leaf "These scraps delivered by Zoghman will have helped me get out of it, and keep in touch with a living substance.

I knew I was going back to Apotheosis the same day that Zoghman was leaving my home, just to make a subnote or two more, as long as what he told me was hot again. That gave the notes (or sub-notes, I do not know for sure anymore. . .) "Hatching of a vision - or the intruder", "The Mafia" (which I subdivided by the continued in seven parts, each with a name), and "Roots and solitude". I sent him the whole thing, for him to give me his comments before I give it to the keystroke. I felt like I was expressing myself a little bit in his name, and I wanted to be sure that everything I reported, according to what he had told me, had his unreserved approval. He sent me his detailed comments by return (letter of April 22nd and 24th).

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In these comments there are a lot of these "snatches", putting a living flesh on a framework of facts that p. 1088

seems a little skeletal at times, in my notes.

That's how I also knew that Zoghman had been there, this memorable April 22, 1980 seminary Goulaouic-Schwartz. This is the day when Kashiwara announced as his theorem the theorem of God, he had learned from the mouth of Mebkhout few months earlier, the Symposium des Houches ^{826 (*)}! It's so big, and with Mebkhout in the room again, that it may seem incredible. Mebkhout did not exploded on the field (I wonder how he did it ...). He waited politely for the end of the presentation "for publicly protest these methods, reminding him of the conference Houches and issue ^{827 (**)}.

Goulaouic asked me to settle my stories in private. The room suddenly emptied in a few seconds.

So here is one of the "snatches", delivered by this terse description. I then had some details at phone. The incident deserves attention. It says a lot about the state of morals in the mathematical world, in the 80s. There is the mentality, not such "caid" with long teeth, extreme symptom of the decomposition of traditional values in the scientific world, or even of the "establishment" of people in sight and well in all respects, in which plays the class reflex in favor of a "theirs". Here it is any room that is empty in a wink - nobody suddenly ^{828 (***)}! Arrange between you - we do not want to know anything. . .

I wonder what could have happened in the minds of Goulaouic and other peaceful listeners in this seminar, where spoke a distinguished foreign lecturer (on a theme of which none of them, I believe, was too familiar). This incident, after all, was sobering. I doubt

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besides that no

p. 1089

of them had taken this trouble, and supposes rather that all of them agreed by mutual agreement to forget the

incident. But finally, if we take the trouble to think about it instead of running away, there was still **one** things that was clear, in this dark history. The tone and terms of Mebkhout (someone else they knew, for having rubbed shoulders with him in seminars at least), did not

826 (*) About the Symposium Les Houches and the episode of Goulaouic-Schwartz seminar, see note "La Mafia" (No. 171 °), part (b) "First trouble - or the overseas bosses".

827 (**) This is the question posed by Kashiwara at the end of the presentation of the Les Houches Mebkhout Symposium in September 1979.

See in this regard the note quoted in the note of b. from p. who is before.

828 (***) this evocation irresistibly raises in my mind the association of ideas with any similar situation that I had lived three years ago, at the end of a Bourbaki seminar where I had been given ten minutes to talk about a some law scoundrel striking strangers. On this subject the "My farewell, or: foreigners", n ° 24.

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18.5. THE FOUR OPERATIONS (on a body)

little doubt about this, there had to be a **con man** in history - or Mebkhout or Kashiwara. It is possible, of course, that, in their heart of hearts, they have already decided in advance: Mebkhout is fabulous, how could one imagine the distinguished visitor plundering the anonymous listener! That would mean that vis-à-vis an unknown, the famous man, whatever he does, is above suspicion: the **white card looting**, given to man awareness against him who is without recourse. What he will have to say will not be heard: "arrange between you!"

Or, they are buried in a state of doubt: how to know who says the true and the false? (And especially, again, if we stop talking!) It is true that the brutal base of a Kashiwara, publicly looting a unknown wave in the presence of the person concerned, seems barely credible. But it would be a more incredible thing still after all, a vague stranger (whom they all know, and who did not come to their attention again by rogue tricks or by his base. . .) publicly dares to accuse a Kashiwara of gross plagiarism, what he has to say is pure fabrication. . . And supposing that what he says is perhaps well founded, to send it on the roses with an "arrange yourself between you!", this is again the *carte blanche* for looting. It is like shouting at someone who gets robbed in the street by thugs in a tuxedo and shouts "at Thief! "- Arrange between you! "

It also seems that this is how it has been for a long time, in the neighborhoods of New York and other major American cities, where no one wants to get in trouble with the mafia that makes it law. That is the way it is going nowadays (I can not say since when), in the world mathematics and in what passes for the "uptown" as the Goulaouic-Schwartz Seminar 829 (*), or among all those prestigious people who "make" cohomology of algebraic varieties.

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In rational terms and taken literally, this "you arrange you" frieze debility, in a p. 1090 situation where it is clear in any case that one of the two parties must be in bad faith. At the psychological level, this stupid formula reflects a **resignation** responsibilities, a situation experienced as "troublesome". It is also the deliberate ignorance of this obvious fact: the question of respect for basic rules the ethics of the profession of mathematician is not a purely "private" affair, to be settled between who arrogates to despise them, and whoever pays them. This is a **public matter**, a matter that concerns **every** mathematician.

It is thanks to the general indifference, the panic of each to assume his personal responsibility, in the scientific world can flourish with a gangster mentality and shameless than that of the Pervers Symposium. The panic of some and the impudence of others are as wrong and the place of the **same corruption**. Those who ran away and stopped their ears, a certain April 22, 1980, contributed to the Apotheosis of the memorable Symposium the year after, as well as the men who have assembled the grandiose mystification from scratch and have strutted proudly there. (June 3) It was during Mebkhout's last visit to my home, too, that I had some edifying details about him. about some of the participants in this brilliant symposium, and the "new style" that flourishes among and others, who better. I had the opportunity to leaf through the record of work, in the second volume of the Acts, where there are articles by Verdier and Brylinski-Malgrange, and to take a look at the Laumon thesis (with a more informed and less distracted eye than the day I first received it). This thesis is in fact a work in collaboration with N. Katz. I give some comments about the "new style" followed in these works, in the long note from b to the note "The day of Glory" (God knows she deserved that name. . .), page 962. In this note I refer, for further details, to this note.

829 (*) I am pleased to mention here that Laurent Schwartz was not in the room the day of memorable incident to "his" seminar. I do not know if he was informed later.

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(not yet written at this time). Promised thing, thing due!

Mebkhout told me how he had the honor and the benefit of talking to N. Katz twice about his ideas on duality and on the links between continuous coefficients and discrete coefficients. The first time was at Symposium of p-Adic Analysis in Rennes, in July 1978. He then explained

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"in a small committee" his theorem of

p. 1091

global duality for 3-Modules, on a complex analytic space - the theorem that covers the duality of Serre and the Poincaré ⁸³⁰ (*). There was Katz and Illusie, the very ones who have already been talked about more than one times in the Burial. Illusie, him, kind and nice as it is his habit, thought it was really very nice - something like that ⁸³¹ (**). As for Katz, who I imagine was talking about 3-Modules for the first time in his life (at a time when it was far from being great fashion, as after the memorable Colloquium), he just said dryly "It's known that!", To turn his heels as dry. Of moment it was a vague Mr. Nobody who spoke to him, to him N. Katz (who that same year was going to give a speech to thousands of distinguished colleagues, in honor of the new Fields laureate Pierre Deligne. . .), it could only be "known".

The second time it was shortly after the Symposium September 1979 ⁸³² Houches (***)). Katz was then at IHES. Given his notorious competence in p-adic differential systems, which Mebkhout felt it had something to do with the theorem of the good God he had just spoken to Houches, Mebkhout is went expressly to IHES to bring him his article at Les Houches, and to talk about his ideas and results. After the welcome received in Rennes, we can say that he had more ideas, not get tired! There is always that it was a bit of the same scenario. Katz still received from very high this vague unknown, who allowed himself to come relaunch it a second time, and without announcing again if it is. When you are an important man, sometimes we do not know how to protect ourselves from the nuisances. . .

It will have been enough, a year later, that these same ideas, long worn and matured in solitude by a unknown wave, be trumpeted everywhere as the last of the finds of a Deligne (or a Kashiwara, we did not know too much ...), in the wake of such a brilliant Conference that Katz unfortunately could not honor of his presence, so that suddenly they take

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for the big man and the importance and weight.

p. 1092

It was surely Laumon who had to explain to him the ins and outs - one of the brightest disciples Deligne. This same Laumon also knew, too, and first hand, the origin of these ideas, for being informed by the unknown wave in person. But the disciple is honored to follow in the footsteps of the Master, and he had shown quite clearly, and unequivocally, what conduct he it was appropriate to adopt with regard to the one devoted to silence and darkness. To Deligne and Verdier the honors of the limelight, and Brylinski, Katz and Laumon, come at the right time to have their share! To them the music and the flons-flons, and the ovations of a grateful crowd, hastily rushing to celebrate these High Works, in the hands of his New Masters.

Epilogue Beyond the Grave - or Racking

Note 171

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(June 14) Until a month ago, it seemed to me that the spirit of the Burial was limited

p. 1093

to what I sometimes call "the beautiful world" or the "big world" mathematical, and more particularly, the ⁸³⁰ (*) It is a question of this theorem in the two notes and "The Work..." "Three milestones - or innocence" (n ° 171 (ii), (x)). ⁸³¹ (**) It was also where a "kindness" gratuitous. While the style of reaction was different from one to the other (in "yin" at Illusie, in "yang" at Katz), the bottom was the same: as long as it comes from Mr. Nobody, it goes into a ear to go out by the other! On this subject the note "Spoofing" (n ° 85 ☹) including my observations about Illusie on page 351.

⁸³² (***) About Symposium Les Houches and fraud Kashiwara seminary Goulaouic-Schwartz, see note "The Mafia "(No. 171 °), part (b)," Getting into trouble - or the guys overseas peaceful. "

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18.5. THE FOUR OPERATIONS (on a body)

backgrounds of this world that I used to haunt and that I myself was part of. I did not perceive at the USTL (University of Sciences and Techniques of Languedoc, Montpellier), which has been for twelve years my institution of attachment, of signs of ostracism, or of an affectation of misery or discourtesy, even those of rudeness, along the lines of this Burial full swing for fifteen years ⁸³³ (*).

A new fact has just burst into this peaceful picture, and drastically transform the said chart, and my own relationship to my home institution.

In accordance with inveterate mechanisms, I did not think at first to include in my testimony

"Crop and Seed" this recent incident, which at first glance seemed to me to be coming "like hair on soup. "It is against serious resistance that I have come to admit that it would be failing in the spirit of my testimony, than to ignore this episode. It is an episode all fresh yet, certainly, and one, of more, that I "cashed" hard enough - which gives additional strength to these "mechanisms inveterate" to which I have just alluded, but the very vivacity with which I have cashed, this time, the eloquent and unwelcome teachings of this incident, is also a sign that it touches me very closely - and this at the level of my professional activity and my links with the professional environment of which I am a part. he this is typically the kind of thing that Harvests and Seeds would like to witness deep, without a "reserved corner" to which I would forbid myself to touch, whether by a "discretion" misplaced vis-à-vis myself, or vis-à-vis anyone.

Moreover, in the more particular context of my reflection on the Burial, I feel as a matter of course that there are direct links between it, and the incident in question. It is possible that these links are not those of a simple cause-and-effect relationship: that some colleagues on the spot would eventually take note of the Burial, and would have concluded that they too could "give themselves". Even as he there would be such a link of cause and effect, it would affect, it seems to me, only an incidental, accidental aspect of the situation. A more essential aspect on the other hand, and which especially struck me, common to what happens in "the big world" of Science (with capital S), or in a modest provincial university, is some

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degradation, unprecedented perhaps in science and academia: degradation at p. 1094 relationships and basic forms of courtesy and respect for others, such as at the level of scientific ethics, itself indissolubly linked to the respect of others and of oneself. We can therefore consider the following pages as a contribution (among many other already provided all along the reflection on the Burial) to "table manners of a time," or time without end doubt, mathematical environment.

Rather than repeating a story more or less circumstantial events, I prefer to reproduce four **Documents** that describe them as well. It is about :

1. a "letter to my mathematics teacher colleagues in USTL", dated 28 May, where I informed of a certain situation and expressed the hope of a discussion in General Meeting;
 2. "response" Ms. Charles, head of the local mathematical building to USTL, in the form of a circular letter dated 30 May addressed to me by name, and in fact to all mathematics teachers;
 3. Resolution passed by the General Meeting of the EBU 5, held on June 6 on the Agenda: "Information and discussions about the office move of Professor Grothendieck"; and finally
 4. a "Letter to my work colleagues in former Mathematics building", dated the following day June 7
- 833 (*) I am speaking particularly in the sense in Note 93 (page 396, paragraph 3).
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I abstained included among the documents my letter to Mrs. Charles May 21 (referred in the first document cited) and my letter to Mr. R. Cano, Provisional Administrator of USTL (he discussed in the same document and in document 4 or "Epilogue a misunderstanding"); these letters I seem to bring any new information element, compared to those contained in the documents reproduced below.

As one comment on Ms. Charles' letter ("it is in fact very difficult to contact" - "the" here means my humble person, to whom the letter is supposed to be addressed), I said here that the letters Montpellier to put my home one day to happen to me, and for years I am away from my address that during my visits to the USTL.
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18.5. THE FOUR OPERATIONS (a corpse)

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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF LANGUEDOC

p. 1095

Institute of Mathematics

GETTING AN A BAG IN MATHEMATICS BUILDING

Letter to my mathematics teacher colleagues in USTL

Alexander GROTHENDIECK

Montpellier, 28.05.1985

Dear Colleague,

I was informed last week by Secretary of the EBU which I charged to go for a

Work being in my office on the fourth floor, that it had been emptied of all my stuff - something I could check today: there are only bare soil. I had not been informed that my office would be requisitioned without further ado, and so I had not been able to express my agreement the operation, let alone allow anyone to enter my office in my absence and to touch my business. I called the same day to Mr Lefranc, director of the EBU to inform him of the situation, which (it seemed) was the fact of an initiative of Mrs. Charles, something that seemed to confirm this phone call. I pointed out to Mr. Lefranc I was shocked by the process, there was no question that I give my consent to a transfer offices are doing in such brutal forms, and I expected that my affairs are put in their place as soon as possible. He assured me he would need. That same day yet, Tuesday, May 21, I wrote to Mrs. Charles to tell him that I considered the "Dump" unwanted my office for abuse of power, and felt as violence; than I expected to detailed explanations from him, and apologize unreservedly. What if otherwise, I would submit the matter to the Council of the University, which would decide whether such processes against a teacher at the USTL should be considered as accepted thing. Coming now to the USTL, I noticed that Mrs. Charles did not bother to answer my letter (which I also sent a copy to Messrs. Cano and Lefranc). Mr. Lefranc has not ruled useful to send me any explanation for the fact that my office is still empty my business, a week after he assured me that he would need to return to my office. Neither he nor Ms. Charles had seen fit to inform me where the cases that have been rounded up are. I knew by secretaries interposed that these cases would be stored in the office of one of them. Moreover, having been an opportunity to meet Mrs. Charles in the boardroom, it assured me she only followed the instructions of the Director of the EBU, Mr Lefranc, and invited me to speak to him for that matter, that does not concern. Until the situation unravels, Mr Nguiffo Boyom kindly share her office with me.

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I may be the one to find that there is something wrong - violence and contempt; it is p. 1096 Although I am the only one also pretended to and at the door without further ado. (If it is another besides me who thinks this is not the kind of atmosphere in which he wants to work with the USTL, it would make me really happy he made known to me. . . 834 (*)). For my part, I consider it would not be a luxury there, following this "misunderstanding" (to use the charming euphemism of one of my colleagues), a meeting of the EBU, to the Director, M. Lefranc, and Mrs Charles, the opportunity to 834 (*) It goes without saying that such a gesture has for me makes sense if it is understood that commits the signatory, which allows me to make state

publicly.

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to explain their intentions and motivations, and teachers of the EBU, to say whether they consider these processes as normal (when applied to others...).

For twelve years I have to USTL, I have often had occasion to appreciate the provisions well-veillantes, dedication and efficiency of M. Lefranc whenever he was to serve - and I am grateful. This is all the more regret than I would withdraw my trust him, seeing that he is an instrument in the hands of others and allowed to establish an atmosphere of arbitrariness and contempt. Of his Now I pray to assume its responsibilities Director of the EBU, or to resign.

And I pray Mrs. Charles to dismiss "responsible local" EBU, functions which it has pleased him to abuse.

Pending your (or your) response

Alexandre GROTHENDIECK

PS As a temperament inclined to help, I was last year at the request of Mr. Lefranc given my agreement to exchange offices-with Mr. Lapacher, which (to me he was told shortly after) a then changed his plans. It goes without saying that gadfly agreement did not mean that I allowed the sacking of my office at that time or any other.

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18.5. THE FOUR OPERATIONS (a corpse)

UNIVERSITY OF SCIENCE &

TECHNIQUES

THE LANGUEDOC

MATHEMATICS

Thursday, May 30, 1985

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Mrs J. CHARLES "responsible local to the Institute of Mathematics"
p. 1097

Monsieur A. GROTHENDIECK, Professor of Mathematics.

Dear Colleague,

1. Where to begin and where the stop "work" of "responsible local to the Institute of Mathematics"?

This "charge" is seized of requests for Mathematics teachers

- or to accommodate a new teacher (or researcher)

- either for staying outside a teacher (or researcher) already housed.

In this second case the requests are usually motivated for a work goal: consolidation members of the same group.

This "charge" while exploring opportunities first priority and with the director of that UER5 is officially the manager appointed by the President of the USTL to the premises of the building Mathematical Research. It then seeks with people concerned possible solutions; the modification occurs after agreement by all.

2. What has been done so in recent years:

- grouping members geometry group

- association of members of the mechanical group

3. Difficulties encountered in this "work":

- virtually every person contacted feels "owner" of his office

- it seems impossible to compel that whatsoever to "change" Office.

4. The last request received by me and the evaluation of research "solutions" to the problem:

- the request made by Mr. LAPSCHER professor: regroup at the same level Mr.

LAPSCHER, the office of his secretary, Mr. MICALI.

- the first proposed solution: exchange offices between third and fourth floor for the

"Applicants" are grouped on the fourth floor. Were particularly concerned by this exchange

Mr. and Mr. GROTHENDIECK THEROND. Mr. GROTHENDIECK contacted

Director of the EBU 5

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said it mattered little to him that THE LOCATION OF ITS p. 1098

OFFICE PROVIDED THAT HE HAS A. As against Mr. THEROND with one point agreed then refused any movement.

- the second proposed solution: I then asked Mr. LAPSCHER contact itself

even his colleagues to propose another solution; this was confirmed by the director of the

EBU 5. He made us aware of his actions: the "occupiers" of 5 offices agreed

to perform a switchover, the agreement of Mr. GROTHENDIECK result of his conversation with the director of the EBU 5.

- the completion of this second solution: after learning of the agreement director

EBU 5 gave the "green light" for the modification of proposed offices.

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Mr. LAPSCHER who told me about a key issue during the period when the move would be addressed but I did not finish him that

- no new key was probably available,

- it did not seem desirable to prolong this move could be done in a few hours with the participation of all concerned.

Mr. LAPSCHER me then informed that the office equipment Mr. GROTHENDIECK was transported in his future office; This had been done without being able to reach previously Mr. GROTHENDIECK.

It should be noted that Mr. GROTHENDIECK resides away from Montpellier and is currently in release position at the CNRS; it is actually very difficult to contact.

5. My impression of "responsible" on what would seem to be called a "conflict":

- I had the opportunity to clarify to Mr GROTHENDIECK that, acting on behalf of the EBU I 5 could not give myself to reply to his letter; so he had to ask a response to

Director of the EBU 5. Following this second letter to all I consider that I have to leave

"The obligation of discretion" that I had imposed.

- it would have seemed desirable at least to inform the persons concerned before their move equipment

- it would have seemed desirable also to make the move into a 1/2 day maximum.

- the proposed solution seemed valid, it did not affect the office occupancy rate of the persons involved.

I do not expect an answer.

Please accept, Excellency and dear colleague, the expression of my best regards.

NB A copy of this letter for information

- all Mathematics teachers who have received the letter from Mr GROTHENDIECK of 28/05/85.

- the director of the EBU 5 receiving more copy of the letter that was sent to me by Mr.

GROTHENDIECK the 05/21/85.

- the temporary administrator of the USTL, who had a copy of the letter of 05/21/85 and to which I attach a copy of the letter of 28/05/85.

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18.5. THE FOUR OPERATIONS (a corpse)

UNIVERSITY OF SCIENCE AND TECHNOLOGY

THE LANGUEDOC

Institute of Mathematics

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INSTITUTE OF MATHEMATICS

p. 1099

Minutes of the meeting on Thursday, 6th June 1985 in 18 hours.

Present: M. AUBERSON Ms CHARLES, MM. CIULLI, CONTOU Carrere, MM. CUER,

LIMA, DELOBEL, ROBERT, GROTHENDIECK, Hocquemiller, ESCAMILLA, Mie HU

BERT COULIN "M. Lefranc, M. LOUPIAS Ms. MEDEN Mr. MOLINO, MmePIERROT Mr PIN-UP

CHARD, Mr. SAINT PIERRE, Miss VOISIN

After discussion, the present (19) adopted by 16 yes and 3 abst. the following:

"Mathematics Teachers present their apologies to Mr. GROTHENDIECK to

about unacceptable conditions in which his affairs were displaced. They commit

to collectively ensure that such regrettable events do not recur. In particular,

should be clear that the key to an office can not be used by anyone without the explicit consent of the occupier. "

M. LEFRANC

director

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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF LANGUEDOC

p. 1100

Institute of Mathematics

Epilogue of a "misunderstanding"

Letter to my work ex-colleagues (teachers and technical, 3rd cycle students) to the building Mathematics

by Alexandre Grothendieck

. . . the 7.6.1985

Dear (e) Colleague, I write here epilogue to the case of making my office bag, mentioned in my letter

of May 28 This letter was addressed only to teachers of mathematics, then it concerns EGA-

LEMENT and alongside all those and all those who hold office in the mathematics building.

It©inadvertent and poor judgment that I had failed to address my letter also to

Technical staff and students of 3 ° cycle, judging (hastily) that this would give the incident a

extension did not return it. I sincerely apologize to the person (s), and this especially as

I received from several of them (supposedly uninformed...) of expressions of sympathy, which made me

touch. It was after this oversight also no doubt that the General Meeting of the EBU, spent yesterday

the incident was limited only to "members of the EBU 5".

Among many other things, this incident has made me learn that this is not the first of its kind that

occurs at the EBU 5 - it©only the first time that it is a "rank A teacher" is targeted. I

do not know if the pious resolution passed yesterday will prevent such incidents from recurring, in indifference

General (as before), vis-à-vis non-tenured teachers or students of 3 ° cycle particular. I take-

drai care to check with Ms. Mori and Mrs. Moure if they have received the instructions

by the director of the EBU, no longer any reason to entrust the key to the office or to anyone

make use for anyone, except with the express permission of its occupants.

My previous letter ended with the words "waiting for your (or your) response." In response to this expectation,

I received three expressions of sympathy and solidarity. They come to me from Louis Pinchard to

Pierre Molino and Christine Voisin. Also, I received a testimony to the same effect by Philippe

Delobel, student 3 ° cycle (as Christine Voisin) had an AED with me. It was at his initiative

some students of 3 ° cycle yesterday attended the General Meeting. To him, as to all those I

just mentioned, which made me (without ambiguity or dodges) expressed their solidarity, I am pleased to express here my appreciation and gratitude. This is a "hard" fruit of experiences like this that make recognize friends, when we are lucky to have them. . .

I received yet another letter responding to mine, from a clearly delighted colleague what coming and taking this opportunity to file kindly of me. It is the only echoed in the sense that I have collected. For all others, many total indifference of some and discomfort of others (where more than once I felt the unspoken fear of hurting view and thereby jeopardize his chances of promotion or a precarious situation). In all, among those who are upset to the point of bothering to attend at this General Meeting (convened in haste at the last minute, when it was scheduled for a week. . .) I especially felt the deliberate well stopped to drown a fish, to the tune of "everyone there nice, everyone is cute." It was finally turned down (after three quarter hour of palaver) the "ugly" all designated absent (coincidentally), Mr. Lapscher - who had taken (from what we had just imply)

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the initiative of the hand. There was no question of going up

p. 1101

put into question, namely, the poor - not more than did anyone else, it goes without saying.

From the "leaders" involved in one way or another in the incident of the sack, I was

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shocked by the brutality of shameless Lapscher by rudeness "for fun" of Mrs. Charles (Which covered the hand, once put a fait accompli, adding there insolence of his own) and the discourtesy of M. Cano, Provisional Administrator of USTL, dispensing with any response the letter in which I informed him of the situation and to bring to the Council prayed University. But more than while I was baffled and saddened by the ambiguous attitude of Mr. Lefranc, director of the EBU 5. Since Monday, May 20 (where I had informed of the situation I had to discover and my feelings about it) until yesterday he had not seen fit neither to inform me about what had happened, nor to dissociate unequivocal act of robbery of a Lapscher or coarseness of Mrs. Charles. By his possible, from beginning to end, to maintain the fiction of the unfortunate "misunderstanding", he managed to give innocuous or even respectable manners, to behaviors that, for my part, I feel as intolerable not to hurt anyone, surely, he chose to spare (a lot) and goats (some) cabbage.

I have also taken note, among other signs, the silence of many of those I had grown count among my friends (including three who were my students); of ostentative indifferent of such, of the embarrassment of another, and honey jubilation another again. And the silence of a Micali (co-recipient@hand, and had ample opportunity to convince the last few years, disadvantages in attracting the bad graces of Mr. and Mrs. Charles. . .), And complacency Miss Brown, taking orders from a Lapscher to play locksmiths-movers mercenaries (without a word of regret, once the nature of the operation could not be sure).

On the bottom of all this and finding yesterday that, for twelve years, was my desk, turned this Once in battle - my business (more furniture) réentassées crash (good fifteen days after a hand - lightning. . .) - I have not the heart to present to redevelop it again. It@quite unlikely, do we ensure me that the same incident happening again vis-a-vis me, and I can also take the lead, taking before me the second key, until now entrusted to Ms. Mori and Moure. But in extent practically possible, particularly for the duration of my detachment CNRS, I prefer to give now to the use of an office in the USTL and abandon the place without a fight to Lapscher, to Charles and others.

If I can avoid it, I will not repeat a teaching activity to USTL. I have spent, for sure, as a stranger - one whose homeland is elsewhere - both my approach to mathematics, as by that teaching or my lifestyle. What the university microcosm had to teach me, I think I have learned, with the last "shutter" the lessons of this incident, which has just closed himself in satisfaction. It@likely that this meeting of the EBU 5 that I just attended either last, that the letter also be the last opportunity I have to write (or write yourself). And this time, I do not expect an answer.

Alexandre Grothendieck

18.5.5. The threshold

Note 172

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(March 22) I thought I had for a day or two and ten pages to break everything, with p. 1102 famous "four operations" that I proposed to review, since the month of October already. There you go more than three weeks that I work on hard, during which I aligned well in the hundred pages - and I still have not finished! The first jet, from February 26th to March 1st, took me four days already. He just provided me the canvas, on which to embroider (despite everything) a "story", and not just conclusions investigation. On re-reading this first draft, the day after the 1st of March, it gave an unfortunate impression of

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grievances "that never stopped, and as it incomprehensible probably to anyone except three or four really expert experts (assuming they have the patience to read it ...). I understood that I needed at least explain roughly what it was, so at least put a context - otherwise it was not worth ⁸³⁵ (*).

That led me to a few rehearsals, compared to the first part of the Burial - but he there are cases where repetitions are not only useful, but even indispensable (in mathematics besides as much as elsewhere). In these cases, moreover, one realizes very quickly that the so-called "repetitions" are not really, because what is "repeated" is **seen actually seen again** and under lighting that changed. By situating, as "context" for the four operations, certain aspects of my work, I have the impression to have learned something about it, to better situate this work. I may not have learned anything from really again about myself and others, but I do not regret the pain I took in rewriting for several days, this first jet-grievances. This work, I had put the best that I had to give, and it deserves that with hindsight that gives me a maturity, I get acquainted again and in a day different. At the very moment when I was preparing to make the detailed statement of what this work had to experience since I left (in good hands, I do not doubt but...), it was good that I **ask** as little about her, about her place and about this unity that makes her beautiful, if only for a few pages, as a way again to mark my respect for what I have seen flouted.

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But that was not all, far from it! Abandoning the style "sheet of grievances", with numbered references p. 1103

to the more fleshy notes of the first part of the Burial, I understood that these notes that I took again, like all the other sections and notes in Harvests and Seeds, had to be intelligible and restore most of what they had to say, regardless of even those references to notes making part of **another moment** of reflection. Again, this led me to many "repetitions" that are not not, that is to say to review in a new light, what I had noted day by day almost a year ago, in the fresh emotion of discovery. I was beset by so many unexpected facts and sometimes incredible, that there could be no question then of a real "investigation", so little methodical. At that moment, I was content to try my best to cash in what was going down on me, and to "casing" somehow, without looking too much detail. Most of my energy was absorbed then to **deal** with that the pots-aux-Roses that I discovered were **crazy**, incredible (as in this tale of the Emperor of China dress. . . ⁸³⁶ (*)), and above all, to take this "breath" of violence, of cynicism and contempt that suddenly came back to me, "in these good-looking airs ..." that I recognized only too well good ; the breath of other times, that I had lived and that I did not forget. . .

The last three weeks, on the other hand, have become an opportunity to complete this stormy investigation Last year, digging a little closer some texts (SGA 5 and especially the so-called "SGA4 1

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This is gave birth to a sequel (which no longer seemed to end at times!) of footnotes (more or minus), some of which have become sub-notes, and one of these (in the intended name "Formula") taking care on four consecutive days and dividing into four ⁸³⁷ (**). . . Sometimes I felt that I was never going to finish - and then no, that eventually converge ⁸³⁸ (***) . I leave for For the moment, there are about 10 pages that are decidedly over-written, which are to be redone, and the bottom notes ⁸³⁵ (*) The only other times of the Crops and Seeds reflection I@e made such a sprain (smaller, it is true) the writing mode "spontaneous" was in "The note - or the new ethic" (n ° 33) and in the note "The Iniquity - or sense of a return" (n ° 75).

⁸³⁶ (*) See the note of the same name, n ° 77.

⁸³⁷ (**) (1 June) Which became six since. . .

⁸³⁸ (***) (1 June) A "Convergence" any interim Moreover, since the note "The Apotheosis" finally burst into thirty notes, sub-notes etc, distinct, doing well in the 150 pages alone!

18.5. THE FOUR OPERATIONS (on a body)

page of the last two notes ("The sharing" and "The Apotheosis") that I would add later. For the
it is enough like that! Leave to come back later on

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"stewardship" I can not wait to finish and say p. 1104

without further ado what I still see substantial to say, on the chapter of "four operations".

I distinguish in the Burial two "aspects" or "levels" intimately connected, but nevertheless distinct.

They are quite clearly separated (to me at least) by a **threshold**.

On the one hand, there is the "wind of fashion" aspect (sometimes going as far as this "mockery" of which I had
opportunity more than once to speak in Harvests and Seeds). It manifests itself mainly by what I have called

Besides 839 (*) "automatic rejection attitudes - attitudes often cutting short the simple reflexes

mathematical sense, and practicing against some and their mathematical contributions,

It is about me, and some others that are classified (sometimes despite all the efforts of

interested to stand out from me) as having "part connected" with me. In my case, it was not possible,

certainly, to "reject" (or "bury") **everything** I brought, while much had already entered the

common area everyday, even before my departure from the mathematical scene in 1970 840 (**). It is

Yet true (and I make the statement for the first time in the note "My orphans" of a year ago (note °

46)) that by far the largest part of my written or unwritten work on the cohomological theme has been

buried, by the care of my students first and foremost, the day after my departure. (Some of

themes that I introduced were exhumed four, seven, or twelve years later without mention of my person

- but here we are already touching the "second level". . .)

One can certainly regret such automatisms of rejection, sometimes going against the simple delicacy and

the respect due to others, and foreign in all cases to good sense and mathematical faculties of discernment.

We can regret it all the more, when it strikes young mathematicians with sometimes brilliant means,

when the "bite of disdain" extinguishes a joy and denatures what had been a beautiful passion, in bitterness

investments that appear as wasted (according to the consensus that make law ...). And we can regret

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ter p. 1105

also, when this rejection strikes simple and fruitful ideas that have amply proved their worth, to make

emerging from the void powerful tools that nowadays "everyone" uses without looking twice. In

the first case (that of a devastated vocation) the damage is likely to be irreversible, but not in the

second - because sooner or later, simple and essential ideas, those "on the way", end up appearing

or to reappear, and to be part of the common heritage. Anyway, we can not reasonably

want to force anyone to think a person **well**, or a work, or an idea, which (for a

because that is his own) he wants to think **evil**, or downright forgotten. This kind of question is,

certainly, and in a delicate and essential way, of personal "ethics", but it can not be done, it seems to me,

a question of collective "scientific ethics"; or if you try, it is to be feared that the remedy is

worse than the bad. . .

The second "aspect" or "level" I was referring to, however, is precisely where

violates such collective ethics. The **threshold** I mentioned, is a **consensus** that, as far as I know, has

has been universally accepted in all sciences, since these are the subject of written testimonies. he

This is the consensus that states that no one is supposed to present as his own ideas 841 (*) it has taken in

839 (*) In the note "The Gravedigger - or the whole Congregation", n ° 97.

840 (**) It is true though that even some of the ideas and techniques that were already entered in use "daily" (at

less in the limited circle of my students and close collaborators) were buried as soon as I left. We can say that he was

in particular the cohomological tool l -adic, which I developed in great detail in SGA 5 (from the results

keys of SGA 4). It was kept under the bushel by my cohomologist students, Deligne in the lead, to be exhumed under the

form and in the spirit that I know in 1977.

841 (*) When I speak of "ideas", it is understood that it is not in mathematics alone "results". Often a

single well posed **question**, which touches a crucial point that nobody before had been able to see, is more important than

"result"

839

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others. This consensus obliges us, therefore, to indicate the origin of the ideas that we present,

p. 1106

let us use or develop, each time, at least, that these ideas are not our own or the heritage

common, known already (not three or four insiders, but) by **"all"**.

I do not remember ever having heard that consensus. From the time I was part of mathematical medium, between the years 1948 (young beginner of twenty years attending Cartan classes in the Ecole Normale Supérieure) and 1970 (when I left the mathematical scene), I had the opportunity only very rarely, and in only one friend and colleague somewhat neglecting this chapter ⁸⁴² (*), to witness or only to be informed of a patent breach of that consensus, or principle. As I emphasize elsewhere in the Part of Crops and Seeds (in "A well-kept open secret", n ° 21), the respect for this principle is by no means a self-evident thing for anyone with a minimum honesty and respect for himself. On the contrary, it requires great vigilance because inveterate reflexes. Since childhood, we have naturally grown to overestimate our own merits, and to confuse a work assimilating in us ideas from others, with the very conception of these ideas - something that is not yet absolutely not of the same order. In writing the section cited more than a year ago, I was not visibly unclear to me about the importance of this consensus. he there was a certain vagueness in my mind (which I did not clearly realize

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this stage of the
p. 1107

reflection), in relation to this widespread feeling that a strict requirement **vis-à-vis others** (eg vis-à-vis of my own students) for the respect of this principle in their relation to me, was the sign of a lack of generosity, a smallness unworthy of me. So there was at that time an **ambiguity** in me, that I have clearly detected in the reflection of the note of 1 June of the same name (n ° 63 "). This reflection completely dispelled this ambiguity, which (I realized then) had weighed heavily on my relationship to my students, from the beginning (at the beginning of the sixties) until last year again. I have understood that a rigor in the exercise of the profession of mathematician (or, more generally, of scientist), first and foremost means being very vigilant towards oneself, while respecting this consensus crucial among all, but also an equal demand towards others, and even more so, vis-à-vis those even arduous. This is still, even though the issue has not yet condensed into a clear **statement**, which would be an embryonic hypothetical answer, or even a more or less complete answer (still conjectural). It is understood that clear such an utterance from a fuzzy question is an essential and creative part of mathematical work. Present the elaborate version of a question (perhaps deep) by hiding the source of it (even though prestidigitator), as well as to silence the origin of a statement in deep form, under the pretext that This is a demonstration, is plagiarism as well as to present as his own a demonstration taken in others. The same goes for the introduction of fruitful **concepts**, most crucial yet often stated that good - because The question of "good statements" arises only when one has already known the good notions. Here again, take the excuse that has modified or even improved a notion taken in others, to hide their provenance, is a dishonesty just as much, that if one "borrows" the notion ne varietur. Most often, this is the first step: raise a question (even vague again), propose a statement or concept (even imperfect and provisional), which is the crucial step, and not the improvements (in precision, in extent, in depth) that one brings. But even though it would not be so, it can not be taken as a "reason", for the one who would do original work by improving what he received, to hide what he received (or, what can return to the same, for the "debunking". . .).

As I already pointed out elsewhere (in the sub-106 ° footnote 1 of the Circular "Muscle and tripe (yin yang bury (1))", n ° 106), the "value" of a conjectural statement does not depend on its presumed difficulty, its more or less "plausible" if this statement will prove true or false. In any case, the "value" that one is willing to give to a mathematical idea (whether it is expressed in a question, in a statement, in a notion, or in a demonstration) or in a set of ideas, is to a large extent subjective and can hardly be the subject of a consensus of scientific ethics. That why a honest scientist will indicate the source of **all** the ideas that he uses (explicitly or implicitly) and which are not part of the "well-known", without letting go of the slope which consists in silencing the origin of such an idea which it would have decided in its inside (and for the sake of perhaps a questionable cause ...) that it was anyway "obvious", "trivial", "without importance" (or other qualifiers of the same water).

⁸⁴² (*) This refers to the report that colleague in passing in the first part of R and S, in the cited section from the next sentence. With the hindsight of more than one year, this "case" also takes a weight, that I had not granted him before.
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18.5. THE FOUR OPERATIONS (on a body)

we have the task of initiating the profession that is ours.

With each passing year, I better understand how this business is **something** that a technical know-how alone, or even the ability to work with imagination to solve problems. blemishes deemed difficult. In a way, I knew it well and always - but I underestimated the "ethical" aspect, or **collective** ⁸⁴³ (*), as something that was supposed to "go home" between people in good faith and good company. In this way, I was ready for the "ambiguity" of which I spoke, and who was also (under the guise of a false "generosity") vis-a-vis **complacency** of my students and the like, and

way more still hidden, complacency in **myself**.

I left that environment of "people of good faith and good company", which had been **my** world, which I had been happy to identify myself. Y hazarding a little more detailed look (in the weeks that have followed on April 19 last year) I found, less than fifteen years after leaving, as a **corruption** I could never have imagined it even in dreams.

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It@a mystery to me what **sense** may still have to "do math" as per member. 1108

this world - if not only as a means of **power**, or (for the modest association) that ensure a **pittance** under material conditions, well, comfortably (when you have the chance to be already "cased" somehow. . .).

18.5.6. (5) The family album

Note 173 844 (*)

at. A well surrounded deceased (March 22) To put it more bluntly, there is in the Burial level "mode", and the level "scam". Maybe I just delay, and what was looked at as scam "of my time" has nowadays become a perfectly accepted and honorable thing, as long as those who practice it are part of the beautiful world. Perhaps the "threshold" has disappeared long ago? The "second level" is a **single vast operation of fraud**, to all my work on the cohomological theme, and after it, that of Zoghman Mebkhout, the imprudent continuator, posthumous, obscure and obstinate pupil of the buried master. The great conductor of the operation was another student, by no means posthumous but on the other hand occult, that yes, playing on a tacit role of "heir" of my work, while disavowing and debunking and the work, and the worker. This is my friend **Pierre Deligne**. His zealous lieutenants were none other than the four students who, with him, had opted for the "cohomology"

JL Verdier Illusie L., P. Berthelot, JP Jouanolou. The deceased is decidedly well surrounded, both by the 843 (*) I do not mean here that the aspect of "ethics" of a situation is always the same time, a "collective" aspect, affecting the relationship of a person to a group (in this case, a group of "colleagues" or "congeners"). Yet it is good so in the case of the "consensus" that I am examining.

In accordance with the particular conditioning that shaped my view of things since childhood, I tended, until last year, to underestimate (or even ignore) what is collective, in favor of what is personal. The appearance "collective adventure" in my personal "mathematical adventure" became clear to me last year, first of all in the "legacy Galois" (n ° 7), but especially in the sections of the end of the first part of R and S, "Adventure lonely "and" The weight of the past "(n ° s 47, 50).

844 (*) The note "family album" initially formed immediately following the previous note "Threshold" written the same day (March 22). This part now forms the part a- ("A deceased well surrounded"), to which have been added the 10 and June 11 two other parties, b. ("New Heads - or Vocals") and c. ("The one among all - or acquiescence"). Note Next "Climbing (2)" (n ° 174) of 22 March again, connects directly to the party. (same day) of this note. The notes of b. from p. in parts b. and c. are from June 13th and 14th. Finally, a last part d. ("The last minute - or end a taboo ") was added on June 18th.

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codéfunt 845 (**) sharing with him the honors of burial, by those who, in his "alive", were his relatives. As extra mummies, coming to help in the double burial, put in scene by the Grand Chief, I see seven other "world-renowned" mathematicians (to

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terms of a display ad 846 (*)), appeared occasionally during the Funeral Ceremony p. 1109

reviewed in the family album (also called "The Four Operations"). These are (in order of importance in ceremony) **B. Teissier, AA Beilinson, J. Bernstein, JS Milne, A. Ogus, KY Shih, N. Katz.**

I did there round the mathematicians who are known to me for having **actively** participated in the operation "Burial" in one way or another. There are twelve 847 (**). For the last four named, I can not to prejudge their bad faith, according to the facts that are known to me. I consider that their responsibility is no less committed than that of others. Because if they were more ignorant of what they were doing, it was there is a choice which does not relieve them of their responsibility in their actions.

As for the participants in direct connivance, I would certainly be unable to draw up a list of them even incomplete, or to make an estimate of their number, surely of an entirely different magnitude. it Suffice it to recall that among these there are all the participants in the "memorable Symposium" of Luminy de June 1981 (Conference says Flasher), and also those among the readers of the volume called "SGA April 1

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", who

were unaware of the meaning of the acronym SGA - and who "let it run".

I see two texts, which reflect a **disgrace** among all the mathematical years seventy and eighties, as no doubt there has been in the history of our science.

In one of these texts, disgrace breaks out in the name he has already given himself, which is in itself an im-

posture (of genius...): the text named "SGA April 1

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"(as standard reference), and also" Cohomology

Etale - by P. Deligne, with the" collaboration "(among others and in addition to L. Illusie and JL Verdier) of A. Grothendieck ⁸⁴⁸ (***)). The second text is constituted by the Acts of the

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Symposium of Luminy of June 1981, and

p. 1110

especially and especially, by the first volume, constituted by the Introduction to the Colloquium (signed B.

Teissier and JL Verdier) and by the main article of the Colloquium (signed AA Beilinson, J. Bernstein, P. Deligne).

It would be something that would surely be beneficial to all, and to the honor of the generation of mathematicians who tolerated such disgrace, if at least one of those who directly contributed to it, in one way or another, finds in itself the simplicity and courage to make a public apology - or better still, to explain publicly about what happened regarding **the**. But this is probably too much hope.

As it is too much to hope too, that JL Verdier ceases to occupy, at the Ecole Normale Supérieure, the place that had been Henri Cartan© It is surely the key position in France, for the formation of the "succession" in mathematics. When I learned a long time ago that Verdier had been promoted to post, he who had been one of my students and I had affection, I felt myself honored (and at the same time, secretly flattered). I was not touched by the slightest doubt, then, that Verdier fulfill the role that had been Cartan© vis-à-vis the young people most motivated to mathematics, who would learn their job perfectly at his touch. If I see today (and since

845 (***) Actually, there is not one, but **four** "codéfunts" I have knowledge, which are the subject of four notes coffin (coffins 1-4) n ° s 93-96.

846 (*) This is the Jubilee wafer IHES published in 1983 for the twenty-fifth anniversary of its founding. See at this subject notes Eloges Funèbre (1) (2) (n ° s 104, 105) and particularly page 454.

847 (***) The same "twelve" in the section (the first part of R and s) "Jesus and the Twelve Apostles", reviewing all students who worked with me up to the level of a state doctoral dissertation. It is true that among the active participants in my Burial, but this time on the corporate side of Funeral Homes Springer GmbH (instead of the Congregation of the Faithful) it Dr. KF Springer (co-director of the esteemed institution) and Dr. K. Peters and Dr. Byrne, who will be discussed in a subsequent note (n ° 175). And fifteen!

848 (***) Concerning the meaning of this "collaboration", part of the hoax mounted Deligne, see note "The reversal ment "(n ° 68 ©

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18.5. THE FOUR OPERATIONS (on a body)

years already, but never before with such brutal evidence) that I was wrong and if I say it here clearly, it is not to charge him or anyone with shame. I think he disqualified himself to lead researches. So saying, I do not deny my share of responsibility, for having mis-taught (to him as to all my other students) this job that I loved, and that I continue to love.

b. New faces - or vocalizations (June 10) Two and a half months have passed since I wrote the beginning of this note "The family album". I did not suspect, of course, that I would have to come back again, following new developments in the Burial Inquiry. It©especially the break-up of the modest "apotheosis" in five or ten pages that I had just written, in a grandiose Apotheosis in capital letters, one hundred and fifty well-packed pages, which made me discover, in the wake, "new heads", which must have their place in the family album. There were also already familiar heads, which he appeared that they too are part of the legion of those who actively participated, at the "fraud" level, in "Burial operation". I go back to

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reviewed here "pm" and also to be sure that each of p. 1111

interested parties feel in good company (but this is surely something that has been done for a long time ...). I insert new photos coming in the order they are reported to my attention.

There is first, the home side Springer GmbH, **KF Springer** (one of the co-editors of the house), **K. Peters** and Mrs. **CM Byrne** . I give additional details in the note below "The Funeral - "im Dienste der Wissenschaft" "(n ° 175) At the time of writing the beginning of this note, on 22 March, I. had just received in recent days the letter KF Springer (dated March 15) that dispelled my last doubts about the spirit that reigns in the estimable house undertaker, true to its motto "Serving Science".

Apotheosis of side (through the burial of the unknown service), I had knowledge of the contributions of **Mr. Kashiwara, R. Hotta, JL Brylinski B. Malgrange, G. Laumon and R. Remmert** , plus a **referee anonymous** that bad faith can not be doubted; but it is true that if we start to count referred complacent of articles or crooked books, bound in any way to the burial should be there surely a new album. Also, there is resurgence of my old friend N. Katz, this time in a

context such as the presumption of good faith (relative, at least) that I kept for him, fainted. This brings to four (and five, counting the famous anonymous referred) the number of mathematicians, all of international fame, known to me to be active in one way or another to said-con spoofing "Symposium Pervers". For details duly documented about it, I refers to the Apotheosis, especially the notes "... and the bargain", "The day of glory," "The Mafia" "Carte blanche to pillage - or the High Works" (n ° s 171 (iii) (iv), 171 2 , 171 4). Finally, on the side of the operation "Patterns", appeared (better late than never), a little away from the big squad, another of those who were my students. Afterwards I saw myself almost forced to count (As sixth) among my students "cohomologistes" although "my time" he had no any idea what it like cohomology. This is Neantro Rivano Saavedra, who obviously was used (voluntarily, of course) as a "pawn" in the hands of others, rather he has acted his own account. His adventures, battling Monsieur Verdoux (disguised as "jumper

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servant ") were p. 1112

reconstructed in the pages in the sequence of notes "The Sixth nail (the coffin)" (n ° s 176 1 to 176 7) of 19 and April 20 (except the last, which has yet to write). So, this also brings to six (twelve) number of those of my students "before" who actively participated in the burial of the master. The share in Burial Saavedra by this differs in the fact that the operation "Categories tannakiennes (sic)" he has been involved, is the first large-scale operation, to retract the authorship of part

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important to my work and philosophy that I developed (in the wake and during that patterns, in this case).

Considering the newcomers in the album, and setting aside the Springer contribution Shoes-Funeral, retaining only those from the Congregation of the Faithful, this brings to nineteen ⁸⁴⁹ (*) the number of notable mathematicians who are known to me for having actively participated in the burial at level of what was called in my time a scam operation. Of these participants, there are three only know the three co-signatories with P. Deligne of "memorable volume" Lecture Notes 900, the bad faith does not seem to me gained.

This list is also far from exhausting all of my colleagues and / or alumni or friends, who at one way or another and more or less actively participated in my funeral, without so much up be associated with a characterized scam. I have noted thirty, most of which were already mentioned in During my reflection on the Burial; by counting the previous ones, it makes the firmly packed fifty - and are not there yet, as I read in spite of myself into my distant retirement,

Over the last eight or nine years, or those who are taxed to my attention during an investigation who, intentionally, remained more limited.

These numbers alone are already eloquent, alongside the confirmed unexpectedly had the impression that already imposed on me from last year, namely, that the burial of my work and my humble self is not the business of one, or a strictly limited group (as one of my students before I left, or my "cohomologistes students"), but a collective enterprise, the level of "Congregation whole ", or at least at the level of the game Mathematical establishment that was

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witness

p. 1113

and stakeholder in the development and fulfillment of my work surveyor from 1955 to 1970. My starting in 1970 was the signal in that part of mathematics at least one **reaction** **rejection** immediate and drastic mathematical vis-à-vis "grothendieckiennes" felt as symbol as the embodiment of "mathematical feminine" ⁸⁵⁰ (*): the vision or constantly precedes and inspires the technical aspect, which constantly challenges are resolved instead of trenches, where constant contact with the profound unity in the apparent disparity of things, allows every moment to identify what is essential in the amorphous mass of accidental and incidental. At the same time, my departure was the signal also a spectacular save any conceptual work, or rather, a set **outlawed** any such work, suddenly struck with derision pretext "deepening".

Thus, mutilating the work of mathematical creation of one of its "catchment" critical, the slope "yin" or "Female", that is a staggering "Verflachung" a "flattening", a "drying" labor ma-
theme that culminated ⁸⁵¹ (**). The thing was done (he seemed) by a sudden and drastic turn, virtually overnight. This is something so strange point to such extraordinary item, it appears unbelievable. It took me over a year of intense reflection on the burial, eventually apprehending what happened and get to the facts. I do not know if there was a comparable shift in recent years or decades, or at any other time in a branch of science or any other human activity

849 (*) Twenty, counting the famous anonymous referred.

850 (*) About vis-à-vis rejection reactions of a certain approach to mathematical style see notes "Muscle and

tripe (yin yang buries (1)) ", funeral yin (yin yang buried (4)) ", " The providential circumstance - or Apotheose "
"The disallowance (1) - or recall" "The disavowal (2) - or metamorphosis" (n ° s 106, 124, 151, 152, 153). I try to identify
some
of the outstanding features of "mathematical feminine", along with additional features "masculine", in the notes "The
rising sea. . . " " Nine months and five minutes ", " The arrow and the wave, " " Brother and spouse - or double signature ", " Yin
Servant, and new master ", " Yin Servant - or generosity "(n ° s 122, 123, 130, 134, 135, 136).
851 (**) For a primer observation about this "flattening", see note "Unnecessary details" part (c), "Things that
like nothing - or drying "(note ° 171 (v)).
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involving (among other forces) our creative abilities.

But I return to my album. It seemed useful to include the names of those, apart from those already named
sometimes, whose participation in the burial makes me doubt. I am not convinced, moreover
none of them wants to hurt me, and there is more than one of them, surely, who experiences

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even p. 1114

in me feelings of sympathy and even affection (responding to similar feelings in myself
even). There will perhaps not one among them who will be genuinely surprised to hear
a "Burial" that took place in my person and my work, and more, to learn that he is
supposed to be involved in one way or another. The fact that he named here already have that effect
(Welcome to me) to inform him about it, and (if he is himself interested) thus give the opportunity of a
explanation of us. I am of course at the disposal of interested to give any details
about what I perceived (rightly or wrongly) as a contribution to my funeral, directly
or "co-buried" interposed. There is no question for me to question the good faith and honesty
Work from any of them 852 (*), and for more than I can even add that their entire good faith and
honesty for me are above suspicion.

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Rather than mindlessly draw up a list in order p. 1115

Alphabetical (something that a computer would do better than me), I prefer to give the names of the faithful, making
chorus to my Obsèques in approximate chronological order; not by moments of their
appearance at the Funeral Ceremony (which are not known to me, mostly), but of those I took
clearly aware of their participation. I will put aside the other hand, all of my students 853 (*).
Except the only Ms. Hoang Xuan Sinh, working in Vietnam and definitely a bit far for
lend a hand to my Funeral, no one or only one of my students who, in one way or
another, there is involved. I already explained about this in the note "Silence" (n ° 84) and early
Note "Coffin 1 - or grateful 3-Modules" (n ° 93), and this is not the place to return. It is
852 (*) (16 June) Following further information just reached me, this presumption of good faith vanishes in
If A. Borel. According to a correspondence between him and Z. Mebkhout last year, on the occasion of a seminar on the theory
3-modules led by Borel in Zurich, it was known to me already that Mebkhout had informed that he was the author of
equivalence central categories in the theory (called "Riemann-Hilbert"), indicating the precise references and
sending all of its work, where Borel could easily convince the facts. That did not stop Borel
treated with condescension (or even discourtesy) rigor. In a symposium that has just taken place in Oberwolfach on
this theme (Theory of Algebraic Systems of partial differential equations, Oberwolfach 9-15 June 1985), where Borel made
the first three introductory presentations (under the title "Theory of Algebraic 3-Modules"), setting the stage for the "theorem
of God, " **the name of Mebkhout has not been mentioned** in any of these statements, nor in any presentations
next (other than a single "reference-inch" Incidentally, in the description of Brylinski). For the record, I just have
by Mebkhout this Symposium, where Borel played conductors (instead of Deligne, which was not the party), has
was a real **reissue of Perverted Symposium** which took place four years ago. There were "mafia" almost at
full force: Verdier Brylinski, Laumon and Malgrange same (this time) Kashiwara (which already had a lead role
plan in the seminar in Zurich, notwithstanding the circumstantial information Mebkhout had communicated to the Borel
about the character). Needless to say (no more than seminar Zurich) he was fit to ask of Mebkhout
make a presentation, and (apart from occasional interventions of the same Mebkhout falling into a freezing cold) on
name of the ancestor has not been pronounced (even when apart from its presence in the unfortunate "Grothendieck group").
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bidualité theory continues to wear it the "Verdier duality", including presentations by Borel. mebkhout
had yet insistently reminded him last year already that bidualité had been copied to the presentation I SGA 5 - but
Borel has apparently developed an allergy against a certain style and against some absent allergy forbidden to hold
account of such references. . . He is also involved in the same scam in his book "Intersection
Homology" (Birkhauser Verlag, 1984), published **after** that Mebkhout it has reported the fraud to Verdier.
I kept vis-à-vis Borel a presumption of good faith to the extent possible, having known in years
fifty, when we were part of both the Bourbaki group and worked together there. He is the first among

Members of what I truly considers "my original environment" in the mathematical world, that I should be see today, without the possibility of doubt, direct, and in "fraud", the Burial.

853 (*) When I speak here of "my students" here I mean those who worked with me at a doctoral thesis and who (in except Deligne) have a doctoral thesis with me. There are fourteen (two "after I left"), passed in review in the note "Jesus and the Twelve Apostles" (n ° 19).

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in the case of each of my students a thorough explanation of what happened seems most desirable.

The "chorus at my Funeral" are placed in a wide variety of tuning forks. I have identified four main, which makes me a polyphonic Burial first class and great style! There is the **boycott** "discreet effective" against any hint of mathematical development in grothendieckienne smell. There is the **discourtesy** and lack of delicacy, as I had not met in the mathematical world before my

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departure ; in one or two extreme cases it takes the form of a **derision** barely concealed. There is the p. 1116

deliberately to ignore or minimize the influence of my ideas and viewpoints in his work personal, or as part of contemporary mathematics, in cases where this influence is yet obvious and crucial, or assign to a third party results or ideas that are caused me no possibility of doubt. Finally, there is **the attitude** (so-called " **ostrich** "), with one located inconveniently faced a scam that blindingly obvious, hiding his head in the sand and to one who has not seen or felt. Needless to say, in the choir of the faithful, there is more than one who vocalizes several tuning forks to time.

All this said, here is the promised list 854 (*) from expanding our family album: B. Eckmann, A. Dold, NA Campo, B. Mazur, V. Poenaru, DBA Epstein, P. Cartier, D. Quillen, N. Kuiper, DR MacPherson, H. Hironaka, F. Hirzebruch, J. Tits, SS Chern, M. Artin, RP Langlands, GC Rota, C. Goulaouic, W. Fulton, A. Borel, J. Tate, JP Serre.

c. The one among all - or acquiescence

(June 11) I felt a little silly last night, typing

this list of names, while each of the names lined foolishly evoked here, alone, while a rich cloud associations, which reflected nothing here. But there can be no question here to dwell on each of these names and what it evokes - there should be another volume, then I wait to finish

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this one ! I

p. 1117

apologize to the interest of the "stick" and, somewhat cavalierly, in a "table" presence (in My Burial) not very inspiring. It is true that most of them have already been mentioned in one way or another here or there in Crops and Seeds, even if it was not necessarily as a participant in My Funeral. There are four that are part of the group Bourbaki my friends, and to which I was bound so narrow, through work and (for two of them) by ties of friendship, there are already more than thirty years. This is new others, in this concise list, which I felt bound by feelings of warm friendship, and who are not yet extinct when I write these lines. But more than once, over the years passed, I found myself confronted with such of these old friends, so when those who were my students, I was seized by this strange feeling, as to which still bore me this burst of sympathy that I found in me intact, was no longer - or at least the contact to one was lost, perhaps irretrievably; another was substituted for the one I had known, full of intense and quivering life, and seemed to have

854 (*) I have not included in this list the names of the eight students@on cohomologistes "will be found in note (n ° 19) already cited, together with the names of students cohomologistes already reviewed above.

It would be fair to give also in my "Family Album" the names of those among my colleagues or old friends who known to me to be "non-enterrants" by sympathy and esteem without the possibility of ambiguity. All First, in relation to my work "In the Fields of Pursuit" continued in 1983 (work on which I intend to come back), I received warm encouragement J. Benabou, NJ Baues, A. Joyal, especially on the part of Ronnie Brown and Tim Porter, who (In more than one way) brought me an effective aid for the duration of my work.

It is true that these colleagues are part of a very different environment from the one I used to identify myself, which is the environment in which also has naturally placed my masterful Burial. As mathematicians who belong or are close to the middle, which I have recently received (during the one or two years) in the testimonies Similarly, it is a pleasure for me to name here B. Lawvere, J. Murru, D. Mumford, IM Gelfand and (last but not least!) JP Greenhouse. This last named has the unique distinction of being on both "lists" at once - those of "enterrants" and that of true friends!

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18.5. THE FOUR OPERATIONS (a corpse)

erased all traces. It was like a **drying**, desiccation that occurred, and a hard shell and tight which would have appeared where there had been a sensible and living flesh. . . . Before closing this family album that I just barely half open, I want to focus even as little bit on one of those I have to insert in gale. It is he who comes in last end this album. More than for any other that I eventually include, there was in me resistors serious (unconscious as fair) to part with some made images and longstanding about our relationship, and make me a humble evidence. This is Jean-Pierre Serre. More than once during Crops and Seeds, I had the opportunity to speak about Serre namely mostly ⁸⁵⁵ (*). The little I have said here and there already will be enough, I think, felt that played in my past mathematician a role that amounts to no one else. It's a thing I do I was never arrested elsewhere, before writing

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Crops and Seeds, and I discovered the pages. p. 1118

For twenty years, from the early fifties until my departure from the mathematical scene, he played for me the role of "privileged partner" ⁸⁵⁶ (*), and most of my great ideas-strength and my Large investments have been directly stimulated by ideas of Serre (sometimes "seemingly innocuous"). At times, especially (I think) in the second half of the fifties and perhaps at the beginning of the sixties, there was a sort of "symbiosis" intense mathematical between him and me, temperaments were further mathematics ⁸⁵⁷ (**) - symbiosis proved each time very fruitful. The relationship between Serre and I was not such "symmetrical", such was not at Serre worn, as I am, to rely on one or more "interlocutors" to get acquainted what may be of interest or which he believes need. This does not prevent (or so I presume) I had keep in his past mathematician also a unique role, and I can imagine that my departure unexpectedly, in 1970, was in his mathematical life breaking point (a balance perhaps I represented the pole "yin"), a sudden turn, by a sort of "empty" suddenly appeared. I do not know. . . . Still, this close relationship Serre in myself and my work was certainly perceived in the mathematical world, even if she remained in the field of non says. Surely, apart Deligne, Greenhouse was seen, rightly, as the most "close" mathematician of my work. The relationship Deligne my work and my person was very different - it was a student relationship and "heir". Deligne has fed my thinking and my work written and unwritten, so that none of my big ideas and no force my great investments were not aroused or stimulated by it. It was "closer" to me Greenhouse, in the sense that it was not in him, during the years of my contact (1965 to 1969), rejection reactions vis-à-vis certain aspects of my work and my approach to mathematics, as there were in Serre; this is what has allowed it, in the space

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three or four years ago (seen its exceptional resources, and p. 1119

exceptionally favorable circumstances as well), intimately assimilated and in its entirety the broad vision unifying who was born and had grown in me in previous years. But his relationship with me ⁸⁵⁵ (*) I abstained two or three times to appoint Serre in Fatuité and Renewal; So at a time when it seemed not useful, more often, to name those persons on whom I spoke so slightly critical.

The passages of Crops and Seeds which I speak in the most detailed manner about Serre and the relationship between he and I, being in the notes "Nine months and five minutes," "Brothers and husband - or double signature" and "The unnecessary details" (notes n ° s 123, 134, 171 (v)).

⁸⁵⁶ (*) Between 1965 and 1969, while the relationship between Serre and I always stayed close, but rather Deligne who played the role point of contact. The reason is probably in very strong affinities of temperament, especially in an opening Deligne (vis-a-vis what I felt like most of what I had to offer) that was often lacking in Serre.

I come down on the very different nature of a relationship and the other, which were both closer in my past mathematician. See also note cited in note b. p. following.

⁸⁵⁷ (**) On this complementarity, and the affinity between Deligne and I already see note cited "Brothers and husband - or the double signature" (n ° 134).

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was deeply ambiguous - and played consistently on this tacit relationship of pupil and heir, who represented for him the means of **power**, while denying the options and attempting to bury and teacher, and his vision. . . .

There was no ambiguity in this order in the relationship between Serre and me - at no time it entered in this relationship, of either party, the slightest hint of taking a "power" over the other, or of use this relationship for purposes of power. I dare say, even, that such games can not exist not in the "middle Bourbaki" who had welcomed me, late forties, and I do not think I was witness, much less a co-actor (even against me) in such games, until yet

I left in 1970 ⁸⁵⁸ (*). Another likely way of saying the same thing about the relationship between Serre and I (or the relationships that I have observed in the middle Bourbaki): at no time I did detect the lesser component of antagonism ⁸⁵⁹ (**), on either side. There was the opportunity frictional,

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sure, which was discussed and on which perhaps I shall return, but this is quite another thing. The relationship between Serre and I drew strength, it seems, our only common passion for common mistress, mathematics, not without it mixes component "parasite" of egotistic nature where the other would appear as a medium, as an instrument, or as a target. Therefore without doubt, taking up lately with Serre a match interrupted for ten or twelve years, I found in the between-the-lines of the two or three letters I have received from him, the signs of friendship and delicacy intact, as if it had just left only the day before. Moreover, even as the opportunity to write had not presented for more than a decade, echoes that reached me of Serre, from time, were all going in the same direction of an unchanged friendship - and not in the burial tones, as was the case for many of my old friends. It is also why, until recent weeks yet, the idea of me would not be coming that would Serre played a role in my Funerals. Everything that came from him, and all I knew him, seemed well go in opposite directions. It is sure, moreover, that his mere presence on the scene has set certain mathematical limits to the Burial (limit more modest, it must be admitted...). Leafing through the book of JS Milne "Etale Cohomology" ⁸⁶⁰ (*), published in 1980, so **after** the amazing "SGA operation 4

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- SGA 5 "I was

⁸⁵⁸ (*) I should nevertheless make a reservation, taking account of a game that was played entirely unknown to me, among some my students about my person and my work. The game began at least as early as 1966 (when the ends are seminar SGA 5), with the first episode clearly visible Article Deligne 1968 degeneration suites spectral (see the note about "The eviction", n ° 63). I have started to take notice of these games, which are well power games, than last year, nearly twenty years later. It is true that the active players were not members of middle initial who had welcomed me and which I had built myself (environment in which I still do not discern such games, even with hindsight that makes me more mature). They formed "over". It is also true that the qualitative degradation I see in this succession, from the mid-mother, is certainly closely related to a similar degradation that has made in each Member (or nearly so) this initial environment of exceptional quality. On this subject two Section "Bourbaki, or my big chance - and its reverse," and "De Profundis" (n ° s 22, 23).

⁸⁵⁹ (**) I should nevertheless make an exception here of the episode Surviving and Living, the beginnings of the seventy years. This episode had revealed in full light as my own ethical and ideological options, on many points that seemed important (and still seem so today), were at odds with those of almost all of my friends the mathematical establishment, including Serre. That what put an end to my sudden feelings of identification with this "Establishment", I had tended to be confused with a "mathematical community" ideal (and idyllic). (See this about the "The Mathematical Community": fiction and reality", n ° 10.) This unexpected revelation, and the "change camp" which resulted in the space of a few months, then led me to adopt antagonistic attitudes with respect some of my old friends that I now tend to classify as "reactionary", etc. I from, income of these peremptory and superficial rankings. Still, by a reversal that is not surprising, Greenhouse was part of many of those that, for a time, I perceived as "enemies", otherwise as "awful". I have was pleased to note that this episode has not left traces of her resentment or hostility - neither do I, is it necessary to add!

⁸⁶⁰ (*) Published in Princeton University Press, Princeton, New Jersey. This is the same JS Milne, who two years later participated in the scam of "memorable volume" Lecture Notes 900 (discussed in note "... and exhumation", n ° 168 (iii)).

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struck by Milne follow "trusted", almost verbatim, the terms in which Serre had expressed in a Bourbaki seminar (February 1974 n ° 446) about the paternity of the cohomology spreads, namely that the theory was "developed by Grothendieck

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with the help of M. Artin " ⁸⁶¹ (*). It is p. 1121

visible in more than one way Milne has read only occasionally in APG APG 4 and 5 ⁸⁶² (**), and it follows both Serre (speaking casually on APG APG 4 and 5, in the same presentation Bourbaki) and Deligne (débâtant shamelessly these seminars, the volume-coupde-saw his pen baptized "SGA4

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") To present, in his introduction, the original texts SGA and SGA 4 5 ⁸⁶³ (***) as difficult to access. This is precisely the situation that his book (after that of Deligne three years, a bit thin anyway the armholes) is supposed to remedy; or, in short, avoid the user work useless and tedious to read the original texts. The opinion of the highest elevations (first in Serre Here, followed by Deligne with a deceased person who remains silent and tile in its padded casket. . .) Milne view that as everyone follows eyes closed (when it is eagerly given the context funeral. . .) Excludes conclusively that these texts have something other than "unnecessary detail" (or a "matrix of non-sense." . .), But the foundations of a new "general topology" topos Version (Buried unanimous agreement along with the worker...) - and that we can not more, in the long run to the economy of this new topology allowing (among others) the emergence of the theory that the book deals Milne, we could not do that of the ordinary general topology, Milne, Deligne, Greenhouse had the advantage (Like myself) to learn about the school benches, and they therefore admit obediently (like matter of course) that the game was worth the candle. . .

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I think it was last year that I threw first a quick look at this presentation p. 1122 Bourbaki Serre, on which I spoke recently in the note "Unnecessary details" (n ° 171 (v)), Part (a) "packets of thousand pages...." The passage where Serre ironic about 1583 pages of SGA had 4 then so little my attention, I had even forgotten entirely the thing, when I took the same exposed hands, there is a month or two, during the writing of the Four Operations. I have to say that this attitude of distancing Serre compared to my famous "packet thousand pages" was known to me long, since long before the appearance of the series of seminars SGA 4, and therefore did nothing for me surprise. The first time (I think) where such a reaction "visceral rejection" has been triggered in Serre, vis-à-vis a mathematical approach to style that is mine, was on the occasion of the theory consistent duality, I had developed in the second half of the fifties. They were right there "packets of thousand pages" at least potential, especially if we realize that there was a whole new cohomological algebra to the key version derived categories; but "package" potential or current, which was Flipping Milne©book, I felt it is written in the provision of good faith, and without deliberate burial. Even as his perception of things he apparently confined to max out the Serre and eminences Deligne, he has nevertheless deserves (and originality...) To speak politely about the mother-4 seminar SGA, SGA 5. 861 (*) Two years before, at the International Congress of Mathematics in Helsinki in 1978, in the speech of N. Katz (always even Katz) in honor of the new laureate Pierre Deligne Fields, the theory of étale is presented as "Developed by M. Artin and A. Grothendieck in the direction expected by Grothendieck" - like what alphabetically sometimes good things. . . The fact that Milne chose to follow Serre instead Katz, in his version of things, seems to me as a sign among many of his good faith.

862 (**) I was struck in particular that Milne (nor Mebkhout was yet a careful reader of my work...) Does became aware of the existence in SGA 5 a formula explicit Lefschetz for cohomological correspondence generalized ral on an algebraic curve, brilliantly retracted formula by conjurers care of two friends-scammers Deligne and Illusie - the artist©work, is the case to say! On this subject the two sub-notes "The magicians - or Formula soaring "and" Congratulations - or the new style "(n ° s 169 s 169 9).

863 (***) As for the published version of SGA 5, which (thanks to the "care" of the editor-Illusie sic) represents only ruin disfigured the original seminar, Milne has apologized to find the "hard to reach" The Good Samaritan did all Illusie what he could to make (at the pleasure of the Good Samaritan Deligne) an indigestible collection of "technical digressions." . . 849

clear is that Serre had no more desire to hear that Weil was suffering to see in black and white group cohomology, hear or say the words "topological vector space". This time though ⁸⁶⁴ (*), when I returned on the text of Serre 1974, on the background of reflection from one year to a Funeral (which, in 1974, four years "was well underway"...), this passage ended up making tilt. It worked in me, slowly, over days and weeks. I visited account that attitude Serre, to which I had got used to me and, before I left, "not fired no consequence, "acted as a sort of **green light** to the burial has taken place. The first thing in the sense that struck me with the force of evidence is that the very terms of Serre (but "with malice and impudence more "), were taken eagerly by Deligne (or better say with a secret delight) just three years later, as "background noise" for his memorable Maneuvers.

I speak for the first time in this sense, in the note referred to above, on 4 May, and this reflection is approfondit in part (c) (May 27) of the same rating, "Things that look like nothing - or drying out ". This is also the first start of a reflection on the relationship between Serre and I

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the lu-
p. 1123

Mière particular supplied by the Burial ⁸⁶⁵ (*). In writing these pages, there should be in me already

diffuse perception of the crucial role played by Serre in the Burial. In the two weeks that have since, integration work and assimilation of a range of facts and impressions had to continue, and inertial forces opposing direct and nuanced perception of things were, I think, resorbed, without fighting and effortlessly. The moment the wall seems to carry this work forward, trying to this as best I can, to formulate is perceived.

One might think that this propensity old date Serre, to distance compared to some aspects and parts of my work, acted as a kind of unfortunate accident, which would, unfortunately, favored an equally unfortunate Burial. This would be yet a superficial view, which not touch the bottom of things. To come straight to the heart of the issue, it became clear to me, given the unique relationship of Serre in myself and my work, and also saw its exceptional ascendancy over mathematicians of his generation and those yet that followed, that **the burial could not take place, if there had been in him a secret acquiescence to my funeral** .

In addition to a "deceased" decidedly missing, there was this Burial **two main actors** , including acts and omissions were chained and completed, without any friction or smearing it would seem (But there is no question, however, for me to speak here of collusion, as the two protagonists worked on different forks): these are Pierre Deligne and Jean-Pierre Serre.

First, there was considerable discussion from the very beginning of this long reflection on the Burial; he represents "the foreground of the painting" the burial, as the Great Leader Funerals, at the same time heir occult and the main "beneficiary" of the operations he has the initiative (and this even before even the "death" symbolic of the deceased. . .). Serre, he referred here for the first time as leading figure of the Funeral ceremony, represents the "third picture plane", formed of " Congregation of the Faithful ".

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Since last year already, or rather, from even before I discovered the burial under his p. 1124

crudest and most aberrant forms (and under that name), I knew that those who buried me such a hurry, in a world where I was not known to me of enemies were before all my other **friends of yesteryear** , some of which had not ceased to count (albeit lip...) to

864 (*) In fact, this is only the third time I have had this text in hand, it has "ended up tilt".

865 (*) In a previous note b. p. (Note (*) 1117) I also found two other notes that I spoke to

about the relationship between Serre and I, but in quite a different light - the light "before the burial."

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many of my friends. Now it is also clear to me that among those of his friends who were also (and especially) my students ⁸⁶⁶ (*), who was really the **mainstay** of the ceremony as representative of the Congregation and as guarantor of the acquiescence of all the faithful, was that too, of all people, who the level of our common passion, was the closest to me.

The most striking sign of Serre acquiescence is certainly not for me to some quip, sent with the casualness that I know him well - this joke that nearly escape my attention (Although it was not lost for everybody...). The sign of a truly astounding evidence once I stop myself, for me **in the ignorance in which it pleased him to remain** at about this Burial which is just held under his nose, this is the case to say ⁸⁶⁷ (**) - a burial artwork

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to which he had been linked from the outset, and closer than any other person in the world. And it is ^{p. 1125} for me a total mystery if reading Crops and Seeds (assuming that reads this "package" more thousand pages, still ...) will finally encourage the use his nose (as fifteen years already that gamy hard ...) and the rest. But I know that for him, much more than any other participant my Funerals, welcome my message and use its healthy faculties is also agreeing to put itself because, deeply.

It seems to me that the role of Serre, head of the Congregation of the Faithful came to attend and chorus my Funerals, is both typical and exceptional. If special is its extreme character - in As the most close to me, closer than any other member of the Congregation; and also by its sta- Exceptional ture ⁸⁶⁸ (*). This eliminates deep motivations components "pests" usual antagonism "by offset" ⁸⁶⁹ (**). As I already mentioned earlier, I can not find in

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the relation ^{p. 1126}

⁸⁶⁶ (*) Throughout the reflection in Crops and Seeds, it became so increasingly clear how the mere fact to have been a student of someone (me in this case) indicates a relationship and gives it a special quality, making close relationship to the father or the mother.

⁸⁶⁷ (**) We can say that in its statement cited Bourbaki 1974, where he exhibited the demonstration by Deligne the last part

conjectures of Weil, Serre had his nose right in the Burial - not yet have the innocence to take note. I have grown to feel discomfort in him being confronted with this situation, aberrant in appearance than ten years after my presentation (to Bourbaki seminar also) I outlines the demonstration of a formula of l-adic cohomology L-functions, the "formula of fixed points" crucial (that I had accepted) still was not demonstrated in the literature. Greenhouse then chose to **evacuate** this discomfort by a mood movement, ironically on the famous "1583 pages" SGA 4 (meaning: and that did not provide **even** the formula was needed). This was the way a facility, consisting of avoid an unpleasant reality (x). He knew very well yet (but it pleased him perhaps to forget...) In the seminar SGA 5, I had demonstrated far and wide a formula of fixed points ranging far beyond that for correspondence Frobenius - and he also knew that the writing of my talks dragged on for eight years already to hand * of so-called "Editors" volunteers. If he had been pleased to forget the theme of SGA 5 ("L-functions and l-adic cohomology" - the title says when even what he has to say) and its contents, he knew enough yet, for more than twenty years he had seen me do math, to know it was not my habit to do things by half, on the contrary (and I made them even so "not half", he was often annoyed or exasperated. . .). This could help refresh her memories, what happened in the seminar SGA 5, where he had set foot often enough, at least, to know in large lines what I was doing and what I had. Obviously he did not want nor to see his memory refresh, or ask questions. And this is one case among many others, where my friend preferred to close their eyes and their noses rather than take note of that fact could take without getting deeply involved himself. (X) (June 22) I came to realize, since these lines were written, that such "unpleasant reality" Yet now eagerly welcomed, almost as a boon! On this subject the parts. summer. "L@lbum family". 868 (*) There is a third circumstance which gives the role of Serre in the Burial this exceptional, or "extreme". he is part of the group of "benevolent elders" who welcomed me on my first contact with the world of mathematicians. (About this group I am speaking for the first time in my life, in "Welcome Abroad" (Section n ° 9) and in Introduction to Crops and Seeds (I 5, "a welcome debt").) Perhaps this is the main reason, in addition to links Friendship and sympathy between us, which made it took me over a year to go to the evidence and make findings the crucial role played by mathematical Serre my funeral. 869 (**) I mentioned already a couple of times here and there, in that "without cause antagonism" (apparent), in particular in the note 851

Serre to my person or my work trace of antagonism, and it is clear to me that there has traces in the deep forces at work in his acquiescence. As far as I know, putting Apart from the famous quip, this acquiescence was speaking purely passive manner only, by **omission sions** no more. But the "green light" given to a tacit Burial of vast dimensions, together with operations Such a huge point of sometimes they seem to define and common sense and decency, strikes me now as the "during" essential and crucial, the "negative" in a way, the intensely active and Deligne interested in the same Burial 870 (*).

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It seems to have deeply perceived the force that was used in Serre. It is at a level p. 1127

deeper than a personal antagonism or of looking for a "profit" in the usual sense April 3 (below) "The messenger (2)" (n ° 182). There is no doubt in my mind that such antagonism "archetype" is work in the vast majority of participants at my funeral - maybe even at all, with the exception of Serre. This strength appears to me as distinct from that expressed by the suppression process (or "funeral") "of women disowned who lives in himself. "But these two forces are nevertheless interrelated, and the Burial they are bound up and appear in a kind of amalgam, where it is often difficult to separate. I believe however they have identified **the two great forces** that have been implemented in the Burial. But I would be hard, now, to tell if there is a that is paramount over the other, and where. I would think that this is the first of two I have found, namely, the strength of repression of women pouring into his own being. If the case of Serre occurred to me sometimes "typical" (together than exceptional), it©probably because it is this last among the two forces (the one I tend to see as paramount) who appears in all its strength, to the exclusion of all traces of the other (referred to herein as "parasites" - in the sense that obscure a clear understanding

what I thought perceive as **essential**). I assume (for a little work of integration and assimilation of facts and gross perceptions still continue) that the coming months will bring me a more nuanced understanding of the share due to one and the other forces involved, both in the burial, as in other conflict situations in which I am involved in one way or another.

870 (*) There is here an **inversion** remarkable in the distribution of roles between Serre and Deligne in the burial: the Serre appears almost exclusively passive, the Deligne as intensely active (although this role of "leader game "is constantly obscured, for the purposes of the case and in accordance with the particular style of my friend Peter). In

Actually, it is nevertheless the person Serre is dominant "male" strongly pronounced, and the dominant Deligne "Yin" (or "female") such as marked; and this (for one and for the other) both in terms of egotistical mechanisms the "I" and its packaging (so that the " **boss** ") than that of the discovery of impulse, what is original and escapes (as intimate nature) to the packaging (the level of " **child** "). Between the extremes of opposite temperaments Serre and Deligne, the two "pillars" of the burial, the deceased, he represents a kind of medium term, strong dominant "Masculine" side of the "boss", and dominant "female" just as strongly pronounced side "workers" (or "child"). (This distribution of "basic tone" appeared in the note "Brothers and husband - or the double signature" n ° 134.) The forces and mechanisms of "reversal" between the yin and yang roles were also **the** main theme of reflection, giving rise to the long meditation "The key to the yin and yang" and remaining present in filigree throughout it. It appears implicitly from the first note of the Key, "Muscle and tripe (yin yang bury (1))" (n ° 106) and pass more or less to the forefront of attention in eleven among subsequent notes (notes n ° s 124, 127, 132, 133, 138, 140, 145, 148, 151, 153, 154). Here I just fell unexpectedly to a situation of "reversal" somewhat similar, driven by the internal logic of profound forces employed in the Hen.

I was struck by the way, recently, a further aspect, apparently paradoxical, to "overthrow" yin roles and yang in this Burial rich apparent paradoxes! It is this time of the respective roles of the "deceased" a premature hand, and all participants to his burial, on the other. At the collective unconscious intentions, this Burial of a deceased (supposed to be contained in the complete passivity befitting his status) is that, before anything else, to "Mathematical feminine" - a style and an approach to mathematical connotations strongly "feminine"; so burying the congregation is supposed to embody the masculine values "hard and fast", engaged in disdain suitable soft female decay. (See for example, on the subject, notes "The funeral of yin (yin yang bury (4))", and "The circumstance Providential - or the Apotheosis@n ° s 124, 151.) However, the internal logic of the situation requires each participating "pure and hard "in question, to play a game typically" yin "or" feminine ": A game" to velvet paw ", halftone, in silence, omissions insinuations placed there casually, or constantly thing as is suggested while pretending to say otherwise - style "thumb", in short, where my friend Pierre has mastered them all, and each of buriers had so little to do his, by force of things- (see, about this style, the note "Go!", and especially the notes "Paw velvet - or smiles" and "Reversal (4) - or conjugal circus", n ° s 77, 137, 138.) This is the "deceased" by cons, the incarnation of bloated feminine softness that out of his cozy coffin when you least expect it, suddenly takes a role "macho" which was familiar to him, playing cards on the table, thrusting his inquisitive nose and a sassy verb, flashlight in hand, in the most exquisitely ambiguous shadows, calling each by name and roughly a spade a spade and a rascal rogue - a real uncouth to be honest, and downright troublemaker around in circles in the hushed purring of a beautiful

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the term. The recent exchange of letters with him was revealing in this respect. I feel that these fifteen years have passed since my departure has come over my friend a **processing** ⁸⁷¹ (*). This is precisely in the sense of this

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"visceral rejection reaction" vis-à-vis certain dominant aspects in my approach ^{p. 1128} mathematics. These are aspects that were present also, but to a lesser degree, in the approach of Serre himself in the most fruitful years of his past mathematician - of years of opening and intense creativity before does establish a process of **repression** of these then aspects of his creative personality, the "child" in him. These are the aspects and features "yin" or "feminine" creativity. The transformation I felt in my friend with startling force, is that of a state harmonious cooperation creative forces yin and yang, with a "dominant" yang (or "male") pronounced in a state of imbalance "manly zinc strand" where grades "yin" or "female" are extirpated no thank you.

Indeed, as I have already suggested there are two weeks (sometimes cited in the note), this is the culmination of an evolution which I detect the first signs from the fifties, and went be accentuated during the sixties. From that time already, there was a gradual breaking balance, manifested by a **narrowing** in the vision, and the range of creative faculties allowed to enter in. vis-à-vis rejection reactions of some major aspects in my approach to mathematics, and gradually vis-à-vis all that was really life, the depth and strength of my work - that rejection was only the outward projection, the tangible manifestation in its relation to my person, a rejection of any scope, vis-a-vis an essential side of his own being and his own faculties creative.

It is possible (as I suggested earlier) as long as I was around, the relationship with me has acted as a brake on this evolution in Serre, she represented in his life, in the fifties and especially in the sixties, a sort of counterweight, and thereby a factor of relative equilibrium. If this is so, my sudden departure had to leave the field open to repressive force feminine qualities - a kind of force that has become familiar to me, as one of the strengths egotistic dominant who also acted in my own life; with this remarkable difference, however, that in my If this repressive force was stationed at the only egotistical mechanisms and my relationships

others,

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without interfering with my love affair with mathematics lady, or (more generally) with my approach p. 1129 spontaneous in the adventure of discovery, whether mathematical or other 872 (*).

Going back to the burial, I can do better now than quote the lines end here

reflection of 10 November, in the note "The funeral of yin (yin yang bury (4))" (n ° 124, page 564):

"... And the funeral suddenly appear to me in a new light, unexpected, where my per-

sond itself became accessory, it becomes **a symbol** of what is to be "delivered to

contempt. "These are not the funeral of a person, nor those of a work, or even those

Funeral ceremony. . .

871 (*) The term "**transformation**" is immediately associated with the "**metamorphosis**" in my friend Peter, I clearly perceived, for the first time during his visit home last October. (I speak about this in the note "The disavowal (2) - or

Metamorphosis", n ° 153.) The term "metamorphosis" is stronger, and corresponds to the fact that there was, at my friend Peter, a

real reversal of an original installment "dominant" yin pronounced in borrowing attitudes "macho" to strand

zinc. This apart, the transformation that I have felt in one and the other friend is going in the same direction, and is driven by the same force

repression of feelings traits as "feminine".

872 (*) I am speaking about the role of this repressive force in my own life, in the note "The Superpère (yang buried yin (2))", n ° 108. I began to detect the force in 1976, which marked a crucial turning point in my adventure

spiritual. It is about the turning point in the two notes "reunion (the awakening of yin (1))" and "Acceptance (waking

yin (2))", n ° s 109, 110. I make the finding of dominance traits "feminine" in my mathematical work (which said traits appear to have refugees, out of suspicion!) in the note "The sea comes up...", n ° 122.

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impermissibly dissent, but the funeral of "math women" - and more deeply

ment again, perhaps, in each of the many assistants came to applaud the Funeral Eulogy, **the**

funeral of the woman who lives disowned itself. "

This last intuition appeared that day in a sudden flash at the same time to write the last two lines from the as an unexpected revelation, in addition to that which was the subject of the preceding lines.

This intuition has remained like a watermark in my reflection in the weeks that followed, for

be finally resumed and deepened in the three consecutive notes 23 to December 26: "The fact

Providence - or Apothéose "" The disavowal (1) - or recall "and" The disallowance (2) - or metamorphosis".

Neither the day this intuition first made its appearance, nor in the first two of the three notes cited, where I probe further, I had in mind a case of specific species, if not, ever so slightly, the

My friend Peter (discussed in more detailed manner in the third note cited). I knew, for

Furthermore, that this case was not typical for the whole congregation Faithful, forming

the famous "third level" for my burial. Also, failing to exemplify a case of specific species

my apprehension of a certain reality, suddenly interview remained tainted

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yet some uncertainty - the

p. 1130

offerees things, "sues" at some level, but not fully and clearly "seen". I remember

vaguely have been a little embarrassed by this blur, there was a hint to find someone "representative"

among those of my friends that I knew to be involved in the burial, to "hang" in some

so this knowledge spreads, see the incarnate into a tangible reality.

The thought of Serre not crossed my mind at any time then - he was one of the few among my old friends, for which he was determined (the conscious level, at least) that he, at least, was not

party to my burial! But if my mind groping did not find the time (or earlier already...)

one that, in my Funeral, was to embody in his person "the whole Congregation" is probably

that somewhere in me, it had to be clear that there was **one person in the world** fit to play

this role - and that was the person, precisely, a heaviness in me made me excluded from the outset, by a

tacit and conclusive taboo. . .

Now that this weight has dissipated, following a slow, dark underground work, it seems to me

now in full light it is also that of all people to whom this intuition-to-the-looking-d@ne-

incarnation applies to such a perfect focus, one might think that it was none other than this

even that would have given rise in me that would have given him, from the moment it appeared, this force peremptory and unanswerable things "sues" 873 (*).

d. The Entrerrement - or the natural slope

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(June 17) The reality whenever exceeds any presentiment

p. 1131

BUILDING (so acute it may be) and even "knowledge" as one can get - and it is only rubbing me at turn in the road and often unexpectedly, as I permeates gradually, its taste and its Odour. Even as this contact might seem to **confirm** simply, without more, which was foreseen or "su", yet it often disconcerting, ruffling bluntly some **incredulity**, almost ineradicable, vis-a-vis this which is indeed known, said, written, repeated and re-written - and yet, 873 (*) I am still inclined to think that "one might think" is indeed the reality of things. This would attest, once again, is how our faculties of knowledge go beyond the pale and pathetic reflection which we allow access the closely delimited field of the conscious look.

(June 14) The thought, or sudden intuition that ends the discussion before yesterday, she also appeared in "flash" when write no apparent preparation or review inclination. She introduced herself with a kind of "strength of evidence". It is only afterwards that I remembered that in the note immediately preceding that which is extracted the passage quoted November 10, I had occasion to mention just at some length the person Serre and the relationship between he and I (and this for the first time, moreover, in Crops and Seeds).

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a certain level (one of immense gravity), continues to remain a dead letter. More than once I detected this weight then 874 (*) and my impatience is irritated - a stubborn gravity that would tenaciously keep me in the rut of ideas and familiar images, or those with more or consent less general - and this, even though I "know" as much (or someone or something **else** in I know well. . .) That these ideas and pictures so installed are a lure, an obvious lure often they do not hold water. . . The thought even animated by an intense desire to know the final word (of the thing to the Once "sue" and challenged) - the thought is powerless alone to delete this weight there, deeply rooted in the structure of the self. This is the compelling force of contact with reality, only who has power sometimes shoving the gravity of the start or move a tad, if not really clear.

I called Serre yesterday. It was a simple question for information about Tate notes "Rigid analytic spaces", which was discussed recently 875 (**). I thought vaguely remember it there was a short introduction to the text, indicating the sources of this work - it seemed to me that this introduction had "skipped" the edition made by care Inventiones Mathematicae in 1971. In fact, Greenhouse confirmed to me that in the Tate notes, there was no such introduction. It was a bit of notes day by day, that Tate had sent Serre on his stiff-analytical cogitations, such as letters almost, and (of course) without any fixed idea of publishing. I remembered taking care of the broadcast by faires care of IHES (with the subtitle "Private Notes published with (out) His permission"

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- after the name p. 1132

the author), but I had forgotten that Serre was intermediate. Anyway, aside from Tate and me was Serre who had been the most "in the know" in the birth-rigid analytic spaces in 1962. It is he who explained to me, maybe a year or two before, the theory of elliptic curves called "Tate" on the body K of fractions of a complete discrete valuation ring. I was a little stunned by what I remember as a flood of explicit formulas (and, it seems, "classic"), who passed me a little over your head, not "hang". But he remained a striking geometric image aroused Surely a comment Serre in this direction: in short, the elliptic curve Tate (or, at least, its "points") was obtained by "passing ratio" in the multiplicative group K^* by a sub discrete isomorphic group Z . It was therefore analogous to the complex case, where is first divided by a first C Z -factor to find C^* , and then again by a factor Z , this time to find an elliptic curve.

In this case, the passages to the quotient had a specific meaning in the complex analytical field, and theorems the Riemann-Serre (GAGA type) ensured that the final quotient (which was a complex curve compact) has a canonical structure curve **algebraic**. In the case of Tate, alas, working in the context of analytic spaces so slightly familiar, the body full value K , as was quotient compact analytic space **totally disconnected**, and there was no chance of a draw elliptic curve. And yet (that what Serre had to say then) everything happening yet, like ... Still, Tate managed to make in terms of K^* and its discrete subgroup, genuine elliptic curve, with blows of explicit formulas.

I think I remember that neither Greenhouse, nor Tate believed that there would be indeed an "explanation" in terms of a new concept of "analytical range" over K , for the computational construction Tate 876 .

874 (*) See also, about this "gravity" and that "disbelief at the testimony of its healthy schools", the note "The duty accomplished - or the moment of truth" (n ° ... 163), p 782-784, including footnote b p (***) 782 p..

875 (***) See Note "La Mafia" (n ° 171), part (c), "Fading memories - or the New History".

876 (*) (September 1985) As it appeared in a match Serre last July, there has been distortion here in my memory (as there we had at Serre) - Letters Tate (of 04.08.59 and 16.10.61) and me (from 8/18/59 and 1.10 and 19/10/1961), addressed to Serre possible to reconstruct the sequence of events. This is Tate (not greenhouse or me) who

first had the intuition and the belief that there must be a "new notion of analytic manifold" to explain simply
ment formalism "elliptic curves Tate", to August 1959. For me, it was not "the penny dropped immediately" (as I
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As for me, it had immediately tilt (*), and there was no question for me to "see" the Tate curve
other than as a result of a passage to the quotient, for a concept of "variety" suitable remained to
clear - the kind of work, in fact, I have a crush! It is possible that this is also Serre,
while it is skeptical, which I reported that there were people, and at least Krasner, who "made the
analytic continuation "of the full body gains ultrametrics so totally disconnected. This
could therefore seem to bring water to the mill of my hope (a little wacky) there would be, nevertheless,
a "good idea" of analytic manifold, smarter than we knew and close (by properties
Type "connection") of

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real or complex analytic varieties or, algebraic. But again,
p. 1133

I was the only really in the trio, believing it - at least that was the impression I had had then.
It continued to trot around in my head for months, one year perhaps I can not say. The
situation reminded me of an old perplexity - how impossible it was in the conceptual context so
available (shots ringed spaces, such schemes and formal schemes) to make sense of the **fiber gen-
neric** a formal scheme of the discrete valuation ring envisaged A. It quickly became clear that it was
essentially the same perplexity - and the kind of "varieties" I was looking to make sense geo-
metric to build Tate, was to be the very one that would give meaning to that famous
"Generic fiber" even nonexistent. I finally had a third thread (besides the rumor about
Krasner), appeared in 1968 - it was the intuition of "generalized topological spaces" (which then had not
given a name yet as **the site** or **topos** , since I had not started conceptual work on parts)
which was to define the famous "Weil cohomology l-adic" Incoming (implicitly) in the
Weil conjectures. This suggested to me that, as for cohomology Weil, the new "species
structure "I was looking for was not to be sought on the side of listening" ringed spaces "ordinary,
but may well be in the "generalized spaces", provided with a suitable ring beam.

I can not say more when these scattered intuitions have come to be quite strong and convincing for me
push to open a parenthesis in my common tasks (especially the EGA and SGA) to begin
work on embryo pieces. What I know is that this work was done as often in
loneliness - I was the only one to "see" that there was something, and only as a result, was able to
then take the first job that would lead to the day. I remember that I began to think about a few
hours here, a few hours there, even a whole day, just as I would have skipped school (then
that the work "running" yet not lacking!). I ended one day take the bit in his teeth, to
get to the bottom, and stuck with me for good - I had to spend at least a few days in a row, if not
a week or two. The hard part, it was to reach beyond inveterate habits of thought that without
constantly seemed to want to retire in the rut of the known - that of analytic spaces "ordinary" (called
Now, I think, "plates" - or "Welk" in German). I have had to take me three or four times - from
emerge

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the rut, when I saw that I was back, like a horse in his stable! But really,
p. 1134

here, this is **not** the old who would do the trick. . .

After this job, I had a clean breast: modulo additional technical work, that I was not
believe in remember), my first reaction to the suggestion Tate was skeptical before starting to think
On the question. I had to be convinced soon after, as soon as I realized that the existing concepts (including that of
formal scheme) was not possible to account for the phenomena associated with the elliptic curve Tate. Within two years
that followed, I think I was the only one to think about a principle of definition for the new concept, while Tate nor
Serre had the slightest idea where the address. It lasted well until October 1961 when I gave Tate the prime contractor
a theory. It has triggered immediately to develop the necessary foundations for taking on local songs (work
which would hardly have made sense before having a clear idea how it would then be possible to assemble them to build
Global Objects). For more detailed comments and quotes las relevant letters, I refer to "Comments
Historic "provided in Volume 3 Reflections.

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motivated to do so, I had developed a concept of "space, stiff-analytical" (this is the name that I said
gave to express the word "rigid" properties such connectivity, relatives of algebraic varieties

and at odds with those of analytic manifolds called "plates"), in any case sufficient to meet two desiderata which were then in my mind: an interpretation in terms of these spaces, construction Tate, and credits of a formal scheme fiber.

I did not think so to look any further, I pressed especially was returning to the tasks that I had temporarily abandoned. If I had a little toy, I quickly realized that spaces as simple as closed rings $r \leq r \leq R$ (which also merited structure "rigidly analytic") escaped my building. It was Tate, I was made aware of my cogitations of course, who made the adjustments necessary in order to include them. Apart from the conceptual work itself, that I had the most part, there was also a work of a more technical nature to do, to have a good command over the "building blocks" used, playing the role of affine schemes. It work which is justly with elegance and care that characterize it in the Tate notes 1962 877 (*).

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It took me a while elsewhere, before going to the evidence that the bricks I had p. 1135 used were a little short in the armholes. They were enough to the two initial problems that had me motivated - so why look any further! It was hard to budge. Tate has convinced me of its quiet and careful manner at a time, after all, there were not just two examples there, and even if I did not seem to even have met circular rings in my life, it was not a reason to exclude. And there was no way, apparently, to the "catch up" with my building stones me (if not by using an infinite number, which was more or less fall into the rut "flange").

877 (*) To make sense of things, I think I can say that my work as that of Tate accounted steps, all as necessary one as the other, for the birth of the theory of rigid-analytic spaces. My hand was in vision Initial (who had failed both Tate, at Serre) and in a mostly conceptual work, which was not free provided certain technical aspects, the need to address head on. Tate's share of the work was mostly technical, without that there was also there a part of conceptual work. My job was to keynote "yin", "feminine" (Which is why, in addition to my absence from the scene, it is object of general esteem), the Tate to keynote "Yang", complies with good taste and good holding guns.

If I had not stepped in, pushing my work enough so that there is the slightest doubt about **the existence** of a good concept "rigid-analytic" and a clear vision of a project manager of a theory, it is likely that this notion would not have seen the day today. Indeed, while we could not fail "sooner or later" discover and develop this notion, which is not an "invention", certainly, yet his need is not felt in the twenty-three years that have passed since, enough compelling way to "force" hand "leap". I was the first apparently to provide (1966) a further field of application of the rigid-analytic theory, apart from the two initial motivations, with development of crystalline cohomology.

I have no knowledge besides other geometric uses the three I had planned - by counting it, of course, the generalization of the Tate's theory of Abelian general schemes. It seems that people who have the more "worked in the subject" saw this material especially for developing a vacuum in theory (as it existed, and that put away the consensus among the "serious research themes") without inserting it in a larger geometric vision. This is a striking case of **atomization**, the fragmentation of mathematical thinking, linked to the contempt in which fell any kind of work foundations, like any work that is not reduced to a technical tour de force, for solve a "problem in the competition." A particularly eloquent sign is the absence of any attempt to develop a notion of rigid analytic space more generally, that would be one developed by Tate as the schema concept is that algebraic variety on a body - so as to interconnect the rigid-analytical geometries on gains body complete "variable" (including, variable characteristic, and including both real and complex cases that cases "Ultra-metric"). This absence is a sign among many of the amazing mathematical stagnation of these last fifteen years, at any work foundations (obviously crucial in this case).

Returning to Tate and me, it is just as likely, certainly, if my first "breakthrough" had not "done tilt" at Tate and had triggered for a "second round", the rigid-analytic spaces would not exist anymore I would have spoken well here and there around me, but the juicy issues (including issues that seem more "urgent" yet) have never failed, it is doubtful that anyone would have hung - and especially not today, certainly, while decidedly the idea of introducing something as preposterous would have looked too much to someone he is not more charitable not name here. . .

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I had done my share of work in my corner, as was normal, then I was the only one to believe - but it prevents, of course, that once reached the end (provisional), I did not fail to talk to both main (and

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virtually only) concerned, namely Serre and Tate. At Tate apparently the penny dropped, and p. 1136

I think Serre had to be convinced also, when I told him what I had come. I do not have clear memory about this, but if by extraordinary it had been otherwise, I would certainly reminded me. So when I called Serre yesterday, it was going to me saying he knew just as well as I

practically, what was my part in the birth of the new concept of variety. I did not foresee it there would be an opportunity to allude to, but it was he who pointed out to me, when I told him notes Tate, that they had been published only in *variatur Inventiones*, and besides Remmert and two authors came out a book on famous stiff-analytical varieties. This is the book I had the opportunity to talk recently in the note "The Mafia", part (c 1) "Fading memories - or New History", where I overwhelms Remmert for a "poor memory" (whereas the same notes Tate could well freshen him), serving a bad faith that seemed obvious. I touched on word in passing in Serre - I already had the opportunity in my last letter to him to allude to some Burial 878 (*), and there was a picture, well, pretty obvious.

The first pretty crazy thing is that Serre (God knows he was ringside in yet time) - well, either, he did not remember, but most of all then, I had been for some thing in the famous stiff-analytical varieties! I was literally speechless! It was really crazy - when I referred to him in a modest part I believed to be taken from the two examples sparked me is **just the contrary** he seemed to remember, Greenhouse him almost that I would wanted to know nothing of these new varieties, saying (according to him) than formal schemes, we already had all that he

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needed! I struggled to believe my ears, on the spot 879 (*) - and yet, a few days

p. 1137
just before, I had to write more confidently in the world a few pages, which spoke of a crucial role, a role of "pillar" that Serre would play in a Burial. Well, here for once, I was right in the Funeral, in front of my nose to the other end, and in the person of exactly Serre the same, very comfortable as is his habit, and obviously the best faith in the world! (And I evil imagine, anyway, Greenhouse bad faith, especially when it comes to math. . .). I did not have the mind to discuss, for sure, and Serre even less, but there has been a conversation desultory, for five minutes or ten. Ten minutes well employed if it was, for me rub, the tangible reality, color, taste, smell and all of a burial that had finally become a bit distant force to confine myself to look only paper!

The first thing I had to think to say is that the **name** itself, "rigid-analytic spaces" is me 878 (*) It is in response to this letter (in the last letter of Serre I received) that Serre quoting the expression of Siegel on "Verflachung" ("kurtosis") of contemporary mathematics, which I commented and I am pursuing in note "Unnecessary details" (n ° 171 (v)) (c) portion, "Things that look like nothing - or drying out." As I say in this note, Serre had dismissed that impression Siegel as "**unfair**" - yet I had the impression it the turlipinait rather, that Siegel thinks like that. And it is this same term again (probably without purpose) he uses to dismiss I also refer to a burial.

Needless to say, the idea did not come to him to ask me **what** so made me say that there Burial (I do had not said a word in my letter, preferring to wait until he asks me). The reason, obviously, was already heard. . . 879 (*) Looking back afterwards, I understood what was the distortion that has occurred in the memory (just failed on the edges) of my friend. As I had taken the formal schemes as the main and almost sole guide to clear a defining a rigid analytic space (so as to be associated with a formal scheme a rigid-analytic generic fiber) he retained (twenty-three years later) that I would have supported adamant that there was no need for a new concept of variety, because "my" formal schemes would be enough to everything. (Like what memory failures often make it right ...) Yet already K * (my second thread) originates **not** from a formal scheme. Anyway, here again, the cause already heard!

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who had given (suggesting, if I did not say clear: at a time when I was still the only one to dream, these things so I called. . .). Serre was a little taken aback - obviously, he did recall not, but it was also obvious that I was not having fun to fantasize. But never mind, a name this is just a name after all and **so natural** anyway. . . This "so natural" suggested clearly it was even so natural that it meant nothing, that anyone with the nose in front the thing could not help but call it just that name, "stiff-analytical". It was in fact a compliment my friend made me unintentionally, about that name - but to the tune of "if only it . . . ". Besides, I had published anything about it, right? So there was nothing to say...

I was more stunned. Published or unpublished, for me it did not change the reality. A woman bringing a nine-month kid and who

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into the world and he is frolicking and in good shape, someone p. 1138
tell him that this is not a kid in it, because nothing is published and it is not screwed to show the certificate birth - it©sure she will laugh in the face of chap who keeps him such a speech. Actually, I did not laugh at

Serre nose, which is not my style and anyway, I was still too blown. I did not think not more to discuss; Tate himself in his notes made no mystery of the part I had taken in the Startup theory (something Serre had apparently forgotten as well as Remmert 880 (*)) - and that 1972, when I wrote the outline Theme which I alluded 881 (**), Serre had not done mine yet to wince about it (his memory must have worked since that time). It would have been anyway penalty lost, obviously - as long as nothing was published, all I was going to say was going to count the Butter. . .

But the "not published" had tilt, I followed it - just as a major part of my work consisted of things not published, by word of mouth. I felt stunned Serre yet - this was an idea that seemed to seem him a little absurd, like a contradiction in terms "Work - not published ...", it seemed to him not

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go together. I said the word "reason", he jumped p. 1139
it immediately: there he would disabuse me of the idea of burial I was doing me happy end tell me that there are two three years, precisely, there was a whole book that had appeared on the reasons - really, I could not complain about the chapter "reasons"!

"So, you held hands, that famous book?" I asked him (it fell well, it was a moment that I thought of to ask this interesting question).

Held in the hands - but I wanted to laugh, perhaps, retorted Serre me, for sure he knew it, book ; he even spoke like one who would read in long, wide and across, and that is that he must have read 880 (*) I felt good again, that " **in any case** , the cause was heard." If Tate said he followed "so full faithful "a supervisor that I had given him, well that no problem - there was only one supervisor after while a wave pattern so that the first comer kid can trace in the sand, a wave grothendieckienne sauce is course - it was still nice to Tate, boyfriend really like not to bother to mention it. . .

881 (**) This is the text, dated 1972, showing a sketch rather dry (and not very inspiring) my mathematical contributions on that date, written on the occasion of my candidacy for a position at the College de France (post was recognition awarded to J. Tits). This

text, rose more detailed historical commentary, published in volume 3 of Reflections. This is discussed especially in the Introduction, 3 (Compass and Baggage). In Sketcher Theme, 5th), I write:
" **Stiff-analytical areas** . Inspired by the example of the" elliptic curve Tate "and the needs of the" geo-formal metry "on a ring of complete discrete valuation, I had reached a partial formulation of the concept rigid-analytic manifold on a complete value body, which has played its part in the first systematic study this concept by J. Tate. Furthermore, the "crystal" that I introduced on algebraic varieties over a field of characteristic > 0 can be interpreted in terms of vector sometimes fibers integrable connection on some types of rigid-analytical areas on characteristic zero; This foreshadows the existence of relations deep between crystalline cohomology coach. $p > 0$, and cohomology of local systems on varieties rigidly analytical in characteristic zero. "

This also is the Grothendieck all over!

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indeed. I could dispense with the question, if there were found nothing special - it was visible not, and yet (that how we made, I can not help it!) I asked him anyway!

And as he did not seem to understand the meaning of the question, I told him that I, taking between hands last year, I struggled to believe my eyes.

I had to say the word "scam", but I felt that it was a pure understatement. As I had really felt, and still feel as I write these lines, it was **indecent** - but I abstained to read it. Basically, I felt that no matter what term I would use; nothing had happened since fifteen years that "it faisandait hard" and Serre chose not feel anything (this is indeed what I had writing, a few days earlier), and whatever I say, it does not "happen" not provided.

Serre, suddenly, it was launched, it was almost as if he had expected it. Scam? You want dream, my poor, but it is Deligne in person who wrote this book and a good job too, so - okay everyone knows that it was you who introduced the reasons, but this is not a reason to repeat Every time we hear the word "grounds", right? Besides you have never published a line, and that your yoga depended not demonstrated conjecture (I thought there hear someone talk me Serre mouth. . .), While just the interest of the book is that it uses no conjecture, actually it uses **nothing** of what you had done in time. . .

The tone was sharp and unanswerable, one that knows what he talking and who has nothing more to learn - with a hint of annoyance, a man

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bit rushed, attacked by a lourdeau who insists on not

p. 1140
understand the most obvious things. It was not the atmosphere to ask so little of anything

- everything was already settled and awarded visibly. The axioms of Serre, of ethics of the profession and what is important and what is incidental, had obviously changed - and there was nothing to do there. It was necessary that I take as is, with its new axioms.

So I hung on "speculative" in despair! I could have told him that the conjectures

Weil was too conjectural - and yet there was no question for him or for anyone to treat them

Below the leg - but it is true that these conjectures there, Weil had taken care to publish them! But as

I am just at the "Sixth nail" (my coffin) ^{882 (*)} I branched rather the "Galois group

motivic "it was nothing" speculative "him, I developed a theory of great precision on

categories of the Galois-Poincaré type, which was one of the basic concepts used in this famous book without it has appeared necessary to make the slightest reference to my person.

Serre jumped on the hint, again, again he was going to disabuse me of my ideas of Burial -

all this theory, it was available in black and white in a book, and one of my students still Saavedra ^{883 (**)}

- is that it is not I who had even made him do this thesis? Again, obviously, it was a book

he knew well, he had to refer to it more than once ^{884 (***)}. "So, in that book, nothing

nor did hit you" - I asked him again (and once again, it was clear, however, that I already knew what the answer).

No, obviously it had not hit, my name is not pronounced in this book, nor to the theory

^{882 (*)} This is the note (n^o s 176 1 to 176 7) which I am trying to finalize, and when I unscrewed the scam,

precisely around the concept of motivic Galois group and categories Galois Poincaré-Grothendieck (named

"Tannakiennes" for the occasion) - scam mounted by a Deligne and (initially) by the "pawn" Saavedra

interposed. . .

^{883 (**)} This is the famous book "tannakiennes Categories" (sic) of the same Neantro Rivano Saavedra, published in Lecture Notes 265 (1972), Springer Verlag.

^{884 (***)} I understand also that when Serre occasion to cite this book when my name is not pronounced (in other words), and without there is (meanwhile) nothing abnormal, it takes care yet (for I know not what scruples) to refer simultaneously to my no one. It must be the very last to still take this kind of punishment. . .

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making the object, or for ancillary concepts (such as pattern, crystal, and many others) which are introduced into the

ab ovo and developed as examples. There he did not seem yet Serre, to have failures ^{p. 1141}

memory - he still remembers (for now at least...) to which are due these notions, which appear

there, under the pen of another of my students, without my name is not pronounced. If there is one

"Default" here, my friend, this is not in any case in "memory". . .

We epilogue for a few minutes even on the name "tannakiennes categories", which I left

hear that I considered a hoax, while Serre, he, with supporting evidence, he found

it suited perfectly. Again, I knew it already, basically, before raising it again

Hare ; as I also know **why** this name fits so well with the man who was my friend, while I,

which has carried and given birth to this thing, is to say about it.

As it usually goes between us is Serre who cut short - and indeed it is true that the conversion

tion had plenty lasted. There had been "communication" at any time, and that is why it surely

left me this feeling of dissatisfaction, disharmony. And yet, as two or three short

letters I received from him lately and with a more assertive strength again, this short conversation

taught me a lot. Things "sues", surely, but *récusées* half; *sues* and not flood! And surely it

frustration (which was not dispelled even today) is the sign of my resistance to accommodate

and accept the message.

An unwelcome message indeed. Just a few months ago, I had no doubt that Serre (as I recalled

highly of him, incarnation of an incisive elegance and free of any complacency integrity), when

it would take knowledge (better late than never...), by reading the text providential "Crops and

Seeds, "the depravity of a burial (of which he was a far cry indeed from suspecting the poor...)

well that his blood he would turn and that he would throw himself into the fray, this time ^{885 (*)}. This image

Epinal has dissipated over

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in recent weeks, an innocuous exchange of letters helping. And yesterday he ^{p. 1142}

have ever seen, without any possibility of doubt, it has been ages since Serre is installed

in full, in the Funeral, and he finds out its account. And this, is it necessary to say (and

that I put any kind of irony), with the best faith in the world!

This is also a moment that I realized that the "good faith" is not something as simplistic

and clear-cut, it seemed to me most of my life. A certain type of "good faith", more

common, is simply to deceive oneself, like a curtain of good quality for

cover sometimes dubious goods. Our psyche is made of superimposed layers, and as

the look is refined, he sees the "good faith" in such layer may serve as a cover and an excuse for deception of the one below.

In terms of good faith Serre, I continue to do it this credit, it will never write a book making use of essential way to ideas of others, to say clearly - and this, even if these ideas have never been published and would be known to none other than the one who has to it (assuming it is still alive) and himself. That is, I understand Serre will never write a book like those that had been discussed between us yesterday. I dare say, even, that the mere fact that someone 885 (*) In writing "this time", I thought the other two times I put myself in charge, trying to get a message to the famous "mathematical community" - and even these two occasion, to mobilize. The first time was in 1970, during my Start mathematical scene during the connivance of the scientific establishment with military equipment. The Second, the more modest the only French colleagues, it was about a certain item iniquitous striking foreign in France. (See in this connection the "My farewell - or: foreigners", n ° 24.) Both times my efforts met a general indifference, where Serre, nor any of my other friends in the middle I had to leave (with the sole except Chevalley and Samuel), not exception. The paris are open on the effect (or non-effect) that will produce the pad "Crops and Seeds", in the same establishment - starting with Serre himself. . .

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as Serre like me 886 (*), write a text (mathematical case), addressing an audience, involves inveterate reflexes dedication, which will tend to eliminate or correct at least (I think) some "memory lapses", which do not draw as to result in simple casual conversation like that of yesterday 887 (**). All this is in line with what I wrote it three weeks ago

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yet, in the note "Things that look like nothing - or dryness"

p. 1143

(n ° 171 (v), part (c)): "I know Greenhouse, not older than me, would dare to howl with the wolves, plunder of scheming and slag where "everyone" plunders, scheming and débine ".

That said, I note that this does not prevent greenhouse is indeed his account in some cases at least, that **other** plunder, and magouillent débinent, and this in an open and obvious, "in

Full public square "and" under the spotlight ". He can certainly do it" the best faith in the world "

- it does not get dirty hands, merely to give his blessing without reserve to plunder the shenanigans

débinages and others, and this all unless he pocketed no visible benefit: it does prides

not the fruits of others labors, while finding good as others (VOR dealers, aurais-

I want to write) play such a game, in full view of everyone. The "benefits" that are more subtle than cash

Publications (a little shady at the edges) and other bank accounts which others are fond. he

must believe that he is yet to result, to give rise to the amazing metamorphosis of one

I had known now participating (I can not say how long), eyes closed and clogged nostrils the

general corruption 888 (*).

e. The last minute - or the end of a taboo (June 18) I had a hesitation, yesterday, to add yet a fourth section in note "Family Album" (n ° 173), just to make a report "hot" the phone call with Serre yesterday. This call, it is true, had left me on a "feeling of dissatisfaction, disharmony "(as I wrote yesterday) - and even there are euphemisms to express discomfort if incisive, he approached anguish. This unease aroused the need to return to this episode as a abscesses mature now, and it would be great

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time to empty. And there was also the usual procrastination. It

p. 1144

For weeks that duplication service the expected USTL brought to them after the famous

Issue IV Crops and Seeds who never ceases to give birth; already it©just to get to Augustus

while pulling and broaching before the annual closure of the college (July 15), especially since it©not just me -

the end of the academic year, there is an influx of theories of all kinds, which should be prioritized. Short,

I thought he must know how to end a book; that if I continued to insert the "last minute", I

have not completed next year yet, it had lasted quite like that. . .

And so, I ended up going to start - and too bad if the draw Crops and Seeds only to fall!

It waited fifteen years (if not thirty), now it can wait two or three months

more, but I take time to look at what I have to look and say what I have to say, without leaving me

886 (*) Speaking here of "Serre me," I think, in fact, any of the community members including us

one and the other in the fifties - the middle I© trying to understand so little in Parts III and IV "and Fatuité

Renewal ", especially in" Bourbaki, or my big chance. - and his backhand "It is true though

I see that even in this small community, I met two members who have "gone wrong" (which was discussed in its place in Crops and Seeds).

887 (**) So, I do not doubt that if Greenhouse was author or co-author (as is R. Remmert) a book on the spaces rigidly

analytical, he would go to the "natural inclination" to ignore the one to be ignored; he would go past "failures" of memory a bit complacent to said natural slope, which he liked to indulge in a private conversation. It is also true that there are still fifteen years, with the rigor that I knew him then, he would not indulge in such a slope, it seems, even in a private conversation. . .

888 (*) This finding of participation in a corruption joined one made (for listeners of a seminar in March 1980) in the note "Carte blanche to pillage - or the High Works" (the name says what he means), n ° 171 4 , particular page 1090 second paragraph.

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upset by "deadlines". . .

It©been a hard day©work, or rather a night and part of the morning - I wanted it to text "in rab "for the strikes go with today©mail. It©done.

There, I feel like going after a job that **had to be done**. I feel light suddenly issued as a great weight that I was hanging without knowing surely, and I can not say since when. It must be the weight of a certain tenacious illusion which had to start moving to me at the end of forties, when began to hatch in me an adoption identity as a member of a certain "Community" (mathematical), a certain environment, which for me was full of warmth and life. I@ talking about the outbreak of a new identity in Fatuité and Renewal, in the sections "The welcome abroad" and "the" mathematical Community ": fiction and reality" (n ° s 9, 10), and also in "Bourbaki, or my chance - and setbacks "(Section n ° . 22) It is true that this identification was scanned without return by the events surrounding and following my departure in 1970, in the wake of my involvement in a militant activity. Looking back, I realize now that he nevertheless remained a **link** to this medium that I left in which I did not recognize myself; an invisible link, perhaps, but of great strength, part of the "weight of the past" (I begin to see last year, in the same section name, n ° 50). So I left that environment without thought of return, a certain **picture** of what had been this "family", in short, I had

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left her for another adventure, remained alive in me and kept p. 1145 this link. This image have remained more or less static, it seems to me, since I left (and long ago before, certainly) until the reflection continued in Crops and Seeds. It started qualify the image I had of a certain past, and to incorporate a fashion element of this, often disconcerting and certainly ill-comers. I ended up going to the evidence of a staggering **degradation** in the state of minds and manners in which had taken over the medium to which I had identified, and (It would seem) in the mathematical world in general. This degradation, I@ realized only dates not yesterday, and I had time, even before my departure to be me. (An interview part, at least, during the discussion continued in Fatuité and Renewal.) I had the impression, however, that there a kind of unbridled escalation in this degradation after my departure, in which some of my former students have played a catalytic role.

Anyway - all over the revelations succeeding in my investigation of the burial, I kept my mind a sort of "taboo" tacit around those among my old friends, who were Part of that environment that greeted me in my youth. I could not conceive simply qu@u-cun of them was seriously ill or "initiated" by the profound degradation of which I was the finding. When I happened to mention the convenience of the "entire congregation" vis-a-vis operations (For me at least) beyond imagination, surely there must have in me a kind of "clause" interior, putting harmless those who, for me, should remain "above suspicion". They do unsuspecting, obviously - is that they must be busy elsewhere, surely - must not blame them! Somewhat in these tones there. And for the older among my seniors, this view is, I will believe to reality, or at least some aspect of reality. But certainly not for people like Serre, Cartier, Borel, Tate, Kuiper, Tits and others that I have known, who are of the same generation as I, in full operation, fully integrated in the middle that I review here and continue even today there to exercise significant power and set the tone there, as well as some newcomers who ended up constitute a "mafia" unscrupulous, with the blessing wholeheartedly of their elders. There was thus a persistent and glaring contradiction in the image that I had of the reality as it appeared through the "revealing" top notch what the Burial. It is this contradiction

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surely,

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perceived at some level and challenged to another, which created the "malaise" of which I spoke earlier, the

p. 1146

limit of anxiety - revealing anguish of a **division** . And one who, more than any other, embodied for me this environment, people that someone in me persisted to perceive as "close", and that also had was "closest" to all of them was Jean-Pierre Serre. As such, it was him, more than any other, that the resident node of the evaded contradiction.

I began timidly to address this contradiction there only six weeks in the first Part (May 4) of the note "Unnecessary details" (n ° 171 (v)). This reflection considerably deepens ment in the third part of that same note (May 27, so three weeks later), "Things that resemble nothing - or drying "I be back on the person of Serre against perennial inner resistance, there is one week (11 June) in part c. ("The one among all - or acquiescence ") of this note. This time, the crucial role of Serre in the Burial finally appears full light. This was a big step in my understanding of the Burial - but the knot the contradiction was still not addressed so far! The person Serre remained for me (as if nothing had ever happened) the epitome of "elegance" and a "probity" without fear and without reproach. The "Taboo" remains safe and sound!

It the phone call the day before yesterday that burst contradiction, putting my nose "right in" (The burial), whether you like me or not. It has been, as fair, immediate mobilization of forces considerable resistance (sometimes referred) to maintain the status quo, rather than taking the contradiction: take note, one way or another, and thereby solve it. I was free to do or not to do so.

I have taken the plunge - and I happy. The reward was immediate: a **release** , manifesting by a feeling of lightness, relief; relief of inner tension, yes, but even more, release of a weight.

The only other time in Harvest Seeds and where there was a feeling similar release is that also has marked a first turning point in reflection, in Fatuité and Re, with the section "Sport mathematical" followed by "Finish the ride!" (n ° s 40, 41) - I feel also that this new step that I just "jump" follows the one I made last year. I can not say, at the time, and why

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what. The triumphant exclamation then, "No more riding!", Was premature is

p. 1147

sure (as I noticed me in the month after). But the new step I have to do is, for the least, a step that leads me out of that arena. The future will tell me, how it is well well.

After the reflection of yesterday and that of 11 June, I feel arrived at a less blurred vision the Burial. It was mainly this "third level" was left vague. Reflection of 11 will have done "Incarnate, in a tangible way in the person of Serre, and this in turn has taken all contours that there is concrete (the case to say) during the discussion yesterday.

Finally, throughout this fourth part of Crops and Seeds is the reflection on the relationship with Serre that strikes me as the most crucial part to my own understanding of the Burial at Beyond the "further investigation" and high tables color shallow mathematical megalopolis.

It is also true that if I had not taken the time out of respect for the subject I gave myself the task of probe to wrestle me this "ordering an investigation" with all the care I can, taking

Great care also enlighten my best every corner a bit dark that arose along the way, this reflection on Serre would probably not born, and my understanding of the Burial (and my involvement in it) would have remained vague as before. Everything fits in a research!

The most substantial part of the thinking in the latter part of the Burial, appeared in

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made "last minute". In principle, the "end point" in this part had been laid there will be two months and half (April 7). It remained just then ten pages to retype the net, and some footnotes add pages (like this was the case also there a year, in late May...). Unexpected started to scramble from the days already, with the visit of Zoghman, came to read that last part (in principle over) and give me feedback. They materialized in some three hundred pages of text additional - and among them, those pages where I was on the relationship between Serre and I, in the light (Hitherto evaded) of Burial.

18.5.7. Climbing (2)

Note 174

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(March 22) ⁸⁸⁹ (*) As I have already noted elsewhere, there are actually not four operations p. 1148 (for a Funeral), but a single " **Burial operation** ". Its division into four components was convenient for exposure, but is artificial and (if taken too literally) capable of inducing

In error. Undoubtedly, the Director - Conductor - Principal Celebrant for Funerals, there no **four** little devils in four different corners of the head to blow him what he had to do, but a single! I have tried, over the long meditation on the yin and yang ⁸⁹⁰ (**), to do better know this little devil here than in the past, where I had merely stated that he occasionally was always there trying to agitate, and spent something else the next moment. I also not pretend be fully successful, to make his acquaintance, and perhaps is not so much my job, after all. What is certain is that he is always there to shake as before, and it is not said that he will stop before last breath of my friend. Still, as the famous "Burial" Operation continues in this time even as I write these lines. And I wonder if the distribution of this "Family Album" will all at least the effect of ending the biggest (and most iniquitous) of all partial operations: the which was to bury alive a young mathematician, Zoghman Mebkhout which "everyone" working in the cohomology of algebraic varieties or complex used for four or five ideas and results. . .

Abandoning the fiction of "four" operations where there has obviously had one, it would be interesting make a sketch, in chronological order, the main episodes and steps that are known to me. I will not do not here, judging doing enough in bringing together, in the previous four key notes ("Silence" "The maneuvers", "Sharing", "The Apotheosis", n ° s 168, 169, 170, 171) all episodes that are me known, and the curious reader can itself order on a timeline. Curiously, the "second level" view or "operation" (to use euphemisms), it does not seem the year of my departure from the mathematical scene in 1970, marks a discontinuity in the succession episodes, which continue to fairly steady pace, he seemed to me, from the end of the seminar SGA 5 1966 until 1977 with the double publication "SGA4 1

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"And publishing -
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Illusie SGA 5 ⁸⁹¹ (*). This p. 1149

operation appears to me as marking a **qualitative change** suddenly and striking. Before there was a "Mowing" discreet. Here I feel the eruption suddenly a burst of violence and contempt, their obsession with the work of an absent, declared "defunct".

After this kind of **romping** collective of all of my cohomologistes students (under the eye com-pleasant to the "whole Congregation"), it seems that there is a lull for four years. While

⁸⁸⁹ (*) (14 June) This note goes on with the party. ("A well surrounded deceased") of the previous note, written the same day.

⁸⁹⁰ (**) This is the reflection forming the major part of the third part of Crop Seeds and, with the notes n ° s 104-162".

⁸⁹¹ (*) (3 June) It is correct that impression, taking into account the large-scale operation "tannakiennes Categories" (sic) whose first episode (with the "straw man" N. Saavedra) is up in 1972 (and the epilogue in 1982, with the "real Santa" P. Deligne taking over). On this subject the sequence of notes "The Sixth nail (in the coffin)" n ° s 176 1 - 176 7 .

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all the eleven years that have elapsed between 1966 and 1977, I detect an "episode" well-typed all one or two years, I know of none between 1977 and 1981 (year of the Symposium Perv). Instead, along article "father of conjecture II" Deligne, published by Publications Mathematics in 1980, so the year which preceded the incredible Symposium can almost pass for normal, for these times. . . ⁸⁹² (**).

This is the year where Deligne also learns during a Bourbaki seminar and the author©mouth

itself, the "theorem of God" (aka Mebkhout) ⁸⁹³ (***) . This is the start of a sudden melting

ice in a long stagnation of the cohomological theme. And that is the signal as soon as next year, this second and final (?) culmination of the Burial operation on the pitch this time iniquitous, when deductions, and even simple prudence, are blithely thrown overboard.

The episode of "memorable volume" LN 900 a year later (devoting exhumation patterns without men- tion of myself, episode which had so moved me some April 19th of last year ...), while

Berthelot like the report of the same year (devoting eliminating my humble self

the "history" of the -SiC crystalline cohomology), appear to me afterwards

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like extensions natu-
p. 1150

ral, and actually quite harmless, this happened during the symposium, whose name will perhaps in history (or what remains of it), as a **warning** . And "the Funeral Eulogy" the following year, if Incredible as it may seem to those who "pose" on him so little, also appears as such a pro- longement, or (as I wrote previously ⁸⁹⁴ (*)) as an "epilogue". As for the two years that still since they have merely endorsed in the writings and in the minds, "acquired" a Symposium gloss and its extensions. . .

It is a remarkable coincidence - or rather, this is clearly **not** the effect of a "coincidence" - that from last year, and before he even met with the operation "SGA4 1

- SGA 5 "nor with the

Symposium Pervert, I have found two "rotating" in the personal relationship of my friend Pierre to me, placing in those same years 1977 and 1981. I included for the first time in a common focus and tries to fathom the meaning, in the note "Two turns" April 25, six days after I discovered the Burial (by reading the memorable LN 900). At the time, where both were turning occurred years before, I was far from suspecting (not on a conscious level, at least) of the Burial was going on, and I would have been hard to connect one or the other at any event I known, and who could enlighten them.

18.5.8. The funeral - "Im dienste der wissenschaft"

Rating 175 (March 23) Finally to tour the "Burial operation," it remains to enter review the role of a last active participant and eager, I have had occasion to speak "through" good number of times during this long reflection on said burial. It is the honorable institution GmbH Springer (Heidelberg), well known as a publisher of books and scientific journals, is ho-892 (**). Of course, no reference is made to myself at the main result that is the subject of the work, which the statement was part of the yoga patterns that Deligne was holding me. For cons, I was struck by the fact that my name, with that of Miller, in one of the paragraphs of the work, about the De Rham complex with divided powers, which had was introduced (circa 1976) independently by Miller and myself. I gave a presentation on the subject in 1976 at IHES (it was also the last public lecture I had given in my life), but it was clear that I will not publish anything. Without probably no one would even notice, nor especially would find fault, the author ignores that any co-authorship unofficial. . .

893 (***) (1 June) In fact, this episode took place last year, in June 1979, the Bourbaki seminar.

894 (*) In the note "jewels", n ° 170 (iii).

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norant also the motto "Im Dienste der wissenschaft" - in the service of science 895 (**). In the edition mathematics of this house, it is undoubtedly the series of texts "Lecture Notes in Mathematics" which is the best known of all. This is perhaps the series of scientific texts in the world who has known fortune

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the p. 1151

more prodigious: over a thousand titles published in twenty years. I also think you have made my part in this unprecedented success, bringing my deposit to this series still in its infancy, with the publication many texts students or myself, during the sixties and until the early years seventy. I have also been associated with the Springer house as one of the editors of the series "Grundlehren" (der Mathematik und ihrer Grenzgebiete) where three books (including the reissue of EGA I) are published by my Care 896 (*).

After leaving the mathematical scene in 1970, I also refrained from any activity as editor. I continued with a simple inertia effect, to be part of the publishers of the series until last year yet, when I finally pulled myself "officially" any editor responsibility for Springer. I was prompted by two concurring motives. First, when I return to a mathematical activity tick "orthodox", handing me to publish math, I would like to draw definite limits to this "return", which does not mean to me back in a "powerstructure" (one of power and influence structure) but only a **working** staff mathematics for publication. On the other hand, had had occasion, since 1976 (with the episode of the thesis of Yves Ladegaillerie), smell the scent of a certain air of In-INTERMENT, well before having the slightest suspicion of large-scale operation that I discovered the year latest. (See about the episode of this thesis, one of them read brilliant I have had the honor of inspiring the note "You can not stop Progress" (n ° 50), and especially more detailed note the "Coffin 2 or cuts sectioned", n ° 94.) It made me realize that" the kind of mathematics that I love and I want promoting has no place in the Springer Verlag " 897 (**), and even more, perhaps, that the spirit that I felt

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did not encourage me to continue or resume connections so slightly closer with this house. p. 1152

The year that has passed since my letter of resignation to the "editorial board" of Grundlehren in February last year, has been also confirmed and further strengthen this feeling.

But this is on the margins of the "Burial operation" itself - this "second level" of which I spoke yesterday, in which it is time to return. There is to my knowledge **the five books** that are directly related to the operation in question 898 (*). These are, in chronological order of publication, volume 7 USG I (published in my name in 1972) and APG II 7 (published under the Deligne-Katz 1973), introducing the seminar SGA 7 895 (**). (1 June) Information taken from Dr. J. Heinze, it appears that this is not really a "slogan", but rather a publicity slogan. The English form is "Springer for Science".

896 (*) The other two books are the theses of Jean Giraud and Monique Hakim (on the formalism of the field and 1-

noncommutative cohomology, and diagrams related on ringed general topoi).

897 (**) This quote (translated) is extracted from the short letter (addressed to Dr. Peters) February 18 last year, where I informed my decision to withdraw from the "editorial board" of Grundlehren. Dr. Peters had already left the Springer Verlag (It is now working in the Birkhauser Verlag), and correspondence is continued with Dr. J. Heinze, responsible for Grundlehren in Springer. I asked for a copy of my letter be sent to each of the co-editors Grundlehren (numbering eighteen), and had repeated this prayer to Dr. Heinze twice (April 84 and January 85) without he deems useful to tell me whether or not she had been respected (it appeared that **not**). I took the trouble to send myself a copy of my letter to each of the eighteen publishers, with some explanation about this shipment. I know it well seven of them personally, and I counted five of my friends. One (Artin) has bothered to answer me, and no apparently did not find anything wrong (not least vis-à-vis **itself**) that the Springer house was not itself bothered to send him (and in the month of February 1984) the letter.

898 (*) (1 June) Since these lines were written, it appeared that it be added to the list following a sixth book, the same name is a hoax: "tannakiennes Categories" by Neantro Saavedra Rivano. Remarkably, this book also appeared in the same series "Lecture Notes in Mathematics" Springer. But in the case of that operation, responsibility for the Springer house does not seem committed to me, as it is for the other five volumes. For some Details of the operation "tannakiennes Categories", see later notes "The Sixth nail (in the coffin)," n ° s 176 1 - 176 7 . 867

on monodromy groups, 1967-1969; the volume named "SGA4 1
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"(Deligne) and editing of-Illusie

SGA 5 (published under my name) in 1977; Finally, the "memorable volume" dedicating the grounds of exhumation, published under the common signature-Deligne Milne Ogus-Shih in 1982. Remarkably, the **five** volumes published by the care of the **same** house, and in the **same** series Lecture Notes 899 (**). The four first volumes have been published while this is Dr. K. Peters, who was in charge of Lecture Notes 900 (***), the last Ms. M. Byrne in charge of this series.

These five publications were made under conditions that seem to me a gross irregularity.

As I have already noted elsewhere, the two volumes SGA and SGA 5 7 I **published under my name** in 1972 1977 (LN 288 and 589) have been published without the Springer house deems necessary to contact me, asking my permission or to only notify me of the publishing project. Publication of two volumes of the name APG 7 II and "SGA 4 1
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"So with under the acronym AMS which I think it is not available to all comers, but notoriously linked to my work and to my
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person, have been published

p. 1153

without asking my consent to the use of the acronym for the proposed publications, while I is not listed not (as might have been right to expect) as the author or director (or directors) volume, or seminar he has a written release. Finally, volume 900 presents LN without appoint me, notions, ideas and constructions which are known, among knowledgeable mathematicians, they were introduced by me. In this case, it was therefore clear (without having to be among the few insiders a seminar SGA SGA 5 or 7) that this volume was what is commonly called a **plagiarism**. I do not not expect, of course, that Mrs Byrne, responsible for LN (unless I'm mistaken) at the time of the publication of this volume has the competence to recognize the scam on its own, given the manuscript. But he belongs, I guess, tasks of a serious publishing house, to ensure the reliability of its publications, surrounding himself with competent advisers.

These same counselors were able also, if they are honestly the job for which they are (I imagine) paid to report to the proper authorities that the sign SGA is not a symbol to all comers, it has a **meaning**, it be observed by looking at the only person who is qualified to decide on the use of the acronym in know myself. Finally, as an aggravating circumstance for the publication of volume occurring as the sham "SGA 4 1
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"Just browse either the introduction to the volume or the" Thread of Ariadne " following the, or the introduction to the first chapter, to find the casual disregard with which there are trai- tees seminars SGA SGA 4 and 5; it is known more among the people so little informed, that these recent seminars were held in the mid-sixties, while the volume itself as

"APG 4 1
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"Consists of apocryphal texts of the 70 I therefore consider that for a person reasonably ment informed and in possession of all his means, trickery could only be apparent. It was a Because all the more imperative not to publish such a volume under such name, without asking my

agreement in due form.

So I think the responsibility of Springer fully engaged in the publication of each of these five volumes, as a constituent of significant events in the monumentable scam operation was made about my work on the cohomological theme. Through these publications, Springer has made auxiliary and **conveyor** of this unusual transaction. I can not say, of course, whether in knowingly. But I can say that repeated discourteousies which I have experienced the from this house in her relationship to me, since the year

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1976 (I have not had the opportunity, I think, to have

p. 1154

deal with it between 1970 and 1976) go well also in the sense of this operation and are in a

899 (**) These are the volumes n ° s 288, 340, 569, 589, 900.

900 (***) As I specify it in the penultimate note b. p., Dr. Peters has since left the Springer Verlag for Birkhäuser Verlag.

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spirit, which is inseparable.

In the sub-note "Eviction" (n ° 169 1) of the note "maneuvers", I referred to my letter to Mrs Byrnes regarding the publication of SGA 5, and its response, which blew me I must say. (This is not true the first time nor the last that I "blew" in this brilliant operation "in the service of science." . .)

I learn from his letter (dated February 15, 85) in accordance "with the usual course of action when a book contains contributions from several authors "(sic), it was not necessary to address more specialized LEMENT mine, who was only **director** of the Seminary ... The five "authors" of SGA 5 are Bucur Houzel, Illusie Jouanolou, Greenhouse, excluding my modest person, who appears only as "Director" - without purely honorary doubt, had I said too much 901 (*) - for this brilliant seminar.

Even before receiving this informative letter and finding the long time (having received nothing for a month)

I took my best pen (in German) to write to Dr. KF Springer in person, which is part of

managers responsible for Springer. It was a beautiful letter of two pages Machine, explaining

I was very sorry to a long series of inconveniences in my relationship at home Springer and beyond

these, a number of gross irregularities in me, which I was content for now

to submit two, that seemed particularly glaring: the publication of two volumes

Lecture Notes (n ° s 288, 589) appeared under my name and not find it necessary to consult me. In these two

texts, ideas, methods and results that I had developed in oral seminars were shortened or

sometimes mangled as to be unrecognizable. The coincidence of that fact, with the circumstances

unusual that surrounded the publication of these two volumes, could not be for me the effect of a pure

hazard. And I expect a public apology and unconditionally from house Springer, in a

form that would be set by mutual agreement, once an agreement in principle would be acquired. I hoped

he would like me to the heart to terminate an unpleasant and unacceptable situation and find a

solution which is to rise to the occasion

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("eine dem Fall zu finden geziemende Solution", which is p. 1155

even more distinguished), "hoachtungsvoll" (as it should) signed in my best hand.

For cards on the table, I think I played cards on the table! The he can not say, Mr.

KF Springer, it has not been personally informed of the situation, and first-hand yet, by none other than the main person himself!

Chance would have it: I finally have an answer (even after a month) not later

that yesterday. It©so short that I can not resist the temptation to reproduce here (translated) verbatim. I needed

a while, however, to grasp that this was indeed an answer to my beautiful letter last month. here is

So the answer.

Heidelberg 15/03/1985

Dear Professor Grothendieck

I must thank you for your letter of February 9. Mrs. Dr. Byrne©letter of 15 February

will undoubtedly have answered your questions.

Receive etc.

KF Springer

There at least I set! The people "knowledgeable" (he was already question) had to explain that

it was not worth it for Mr. tiredness a little excited who wrote to him there - he was decidedly

not part of the beautiful world. And it©true, too. . .

While waiting for this edifying steering response of the Corpse Springer Pumps company

901 (*) In this famous "Breadcrumb" (through SGA 4 etc.) in the volume named "SGA 4 1

2", nothing could suggest

the reader that I have had the honor to make presentations in SGA SGA 4 and 5 (for cons, I have been that of "collaborating" with

"SGA4 1

2 The double meaning ") See in this regard my observations in the note...." - the art of the scam "(n ° 169 7), p 899..

869

Verlag GmbH (it was nice yet honor me with a signed response from the director himself), I had the time to sound me on my own intentions. The role played by the estimable company really seems very big, and I thought about the possibility of show trials, where I would ask for damages astronomical, as a "good man" outraged victim of unspeakable favors. But I told myself as a trial like that, it must eat a crazy energy. Even if I have prevailed and I touch dizzying damages (let©be optimistic!), after X years certainly - what I be advanced? I© not in need and have no need for more than what I have - and fraud not more nor less a scam, because a trial has been won or lost. I© not going to improve the world, neither myself nor Mr. KF Springer ways and some employees

now

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he leads, and certainly not the way they design their trade, mobilizing lawyers and

p. 1156

making them mobilize their 902 (*). And I do not will improve a certain spirit in a beautiful world I left, the spirit that makes possible the kind of operation which Dr. Springer and his estimable house are made (thirteen years) servants. It remains for me (I hope) a few years to live - Time flies, and I see lots of exciting things to do in the time I have left. It must not well be exciting to bring the exhibits to convince the judges that I have something to do with SGA. It is not for them, nor for Mr KF Springer, I got tired in the to write. . .

As for those (besides myself) for which I wrote the SGA, their relationship to that (for me anyway) is still part of me, is not indifferent to me. It is part of their relationship to my person. Strangely, I well know the relationship (or at least, so little) for my cohomologists five students: even those through which it now became possible to Dr. KF Springer send me walk like a messy that would have nothing to say about what we do or do not with texts bearing the acronym AMS, the chap in question is or is not on the cover.

The mathematician reader who followed me so far, and would one day have haunted the SGA (true, I in- hold out), maybe he will be thought of touching a word to me about what he thought to himself. Sure it myself would be pleased to receive a word from someone who found him, the book in which I was only me put whole for ten years of my life, and that **nobody** in the world has been keen to continue a When the Labor Party - that this book is indeed the mark of the man who designed and carried him time it took before it takes shape under his hands and becomes a **home for all** 903 (**).

And a home for all is not a urinal in a slum, where everyone would feel free to relieving at will and scribbling obscenities on its dilapidated walls and sticky. . .

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And if the one who reads me is one of those who were my students, or those who were my friends, and it feels

p. 1157

prompted to write to me or talk to me about it then at least in the absence of any other, he knows that his silence also speaks for itself, and it will be heard.

902 (*) I thought indeed as it may well be that the situation is reversed, and whether the estimable company who brings me a trial for injury to his reputation. These people "in serving science," they must be picky about this chapter (the now it©their reputation is at stake. . .).

903 (**) The key idea to build "houses", which are good "for all," played a significant role in my work mathematics, and this since the early fifties already. This was the concrete expression in my work than I called the "Service drive", which is part (without my even detected before the reflection "The key to the yin and yang") the underlying forces giving them vital force to my mathematical work. The archetype of the "house" appears for the first Once in my thinking, but I do have approached and with great force, in the note of November 26, "the Servant Yin, and the new masters "(n ° 135).

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18.5. THE FOUR OPERATIONS (a corpse)

18.5.9. The sixth nail (in the coffin)

18.5.9.1. at. The pre-exhumation

Rating 176 1

904 (*) (April 19) I finally had the opportunity to read (April 10) of the PR section Langlands cited in note "Pre-exhumation" (n ° 168 1). To believe the "Annotated Bibliography" on Deligne reasons communicated to me in August this article Langlands is, with that of Deligne appeared in the same volume (item that is the subject of the note cited), the first in which the patterns are used, since I left in 1970 905 (**). I am excusable for not having been aware until last year yet Article Langlands (no more than that of Deligne), as the author was not deemed necessary (no more my former student) sent me a reprint. One wonders also why he would have taken the trouble, when it is clear, by exploring its article, my humble self has nothing

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to do with the subject p. 1158

"Automorphic representations, Shimura varieties, and motives" referred in his article. My name (To use a formula that my typewriter knows by heart, from one year to the day!) appears nowhere in this article, nor in the bibliography. I grew yet recognize some ideas I emerged to 1964 (or dreamed that I had emerged -... definitely I repeat myself), and I even put black on white that remember a dream (or dream may be a memory of a dream...), the same ten-nine April 1984 906 (*). I think myself back in that day, a year back. It is true that I have had time to be bored, in the year that has elapsed meanwhile. If there was displeasure, it was hardly a surprise (given the limited, it will be said...), and certainly not a shock. There is also a difference size, between this article precursor memorable volume LN 900 that was to follow three years later, and the latter: I have not had the honor to meet in person Langlands, and it©not from my mouth he learned (as was the case Deligne to 1965 or 66) Yoga of the Galois group (or "Basic group") said "Motivic". But, during the second half of the sixties, I spoken enough about me to anyone who would listen (and Langlands after all not just landed just ...) to be a presumption that Langlands knows where does this philosophy "Geometric" new on Galois groups and fundamental of all kinds, seen as pro-algebraic groups suitable affine. I assume he knows that this philosophy is not born in 1972 from the brain of a Neantro Rivano Saavedra, who disappeared from circulation since without trace 907 (**) - I think it would not be a luxury Langlands explains about it, if he judge quite useful on. True seen these days, it might be too optimistic on my part hope he will take the trouble. . .

904 (*) (16 June) The group notes the following (n ° s 176 1 to 176 7), under the name "The Sixth nail (in the coffin)" should be considered

a natural result of the notes group "Silence" (n ° s 168 (i) to (iv)), dedicated to the "Patterns" operation, especially the last among them, "The pre-exhumation" (n ° 168 (iv)), dated 8 April. The following notes with the exception of Last (n ° 176 7) are of 19 and 20 April. If I have preferred to reject them here at the end of the "Four operations", instead of joining the in the "Patterns" operation, it is because the thinking that had gone on in the previous weeks on the three other operations, and especially that (called "Symposium Pervers" or "unknown service") that is the subject of the group of notes "The Apotheosis", threw an unexpected light on the "new fact" (also unexpected) which had just appeared. I remember that at I write the notes that follow, I had already, in principle, laid the "end point" under the Burial (whose ultimate rating, "Girlfriend" (n ° 188) is April 7), and I thought entrust typing the complete manuscript of the Burial III from one day to another.

This means that these notes were written in terms of "last-minute additions." . .

905 (**) With the exception of exposed Kleiman and Saavedra in 1972, in line with some modest "lines" on the category description patterns (compare the note b. p. (**) page 794, in the note "The dot the i" n ° 164).

906 (*) See the note about "Memories of a dream - or the birth of reasons", n ° 51.

907 (**) From what Deligne suggested to me during his visit home in the month of October, Saavedra would virtually changed jobs (it would now "in the economy"), and would do any more math for his thesis defense in 1972.

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18.5.9.2. b. The good surprise

Rating 176 2

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As the surprises never come alone, the day after I took connais-

p. 1159

ciency of the article cited Langlands, I also had the opportunity to travel the volume Neantro Saavedra Rivano (which refers extensively Langlands) with name "tannakiennes Categories" (Lecture Notes in Mathematics 265, 1972).

Of the nine students (men) that I had before I left, Saavedra was the only one with any when I no longer had echo, and therefore not echo that would have me that he would be so

little bit taken the "color" or "smell" of a Burial. I concluded hastily, with this naive confidence which I am customary, that (even that used perhaps because, having left the waters mathematics from what I have heard ...) was a pupil among all who remained entirely foreign the spirit of the "operation" Burial. Yet, as in the case of Jouanolou, I had had so little echo, it could have just put a flea in the ear. I knew of course that, from the time He worked with me, was supposed to become his thesis had finally appeared in Lecture Notes in 1972 cited volume, I do not remember ever bothered to look before last week 908 (*). Fully absorbed by other tasks, the thought had not occurred to me that it was a little strange that Saavedra has given me more sign of life, not least as to inform me of his thesis defense, and for me ask to be part of the jury as the best person to know what it was. It is by reading this book it becomes clear why he preferred not to disturb me in my other occupations, and spend his thesis "on the fly" before a jury which I know fully the composition 909 (**). The Burial at that time was already underway, since none of the members of the jury has seen fit to inform me only of the defense, much less ask my participation in jury (as was also the case for the thesis Jouanolou, who had to go to the same time) 910 (***) .

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This volume presents a critical component of this "arithmetic geometry" whose vision was born and de- p. 1160 veloppée in me all through the sixties (without having received any name), whose yoga grounds was (and still 911 (**)) soul. Essentially we can say that the book is a presentation of Saavedra by careful and detailed form my ideas about a sort of "Galois theory Poincaré" of some categories (I would have never dreamed call "tannakiennes"...), ideas that I have long and patiently explained to Saavedra, at a time when it was still doubtful whether it would be the current awareness effort and assimilation needed to be included in part "expository" of his thesis. I had him entrusted handwritten notes circumstantial, with statements to the nines, demonstration and sketches everything, and I wait he please send me the 912 (**). Of course, the subject of the thesis itself 908 (*) (16 June) Saavedra did not have to see fit to send me this book, which I do not own a copy, but it is possible by against my having held in his hands in the seventy years. I remembered no more, he had a careful and perfectly usable as is, but I can not locate the exact source of this impression. It was this in particular by writing the note "The clean slate" (n ° 67, especially pp. 252-253), where I comment this "mystery" of Deligne "copying" almost the thesis that Saavedra had made with me. 909 (**) The mystery of the composition of the jury elucidates completely unexpectedly in the seventh and final notes of "sixth Nail" (n ° 176 7), I will say here a word. . . 910 (***) For shooting rectification, see note cited in the previous footnote b. p. 911 (*) In the meantime, the "soul" was enriched yoga "anabélien" discussed so little in "The Outline of a Program. "(See, on this text, Introduction 3" Compass and luggage ". It will be also included in Volume 3 of reflections 4 912 (**) It was my habit to distribute my handwritten notes right and left between my students as needed - and one of 872

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said was not to expose the ideas of another, whose motives completely escaped him. It agis- knows to explain an intrinsic characterization "helpful" categories "tensor" I would call here "Galois Poincaré" 913 (***) , that is to say a category admitting a description "on Galois-Poincaré Grothendieck "in terms of linear representations of a" sheaf (pro) algebraic refines "the ring Basic $k = \text{End}(1)$ of the proposed class. When it is a body, I had indicated such a condition by the said property "rigidity" (in the terminology that I introduced), and seem to remember that I had written a

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full demonstration (from my initial thoughts on the motivic Galois group in p. 1161 1964-1965) 914 (*). I had him state the principle by abstaining to communicate my written notes to subject, as it was for him, not for me, to learn his future profession, doing the work itself. If my memories are correct, the only question that remained unresolved for me was to identify the nature area validity of such Galois theory to Poincaré, regarding the hypothesis to the base ring k , being particularly concerned with the case where it would be a ring as Z (because of the applications to theory of motives).

Of all the students that I had before I left, Saavedra, the latest happened 915 (**), was also the which was the least prepared, and (at least initially) the least motivated to "put a shot." It is why I was hoping he would hardly beyond the very limited technical problem I had proposed, who asked that more modest knowledge (some language patterns, linear algebra, flat descent, language sheaves, and nothing more). The most delicate issues which are the subject of Chapters

IV to VI of his book (filtrations functor fibers, polarization structures on a category Galois-Poincaré R and list of such categories which are "polarizable" applications category patterns and many variations) asked a little knowledge "all-out" 916 (**), and therefore an effort put in considerable current, which I did not believe that Saavedra would be able to provide; I hoped everything at most he would join perhaps work a summary (which it would be more or less dictated by me) points important theory that would not have been included in a health exhibition work. I have been disabused Only last week, and

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realize that Saavedra provided a really impressive job and p. 1162 record time 917 (*). This work is materialized by a book presenting a detailed and careful presentation, flawless mime and perfectly usable as is, with so virtually exhaustive (and me a-first things they had to learn was to read my writing. It was always understood that I wanted them I return to my notes, as they have done to make use of - but it is rare, I think, that this wish was respected. It here a sign, among many others, that I was not worried by my students, but I was rather seen as the "Softie", demanding work for sure, but otherwise accommodating as not. . .

913 (***) Not to call them "categories Grothendieck!" Yet among the many species categories (and other new concepts) that I have had the honor to introduce and appoint (and, therefore, do not carry my name), if is one for which this designation would be required by common decency would I be tempted to write, that that! (Aside from the

topos, but whose name seems perfect as it is ...) As for the name "tannakiennes categories" surreptitiously slipped a brilliant former student (and obligingly passed by a unanimous Congregation), this is nothing less than a hoax - as I explained in detail how lower. (See note below "Anyone who wait...", N ° 176 3 .)

914 (*) I did not want to take the time to check something in my notes on the motivic Galois group (or rather, what left me, I had not given Saavedra). I will come back anyway in Volume 3 of Reflections, probably in Chapter "The reasons my love."

915 (***) If my memory is correct, Saavedra asked to work with me in 1968 or 69, a year or two before I left unexpected mathematical scene.

916 (***) It especially had a thorough knowledge of the structure of reductive algebraic groups theory, their classification on the field of real plus a familiarity with a range of concepts such as pattern, crystal, F-crystal modules laminates, local systems (for someone who had at most a vague stain on the fundamental group of a singular topological space), more Hodge theory and properties of "polarization" delicate, which had never been explained in literature but remained "between the lines" in common reference texts.

917 (*) For further reflection on this "record", and its explanation (obvious) see note "Monsieur Verdoux - or ciccisbeo "(n ° 176 5).

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he seemed) the geometric-algebraic formalism that I had developed in the sixties. From this point So of view, I think he has done useful work and all Honorable points and the "surprise" I was talking sometimes was indeed "a good surprise."

This work consisted, precisely, to turn the "canonical" form and publishable as is (according to the criteria that were still mine at the time) a set of ideas, statements and demonstrations, that had been provided by me. Do such work exhibition is part of the mathematician profession, certainly, whether his own ideas and results, or those of others. Unlike many of my colleagues, I do not think that such work should be counted as negligible to assess quality a thesis or other publication, and at the same limit, to award to the one who does the title of "doctor" in mathematics - that is to say, to consider it as a mathematician For full against it myself. seems essential to be respected some basic professional ethics, and that where a job is to exposing and developing the ideas of others, the thing is clearly indicated, so as to leave to this regard the slightest ambiguity.

For yet case, nothing in the entire volume, but three lines of "thanks" and waves pure form lost at the end of a brilliant introduction 918 (**), could make the reader suspect that my modest person has something to do in any of the themes that are developed there, starting by the fact that the very purpose of the book. I increased my income to the day of my first meeting with the memorable volume-exhumation of reasons (there are now exactly one year to the day)! My name hardly appears nowhere in the volume, except for two or three occasions when

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references

p. 1163

forms are required and none is available that is my pen.

This is also where not the only effect of a **hindrance** , not seeming to recognize clearly the author does "that" present ideas and results from another - which (especially in this case) is not bad when the work is done intelligently. But I came to realize, by the number of "small

details "that do not lie, there is no question here of just a little" hay "to brown slightly its image before disappearing backstage. This really is **the burial for burial** .

To give just **one** example - God knows I@e spent days and weeks to explain at length breadth to Saavedra, who landed just and was not aware of anything, crystal notions F-crystal (Replacing bus. $P > 0$ the "coefficients" missing-adic, to define functions L ...)

laminar module (and its relationships with local systems), and finally a minimum of yoga units (in taking as a temporary heuristic based standard conjecture); all that to make him understand, by a wide range of examples where I was getting with these categories Galois Poincaré, and the case (You never know...) Where he would find the courage and perseverance to include at least beyond "Minimum program" expected, a chapter of typical examples. As he well knew, without me had to explain it to him at length, these are crucial geometric concepts and do not go back to Adam and Eve; it is none other than me, who explained to him the réexpliquais and without tiring, which had introduced during the five or ten previous years, to be used as tools in a vision (even if it him going over the head as she passed over the heads of all my students except a 919 (*)). But my name does not appear more where it introduces and develops a tad these concepts (in Chapter VI on 918 (**)) This introduction consisted essentially in copying text message four main statements, I had indicated in Saavedra as the "pillars" of yoga Galois Poincaré to develop (excluding issues related to the filtrations functor fibers, which are difficult to lend a summary in one concise statement); but increasing any of these statements, one that was supposed to be the "minimum program" of his thesis, a monumental and obvious error, which made it trivially wrong! This is discussed at the next note ("He who wait...", N ° 176 3), especially in the already noted cited "Monsieur Verdoux - or servant rider (n ° 176 5) and one that follows the" The dirty work "(n ° 176 6).

919 (*) Who is unable to bury him, as soon as the master had his back turned. . .

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the examples), that in the section of text devoted to the development of the theory which he pretends to appear as the author. Yet I do not see Saavedra imagining that the reader, if he is misinformed and even if he is willing to believe the father of these categories (which he calls generously "tannakiennes") go to think it@the same as Saavedra who invented for the sake of the cause the F-crystal, patterns and other gadgets of the range "tannakienne" (sic). If these concepts are treated as ungraded we come to the time to improvise, or pick up

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the nearest orphanage, I have p. 1164
acknowledged there a **style** that I know only too well, for a year that I do not finish to tour the Burial. . .

Mebkhout brought me the volume in question, while happy to show me if one of my students, at least he had been "honest" 920 (*). He was dazzled, obviously, by the three lines thanks to the end of the introduction - it is true that in 1972 it no longer ran so streets thank a deceased, and since then it is rather the tone of banter or joking that became to put in more than one of my former students, where it is complete silence. Still, I have this right both of the "deep gratitude" for "introducing [the author] about it," and my "advice and encouragement. . . necessary to carry out this work. . ." 921 (**). This is called afford words, while a simple honesty in the presentation of his work would have seemed to me a way more convincing to express "gratitude" at a time when the burial was decidedly swing.

18.5.9.3. c. The one who waits

Rating 176 3

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In fact, it was enough that I hold this book in your hands to realize that before p. 1165 memorable "APG 4 operation 1

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- SGA 5 ", there is not a single episode throughout the Burial, which is comparable in scope to that volume LN 265, the innocuous name "tannakiennes Categories". The episodes previous 922 (*) are all confined to a "mowing" more or less discreet, hiding some of the affiliation important ideas. Here, it is a crucial part of my vision of "arithmetic geometry" found "Hijacked", no less; and this, through one that could seem the most "trivial" among all my students !

920 (*) (June 16) There has also been absolutely sorry it missed, and did his best to coax me - it reminds me of the case Kawai (see note b. p. (*) 1078 page), where the Beilinson that Mebkhout was "honest" Bernstein (see 1072) - as Diogenes with his lantern, but this time in search of an honest mathematician in the "gang" of those who dunk in the decidedly dodgy theme cohomology of all kinds. . .

921 (**) These "thanks" are a joke, given the circumstances: you might think that I have "introduced" the author "subject" functions of a complex variable, or any other conventional about the same water. In fact, the "subject" in question **existed**

not when I spoke of it to Saavedra bad thesis, if not only a vision that had developed me in harmony with that of the patterns, and in my handwritten notes which gave it shape. I am speaking about the birth and development of this vision in the note "Memory of a dream - or the birth of reasons", and contempt casual with which one of those who were my students (and under the complacent eye of all) made a clean sweep of these roots there, in

Note that the following "The Burial - or New Father" (Notes n ° s 51, 52).

(June 16) thanks Saavedra These are the more "a joke", that the author has never cared about me only to send a copy of his book and these bogus thanks. Having finished a tour of the operation "Categories tannakiennes (sic)", I understand even better now how my ex-student had no reason to be proud his "work" -SiC, and he was in no hurry to see me read it. And as things seemed parts then and until two years ago even, it seemed that there was little chance that the worker would take cognizance never. . .

922 (*) The "episodes" in question are sketched quickly in the note "Burial..." (N ° 168 (ii)), part of the following Notes devoted to "Patterns" operation.

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It is true that behind this, I recognize, for a style that never fails, the one who pulls the strings - and contained elsewhere prominently among those to which my former students profuse thanks ⁹²³ (**). The only **name** given to the volume of the pen of Saavedra and the crucial notion that I introduced, is an act subtle **dispossession** . It will be surpassed in his lapidary efficiency, five years later by the only Under a name yet, given to another volume, but the pen this time Deligne in person ⁹²⁴ (***) .

If the name "SGA 4 ₁

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"Given to a volume-knuckle-saw is a genius of imposture, the name" category tannakienne "is a **hoax** , just as great. Even in the case of a class of Galois Poincaré "Trivial" or "neutral", equivalent to that of linear finite-dimensional representations of a schematic refines groups G over a field k , yoga I developed is typically "grothendieckien" inspired it is the analogue yoga that I had developed in the case of the fundamental group of a topological space, a scheme or (more usually) a topos. The idea of defining the fundamental group as the group automorphisms of a functor fiber coatings on the category of a "space" or "topos", and the idea (Just as preposterous as new, so unusual) to work systematically with the category stalls coatings not **necessarily**

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Related , I had time attracted many sarcastic. I do me

p. 1166

am never worried, knowing that none of these pranksters who thought they knew Galois theory or the Poincaré because they had learned on school benches, had really understood - and none of them until today still can not make even **the first steps** elementary theory Galois coverings of a scheme (say) so slightly General ⁹²⁵ (*) without repeating the text message work I done about it, and formulation I gave the Galois theory Poincaré coatings in terms Equivalence class ⁹²⁶ (**).

And likewise, the idea of rebuilding an affine group scheme (on a body, to fix ideas) from the "abstract" category of its linear representations of finite size, provided with its multiplicative structure Natural and its "fiber functor" natural "forgetting G operations" as the **group scheme of automorphisms of this functor** - that idea is due neither to Tannaka (which has never requested so), nor my modest former student Saavedra, nor my most brilliant student Deligne (to my regret - but he was not still around), but it is an idea typically "grothendieckienne". And as for the fact that and is a perfect correspondence between patterns in affine groups over k and k -tensor categories provided with a rigid fiber functor k . And as yet for the idea that, if by chance (as it tends to be the case for categories of patterns on a non characteristic zero) was a tensor category rigid that (unfortunately, or additionally happiness...) has **not** the advantage of having a fiber functor, the "algebraic group" should then be replaced by a "**sheaf** algebraic". This idea has long been explained in and off when the young Deligne had not heard him say in math the word "spray", and had never dreamed of something similar. The so when Giraud took it upon himself to develop in the sixties an arsenal of cohomological algebra

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non-commutative in size ≤ 2 , with blows

p. 1167

⁹²³ (**) side "mathematical" itself, these people are (in order of appearance) myself (excluding alphabetical order it was nice), Berthelot and Deligne.

⁹²⁴ (***) As will appear below (in Note "Monsieur Verdoux - or cavalier", already cited), there for

least strong presumptions that instead of reading here "but the pen this time Deligne in person" it is lawful to read "and

also penned by Deligne in person. "

925 (*) "As is little general" may be interpreted here, precisely as "a non-normal pattern." Before me, the group a fundamental algebraic variety was introduced (by Lang and Serre) that in the case of normal varieties, in the describing as a suitable quotient of the Galois group profinite "absolute" of the body functions, $\text{Gal}(K/K)$.

926 (**) Today, this way of formulating the relationship between fundamental group and tiles, even in the particular case "School" (so to speak) of ordinary topological spaces (locally simply connected by arcs) starts hanging everywhere, without referring to the ancestor is it necessary to say. . .

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fields, wreaths and links 927 (*), the chuckles have not failed. This is the stuff that our days long ago the Deligne and others call a "matrix of non-sense." These sneers do not embarrassed 928 (**), I knew where I was going - and it was with "Revive" (as I write elsewhere) but without de.surprise really, I saw this "gangue" enter with perfect finesse of the delicate relations and deep I knew no other "language" would be able to seize them.

That said, when the same sneering one day realize a "cream pie" that had escaped them, whether the categories that some are quick to baptize "tannakiennes" (until something better ...) or some "correspondence" or "relationship" or "construction" (a little neo-grothendieckienne on edges) that sends one or euphemistically christened "Riemann-Hilbert" (until something better égale-is lying. . .) 929 (***) - then everyone rushes and that is who will play the génials inventors. This "spirit time" mathematical, in the seventy years, eighty of the century... What is certain, in any case, is that this is not a Saavedra could have had the idea of calling these categories (I had him at length ment explained) the truly awesome name "tannakiennes categories." Left to himself, he would not already dared change the terminology he held me without at least ask my permission - and it was indeed the least of it! it was the example and encouragement come from above, for

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it per- p. 1168

put to treat me thus negligible. Moreover, the unfortunate was well enough to work for get to know what was essential if he wanted to achieve if only a part of the program ambitious writing that I had submitted 930 (*), it goes without even delving into literature and read the Tannaka and what not, which he had probably never heard of, at the time when he was still working with I 931 (**).

The name is "brilliant" by the subtle combination of two qualities that might seem contradictory.

One is that to a superficial observer, this name does not seem completely crazy. "Everybody" vaguely remember that there ure "duality Tannaka" in which the multiplicative structure plays a role - and it seems to look a bit like what happens to those famous that a \otimes -categories Saavedra (? Which is that one) called "tannakiennes"; then go to "tannakiennes", why not!

But for those who wait, things ripen themselves. Thirteen years have passed since, and Instead of the book from an unknown nobody has ever seen there for three years a reference much more prestigious in the glossy volume LN 900, from the pen of none other than Deligne, and a man named Milne making tandem. These well-known authors develop ab ovo all categories of formalism they

927 (*) This suggestive terminology was introduced by Giraud, instead of a provisional terminology (slightly to the back as-I-you-shoot) I used from 1955 (like "categories fibered local in nature" and other unwelcome names for concepts whose fundamental nature demanded pithy and striking names).

(June 16) on the first page of the introduction to his book, Saavedra spoke of "formalism not homological algebra commutative **introduced** by Giraud. "This is one of many places where I could feel someone smarter than the author This book, which he "held hands" ... the one who likes to speak of "derived categories" that to add in stride "**Introduced** by Verdier (as he knows, in both cases, what to think...).

928 (**) But if Giraud - who distanced himself without return of the theme he pursued me, initiating the just. See to it Note about "The heirs..." (especially p. 386-387), and the note that follows "... and Chainsaw" (Notes n ° s 91, 92).

929 (***) See, on this last "until something better" whole package "Symposium Pervert", including the notes "The prestidigit-feeler" and "Leatherheads Markets - or puppet theater" (n ° s 75, and 171 2 (e), the latter part of the long note "The Mafia" n ° 171 2).

930 (*) He completed the program in record time of just two years, from the time of my departure, where this program was practically not begun yet (beyond an early made aware schematic basic techniques). same supported by a Deligne (who had no interest in that student before leaving), this performance takes just prodigy - that "miracle" is examined a little closer in the note "Monsieur Verdoux - or cavalier" (n ° 176 5).

931 (**) I recall that Saavedra has worked with me just for a year or two before I left (around 1968, 1969), after which I have almost entirely lost. His luggage that time was neither more nor less extensive than that of any other Student 3 ° cycle from the third world (or our provincial faculties).

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call, too, tannakiennes. Obviously, this is a fundamental concept, used for years by people like Langlands, Deligne, Greenhouse and others, and with a bright future. No certainly not believe that this is a Saavedra, called two or three times in passing in this article, which is the author of this crucial concept, and formalism of great finesse which it gives rise. The same tone of the article two brilliant authors, taking up the subject with all the mastery we know the main author, leaves also stand to

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about doubt ⁹³² (*). Besides they belong in the presented theory

p. 1169

Saavedra in the book of an error such Coarse (which requires even from a definition quite different, which finally seems good ⁹³³ (**)) that is based on whether this unfortunate Saavedra (Which someone - and we guess that -... Had to once trying to explain what it was) really had understood what he meant. And it©not Milne, all shiny it is, and who had the honor to co-sign with the prestigious Deligne an article visibly developing a basic idea, which would have the idea that could pass for father or only co-father of it; nor Beilinson nor Bernstein come claim they have invented (or if only co-invented...) the famous "relationship which should have its place in these notes. . . "They had the honor to co-sign with the same prestigious Deligne after it has had the great kindness to put them on track for a demonstration Kazhdan-Lusztig. . . And who, Finally, think **seriously** that this famous Tannaka who lent his name (without surely one consults) to designate this fundamental concept, there is **really** for something? It is not he who come to claim, assuming that it is still alive, the day he will be clear to everyone that is **true father** of this concept, and the whole theory of perfect delicacy that goes with it. For who could be about it doubt, just browse it work Tannaka, or if there is too much for her Patience, one on the "duality Tannaka" to realize that it has basically nothing to do. . . Again, once posed some milestones, simply let time. Obviously, this theory, which more will be revealed as the technical means of a new **philosophy** to connect geometry and arithmetic, is called in the coming years to come more and more to the front of the stage mathematical. In five or ten years, no one has thought to refer to it at a certain book by an unknown author, as one who had him probably held hands took the trouble to write the statement that was required, with the assistance of a brilliant collaborator, to form the core of not less brilliant volume which is finally developed to a

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solid ground the notion of pattern. (Volume where it seemed more charitable,

p. 1170

also not to mention the "matrix of non-sense" usual conjecture on this theme obviously exceeded it, a vague and precursor draft, long forgotten. . .) It will be become second nature to cite "Tannakian categories" by P. Deligne and JS Milne cite as FCC or GAGA (Serre) or LMS (the well-known anonymous seminar of IHES says "Bois Marie"). And in doing so, there will be in anyone©mind any ambiguity as to the authorship of these ideas innovative - which is certainly not the fact Milne co-author, let alone Tannaka or even a certain author strictly unknown (called a Saavedra), called two or three times in passing their paper for writing (in the introduction of a volume from his pen) an "excellent summary" (with some reserves close) on the subject.

But we will not be expected from the father of the theory, he does violence to his well-known modesty, the point of calling "Deligne categories" (or "Deligne correspondence" in a completely different field...) which, obviously, and by the unanimous consensus of the people "good" that decide on these matters should ⁹³² (*) About the article in question, see in particular the notes "The Burial - or New Father" (n ° 52, especially p. 214) and "The clean slate" (n ° 67, especially p. 252-253).

⁹³³ (**) See, on this feat of Deligne (Milne attended acting listed), the beginning of the note repeatedly cited "Monsieur Verdoux - or cavalier" (1176 page).

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18.5. THE FOUR OPERATIONS (a corpse)

Yet indeed be called as well. . .

18.5.9.4. d. The waltz of fathers

Rating 176 ⁴

(April 20) The reflection of yesterday made me see with new eyes one thing last year when I landed just in the Funeral, left me stunned: "... this thing looks absurd.: Deligne "remaking" the thesis of Saavedra * Ten years after "This is discussed from April 19 of the year last I discovered the "memorable volume" LN 900, in which (among other good things) is Texting reproduced virtually thesis Saavedra ⁹³⁴ (*). I return a week later still, in the

notes "The clean slate." At this time, I had come to "firmly believe" that the meaning behind this nonsense, it was the desire to gloss Deligne (becoming the scribe Saavedra) of "Give the illusory feeling of liberation from something he certainly felt as a painful necessity: having to constantly refer to the same one that is supplant and deny, or not least than another which refers to him. " But last week, taking the first penalty flick the work of this "as another" I noticed to my surprise it

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absolutely no thought "to refer to me" (if not by the three lines p. 1171 cited in "deep gratitude" -bidon, clearly intended to deceive). So my "intimate belief" of a year ago became lame - there must be a fair in element, certainly, but it yet remained a mystery: it is still not the three lines in question, no reader will think going to find at the end of the introduction, which will be motivated to play a Deligne copyists of the more obscure student of a master long-dead! Besides in this end of the introduction I figure almost in one breath with him and Berthelot, who have the right (just like me, it looks like 935 (*) to thanks for their "help and advice they have generously made during this work." . . This "mystery" was completely cleared when thinking of yesterday, and without that I had to look, and without even I only have to talk to me. In resonance there, after I stopped writing, various associations have surfaced - they must already be present in writing, without that I have consciousness, and guide my pen without my knowledge. I was struck by a similarity not only style, but of **patented** ownership, through the three "operations" in the Burial (among the four in which Deligne itself is the main (if not only) "beneficiary"). This is the process we might call "Provisional surrogate father", smuggled on the board for the mathematical racketeering retract a real fatherhood, while the person of my friend stone remains temporarily in the shade. A When fully eliminated the natural father of the scene to the satisfaction of all, the surrogate father is himself even whisked away as if it had never existed, and the **real father** , modest and smiling, appears on the scene, without even having to say it to him; as for the one who quietly has learned the son and that has expected, things happen for themselves without any resistance: the unanimous agreement of the whole Congregation, already, has invested the proper role of law.

This process has begun to be seen by me only a few days ago, by tracing mésaventures My friend Zoghman through the various episodes of the IV operation called "the unknown service". The "surrogate father" in this case (... for some "correspondence") was **Kashiwara** - I can not whether he fell from the sky like that, provi

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dentiellement and by sheer chance, or if the future real p. 1172 father made him understand gently that this result then an unknown, that lying there without a father worthy of the 934 (*) See the notes cited in the penultimate note b. p.

935 (*) With the difference that even when I "brought about" (sic), and that it "also owes me a large part of its mathematician training "(it really too much honor).

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name, was my faith not to be despised 936 (*). Still, the friend Pierre has played to perfection on a alleged paternity ambiguity, fabricated by the peremptory consensus of "skills" and this from even before the scope of the new thing again tonight generally recognized. The father Kashiwara substitution appears from March 1980 937 (**), if not already at the Symposium Houches six months before; it is retracted without a trace (and not too take offense, would seem it) when the memorable Conference of June 1981, fifteen months later. Here, the retraction is done with perfect skill, by the introduction of two other, call them this time "presumptive co-fathers" (and pure form) Beilinson and Bernstein, who enter the scene as a merely decorative -! "thumb", while nobody of course no one would imagine that it is one or the other would have made the child (although both have well advantage. . .).

The analogy with "the Patterns operation" is truly breathtaking! While the authorship of what Poincaré present as the "non-sense" to all comers on the grounds was too notorious even (and especially early 70s) to give taken maneuvers, there were **two crucial aspects** of yoga reasons who had never even been a single published online, were it in allusive form. One of these vovets, the "yoga of weights" had been appropriated by the Mega-father in 1970 without the shadow of a ride - this which had been retracted was anyway as "speculative" and no better than a hint of pure form. The other side was against a fully developed, nothing conjectural for once, as soon the second half of the sixties. A vague student dropped a bit was supposed to make a presentation at least startup mechanism of Yoga - technically somewhat daunting task, but (until about the timing of the "death" of the natural father and undesirable, at least) seemed rather overcome the unfortunate.

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It was this student, so Saavedra, who was the surrogate father just found credible enough, thanks
p. 1173

the interim bail of one who remains in the wings to take the consent of a Congregation just waiting to forget the one to be forgotten; but at the same time (and that is the interest) that "father" -There clearly do not "weight". In time, the idea would never occur to anyone, and probably Saavedra less than anyone ⁹³⁸ (*), to advance the supposition that he could be the father of a new philosophy - assumption simply grotesque to little we did was stop there though only for a moment. . . Right here, evacuation of surrogate father, who did his time is done only ten years later, with the publication memorable LN 900 in 1982. It must be said that between 1972 (before implementation of the "surrogate father" in the operation I called "patterns") and 1980 (appearance of surrogate father equally angel in the operation IV called "the unknown service"), water had passed under the bridge, and there was no place to go yet the bush! Remarkably, here too, introduced a "co-presumptive father and pure form" for make the transition "smoothly" (without anyone having the air to emphasize) between the paternity substitution (polichinelle of authorship, in short...) and **true**. And I am sure most Milne has not seen invisible son who maneuvered the way to another, that Beilinson and Bernstein do is bother to the see. Everyone had his crumbs, and everyone (at least those who have a voice...) Is reason ⁹³⁶ (*) (June 16) It would seem that the initiative of pickpocket operations on the work of Mebkhout back well in Entre taking Kashiwara, and this since 1978, just months after Mebkhout has communicated its Chapter III of his thesis he had just finished. On this subject the note "The Mafia" part (b) ("First trouble - or big shots from beyond the Pacific"), notes b. p. (*) P. 1060.
⁹³⁷ (**) (June 16) In fact, it is already beginning to show the tip of the nose two years before - see previous footnote b. p. The episode March 1980 is the seminar Goulaouic-Schwartz, referred to the city note and in note "Carte blanche for looting - or works High "(n ° 171 4 particular pages 1088-1090).
⁹³⁸ (*) (16 June) the term "market" that had to be concluded between him, Saavedra and Deligne (temporarily) in the wings (loan to reappear when the time was ripe. . .), The "part" of Saavedra was a state doctorate in pocket and notoriety Relative gained an author of the prestigious series "Lecture Notes" - which would give the start to a career in his country, far from arid prosecution mathematics he did interviews from afar. . .
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to be fully satisfied.

All this made me also resonger tonight in the third major transaction for the direct benefit of "future Father all-out "operation" Cohomology spreads. "I had been convinced earlier that motivation tion of this initial operation ⁹³⁹ (**) was about the ownership of a certain **formula fixed points** , the fact that we could have some "formula of L-functions" to unwanted fatherhood as a co-trivial rollaire of said formula. The trouble is that the trace formula in

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question was tainted with the **same** p. 1174

unwanted fatherhood. Fortunately, there was also an alternative father, a good friend to him (Verdier not to name him), who had in fact two formulas, one too broad (but heuristically crucial), the other a bit skimpy but still sufficient to "cap" what we wanted. But buddy or not, it is certainly neither the friend nor the undesirable deceased, who is **the** "father" appropriate here when he comes to of the formula-key for "**the**" famous conjecture ⁹⁴⁰ (*). Given the notoriety, alas, in the formula of L-functions and its unfortunate paternity, the delicate point here was not the boyfriend (with friends we always end arrange ...) but the deceased. To make matters worse, his demonstration of "corollary" was published black and white in a Bourbaki seminar in 1964, but at some point (hopefully) or routine cases (Uh sorry, the crucial event, I meant!), This formula (or trace formula is kif kif, but that it important not tell. . . ⁹⁴¹ (**)), had not yet had time to be verified.

Here, the manipulation was to use the buddy in question to father figure of his ultra-formula (Which was not the exact truth, except that only he never bothered to prove it ...)

but by sliding the Band confusion with the formula **explicitly** demonstrated by the bulky deceased (formula that above all it is not hinted at any time) and **débinant** ultra-formula (As speculative, incomplete and, frankly, useless). This was a way to drown a fish, and remove all the reader want to go look in a seminar SGA 5 (which makes it also a have to "forget") what he would say on the matter. As the explicit formula (a little skimpy on edges, but perfectly valid) buddy, by mutual agreement there is no question, either, except an ambiguous reference and pure form, drowned at the end of a text stringy and discouraging in the extreme, no player in the world will have had the courage to read to the end. So we can say, in summary, that the "Surrogate father" (Verdier in this case) is reached, but not by tacit agreement for a "Fatherhood" on a result (that of

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deceased) that this is **to retract completely** , by connivance p. 1175

rather interference-débinage play two "children" that he is indeed the father, just to retract in the melee the third child of father unmentionable him, orphan that nobody comes, or especially not cares, to find ⁹⁴² (*). In this manipulation, Illusie plays a supporting role, somewhat similar to "Presumptive co-fathers" of now - except that its authorship, nor that of Verdier is supposed to no time focus on the sacrosanct trace formula **for Frobenius**, the only one that matters and reserved (With all the dexterity that is needed, certainly) the only Deligne, but as it relates to the unspeakable child it is retracted - what Illusie collaborating with this exemplary devotion that characterizes it.

⁹³⁹ (**) Reference is made to the group of notes "The formula" (n ° s 169 5 -169 9). The initial intention was considerably later expanded -

see in particular in this notes, "In Praise of Death (1) - or compliments" (n ° 104) and the note "Jewels" (n ° 170 (iii)).

⁹⁴⁰ (*) This is of course "the" conjecture of Weil. On this subject the note "Conjecture" (n ° 169 4).

⁹⁴¹ (**) These two formulas are actually each immediate corollary of the other. As my authorship on one (formula functions L) was known, Deligne was fixed (in the text having memorable name "APG 4 1 2 ") to present it as a corollary to

the other, by making more impossible to give the appearance of being the father of the latter, by sleight-scams tricks infinitely more difficult, as my modest demonstration (and set out the key) to said formula. See the group of formulas already city, for this probably unique feat in the history of our venerable Science (notes n ° s 169 5 -169 9).

⁹⁴² (*) See note on the subject "The magicians - or formula soaring" (n ° 169 8) - and also note b. p. (**) page 1121 to note "The family album, showing how the retraction-envolage efforts of good Samaritans and Deligne Illusie were successful.

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18.5.9.5. e. Monsieur Verdoux - or cavalier

Rating 176 5

But I would still return to the "thesis" of Saavedra. It was around the time of my departure mathematical scene, beginning in 1970 (if I remember correctly), that Saavedra had finally mine really "hang" at work, after a year or two during which he did not seem too decided.

He told me he had cleared a formulation and a demonstration of the initial statement that I had him proposed, so as to apply to the case of a base ring **k one**. It even made me a sketch demonstration, I had to listen to a somewhat distractedly. Substantially all of my energy was occupied by the mutation in my life I was then experiencing. Then without thinking to check with care that Saavedra told me, I felt that he had finally started, and he was able now fend for its own. Maybe I was in a hurry to take rief desires

for reality, at a time when my availability for a true direction of research became almost zero ⁹⁴³ (**). After that I have not had any sign of life from him, as far as I remember ⁹⁴⁴ (***) . I presumed until the last week he had to have done the minimum program I him had proposed, and just a little

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beyond perhaps by treating the case statement (from what I had Deligne p. 1176

wrote last August with his annotated bibliography on the grounds).

I have only just noticing **that it is not so**. The unfortunate found means, after three or four years on the subject of making a mistake in the **definition** of what he calls "category tannakienne" (defined by intrinsic properties, I hear ⁹⁴⁵ (*)), it was about to prove it implies the description "Galois" in terms of representations of a suitable spray. Theorem 3 he states in the introduction (the introduction where he is supposed to at least **outline** the four theorems critical theory, as I had given him) is **trivially false**. Deligne and Milne are pleasant duty to report the error monnumentale, offer as "new" definition of categories studied the description in terms of sheaf (which is obvious a priori that it is the right, even change the intrinsic description needed ...), and seriously questioning whether the definition "Saavedra" (once rid of the silly mistake) involves much "theirs" (sic) ⁹⁴⁶ (**) - which was exactly the subject that was supposed to be the thesis of Saavedra!

The situation is pure father Ubu! And this thirty-six ways at once. So, what was the subject of work offered to Saavedra, the only party seeking an original contribution, however modest it (clear the good intrinsic conditions for categories Galois Poincaré on such a general base ring that possible) was not treated in the same case (which I believe have long treated ⁹⁴⁷ (***) at the time meet Saavedra) where

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the base ring $k = \text{End}(0)$ is a **body**! The work "thesis" Saavedra p. 1177

therefore consisted, precisely, copy piously part of the theory (beyond the start of Yoga

943 (**) In comparison, at least, with availability that was mine before I left; but not with that I can find in most of my colleagues, assuming research directions.

944 (***) My memory serves me a tad here - see footnote ^o 176 7 for unexpected revelations about it.

945 (*) The error comes from the fact that there was confusion in the minds of Saavedra, what I meant by **base ring** a tensor category; is not any ring against which said category is "flat", and the tensor product either "bilinear", but the canonical ring End (1) (where 1 unit is the object of the category). As I have explained to Saavedra BABA theory, there should be so much "not in the know" that it had to pass him completely over the head and sink into oblivion. Deligne, who seems to have more or less my estate to Saavedra (with visibly his idea behind the head ...), was careful not to make him change course. This allowed (ten years later) to discreetly apart Castle Saavedrien cards, and appear as the Savior and Angel (again) like Father true that everyone was waiting for. . .

946 (**) Loc. cit. page 160 (I am not making!).

947 (***) It was in 1964 or 65, so seven or eight years before the famous "thesis" -SiC Saavedra, and seventeen or eighteen years before a tandem-Deligne Milne accoure to the rescue **not do** , either, this modest work-out - the only work "Original" which I had expected from the most modest of my students. . .

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grothendieckien), above a basic body, which was already fully completed by me, and to present, instead of work that was a prerequisite for everything that was to follow, a definition and a cannulated "Demonstration" a false theorem, demonstration reducing (as Deligne is committed to report - loc. cit. p. 160) to a single vicious circle!

That©not all. The thesis does not hold - and the thesis jury sees nothing! We must believe no member has had to take very well what it was. But this has no incentive to make me sign that there is at least one among them who is able to give serious a valid deposit of work they were doing seriously undermines judge ⁹⁴⁸ (*). If the defense has yet taken place, and without me partner, it has hardly been possible thanks to the deposit of Deligne, which (as the thanks of Saavedra the leave to hear) had to follow so little work, once I had virtually disappeared from the stage ⁹⁴⁹ (**).

It also seems to me inconceivable, therefore, that Deligne will not be preview of this error, it I know alertness and acuity down to the smallest detail - and there is no question here of "small detail"! Of course, I had told him in all its finesse yoga which I had succeeded, and it is simply not possible that among the first things that I explained to him, there has been this against-example he and Milne pretend to get out there as the latest addition, which was known to me from the very beginning my reflection on yoga (I©eventually call "grothendieckien" instead of referring to Galois-Poincaré who do not ask much. . .). If he is allowed to remain in the "thesis" (sic) his "protected" (resic) a gross error, such that they can discredit simply the "surrogate father" (All provisional) as soon as it would seem appropriate to him, it is certainly not without good reason. The reflection Yesterday makes them also very fairly obvious.

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What can be said I affabule, and that "help and advice" which makes Saavedra state do not involve ^{p. 1178} Deligne necessarily that took the trouble to read with so little care the four statements from the introduction which summarize the bulk of the theory ⁹⁵⁰ (*). These statements were of course familiar to him long before the knowledge of the person concerned would have been so simple lightness, endorse a work without taking at least worth checking out, just for a quarter of an hour, correcting the main statements announced in the introduction. But in fact there is no doubt in my mind that Deligne has indeed had to take this barely-there. This work, in fact, **was not any work** submitted by a student lost a tad and bad thesis. Deligne was best placed after me (and before Serre again) to feel the full scope formalism that was presented here as forming a crucial part of the unwritten legacy (or at least not published) of the deceased master. If he has more to it, of course, to take in respect of this component its jaunty air usual ⁹⁵¹ (**), basically he knew better than anyone what it was. If he, the brilliant Deligne, elitist excessive, took the trouble here to follow someone working who obviously was poorly endowed, it is certainly not for the beautiful person©eyes and in order to help him get which according current consensus (and even more, according to the requirement criteria pushed to their extreme degree, he is proud to profess) is a **bogus argument** .

Once released this word, we are confronted immediately with a strange contradiction. First, if an error

948 (*) The composition of this lamentable jury will also end up being unveiled (the reader who has resisted so far) in note 176 final 7 ©"Sixth nail" in my coffin. . .

949 (**) This sudden interest of Deligne for an obscure student evil thesis has also made its appearance, one wonders why, after the death of the natural father (and undesirable...) of the theory that the said student (visibly overwhelmed by the task. . .) Was supposed to expose.

950 (*) Apart from the results of the filtration fiber functors, more technical and discomfort to compress into a single statement

striking.

951 (**) See, on these tunes, and ownership they serve technical note "Ownership and contempt" (n ° 59 ©
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monumental, in someone who is supposed to have invested full-time in the subject for years, he is hard not to interpret it as a sign of inability land - it would seem that the same problem which lay, even in its purely technical aspects (which was not rocket science yet) had any just not yet seized at the defense, and in the publication of the book in question. On the other hand, the same student, after a year or two past me without doing much, suddenly acquires less two years, a mathematical culture can rightly seem impressive structure theory algebraic groups, both in the general body of the

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field of real, stranded patterns theory

p. 1179

zinc, Hodge theory, patterns. . . Not only that - but then I do not remember having read a text mathematical written by him, if only a few pages, and knowing full well how (especially for students of modest means) it is not obvious at all to learn to write the math - I was struck, browsing the book published under his name, his "dress" of exceptional quality. Thought I had come to that, technically at least, the text, which apparently is a reference text the same standard, as are EGA and SGA texts have been written by my hand, or that of Deligne or among the four or five other students that I had, all remarkably gifted, who are experienced in the task of presenting as accurate, complete, and elegant set of ideas and facts and nested complex. I know very well that even less than mathematical, such editorial virtuosity is something that is improvised (except in beings with exceptional gifts, as well Deligne and a few others), and it is acquired (when ends indeed by acquiring) that after long years of practice. I set myself ten years to acquire, while yet the contact I had with the substance it was expressed, was very strong. This contact has been no common measure, certainly, with that of Saavedra for his thesis, still not understood after writing on this theme which proves to be yet (at least until 1982...), **the** "good reference" for a delicate and formalism crucial. Certainly, there are two things there that simply "stick" not with each other. . . The thought that had touched me since last night, and now back with the force of evidence, Once I bother to tell me the location black on white, is this: it is unthinkable that Whether Saavedra, that I knew well and whom I know very well the possibilities and above the limits - it is unthinkable, on reflection, whether indeed he the author of this brilliant book, putting in his appearance exclusively technical but it is true in a way (on that front) and complete to the nines, bases a "philosophy" that exceeds the full, maybe the first three chapters, two of which consist especially in generalities functorial everyone already knew, and the third shows the fully cannulated version of Saavedra of the central concept of the book - so that these chapters were supposed to be the "minimum program" that he has never accomplished - perhaps those are they fully hand Saavedra. All cannula that is the central chapter III, simply nevertheless

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give an idea of what

p. 1180

what we wanted to come - namely, the vision "grothendieckienne" (not to call it), or "gerbienne" © certain categories, vision gives meaning to subsequent chapters IV to VI. Once admitted description by sheaves (wisely taken as a **definition** of the so-called category "tannakiennes" in the Text doubling pirate Deligne and Milne), it is these three chapters are the heart of formalism that it was appropriate. I presume that these chapters were written in toto by Deligne or maybe partly by it, in part by Berthelot; and this in a much more detailed than the notes I had spent Saavedra, so he had practically to copy them verbatim, if indeed we even asked him to take the trouble to take this step one. It should feel "win" because it made her "gift" of a thesis and the title to the key, then it was good to feel that what he had done himself (and by being illusion that it stood), it was probably a little thin for a thesis

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of state doctorate. Deligne and wins (still disguised as a Samaritan...): Here the reference was needed otherwise for immediate least for "later" (for those who wait...), and where the unwanted name only appeared more, for all practical purposes at least.

To the joy at its height, I add that the named Saavedra seems to have disappeared from circulation

without leaving any trace. Last year, in anticipation of sending (I saw imminent) copies learned and paperback and all of Crops and Seeds, I laminated in the International Directory of mathematicians, which is big yet - everybody is (and the book does just that), with the sole exception of yet the person, which is not listed or under Saavedra, nor under Rivano (or even under Neantro, I looked to salve consciousness). So, the story looks like a dark detective story. One shudders to imagine the Deligne smiling and affable, as a second Monsieur Verdoux (aka Landru), once achieved his torturous fine with that "good reference" at will (four years before that of his friend Verdier! 952 (*)) - one shudders, I say, make light disappear "exhibit" of his diabolical machinations, namely unhappy generous Neantro Saavedra Rivano in person, making the long calcining in a tidy stack of Ormails 953 (**), specifically designed for such purposes.

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I reassured myself that I had not heard that Kashiwara or Verdier have disappeared from this page. 1181 world - to be honest, I got it in the end not later wire before yesterday again, asking him (Without much conviction and without success, to me it seems) he could not give me news of a other "disappeared", which everyone talks about and nobody apparently has never seen - I mean, the thesis of Jouanolou. I still do not know in this thesis more about that, but it seems at least that Verdier is still alive, while "exhibit" it - and I am confident it is the same for Neantro Saavedra Rivano.

18.5.9.6. f. The dirty work

Rating 176 6

With all that, I have not even finished making the turn still ubu aspects of the history of the thesis Saavedra - definitely I collect, theses and thésitifs like no other! There I came to the presumption (not to say, firmly believe) that if Deligne (assisted by a colleague and eager volunteer) did mine severely copy thesis Saavedra decade after the defense of it, he did probably done where "back" what he liked her "pay" for a time (the time for Saavedra spend his thesis and disappear), and that it was therefore here a just reward - except that that he had "lent" for a time, he had "borrowed" the deceased never named. But as it is not make use of the dead what they borrow (it would certainly more than that!), everything is for the best, on that side too.

The best part about it is that even after a second former student has passed by (the brightest of all that I had, to boot), the humble problem I had given to Saavedra, who was My starting point there are more than twenty years and the first thing I think I resolved from that moment in If the ring defining the proposed \otimes -category is a body - this problem is still humble

952 (*) On this, see note named (just as) "The good references" n ° 82.

953 (**) "The Ormails" is the name of the residential part of the IHES (Institute of Advanced Scientific Studies), where the friend stone - alias

Monsieur Verdoux-Landru alias (and disguised as a cavalier) took the point sequence named a deceased ousted instead and sent into oblivion by the kind of blow-mine-de-anything which my friend has the secret. The residential part is in ten family houses, and a larger building consists of comfortable studios, which will soon Surely, too, to have each his small single chimney all uses. . .

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not "solved" at present, even in this case! Deligne was content to raise the gross error of Saavedra (surely marked for over ten years, but he bided his time...). He did not care, all copying 128 pages

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the previous reference text, to repair the error. Why would he give p. 1182

that sentence - while the aim was clearly achieved! It would have required that there be present in him, in this operation, **something** that the only cravings of ownership, but an interest aroused, a **respect** for the mathematical substance he treated, and a vision that goes beyond the prospect of "winning" immediate.

If I took the trouble to 64-65 years to reach a yoga "grothendieckien" for \otimes -categories be represented in terms of "algebraic sheaves", instead of just going to those who can describe by a group scheme, it is because in the example that I "motivated" the more, the patterns on a body, he was well known (by a simple argument Serre) that when this body is for. $p > 0$, there no fiber functor "rational Q" (or even R). This **forced my hand**, then, to express theory in terms of something as "not serious" than the formalism of sheaves and links, and even time of course, to find the intrinsic criteria of simple algebraic in nature, ensuring that this vision "Galois" or "grothendieckienne" walked almost "always", and in any case, at very little cost. The characterization that I had released (and, if I am not mistaken, proven), by the existence of a fiber functor an extension of the field k of the basic body k , is still not established in the literature, twenty years later!

Even today, in terms of what is written by the care of Saavedra of Deligne and others, even admitting anything you like on a formalism of "motivic cohomology classes" over a finite field (Say), it is still not established (not in the literature, at least) that the category of semi-simple patterns (Say) on such a body is "grothendieckienne" (or "tannakienne" as these gentlemen say). This 418 + 128 = 546 pages of text, from the pen of Saavedra (assisted by Deligne and Berthelot) and then Deligne and Milne, and all for not even get to clear what was my starting point there twenty years, convincing me that the "motivic Galois groups", **it existed** .

Yes, Deligne why would he give this penalty, although he had long forgotten the vision, the credit he sought was acquired anyway, and the body on which he worked for

his theory of motives (which has nothing to do especially with that of a deceased ...) are all body characteristic zero - so that his famous so-called category "tannakiennes" are all "neutral" (or "Trivial"). At this rate there, it was certainly not worth making a salad on the sheaves

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and others,
p. 1183
which therefore is no more than window dressing. It was not worth it, if only **to appropriate Letter something we forgot the soul and spirit.**

And I see that the epilogue of this époustouflante and lamentable story is that just like the Baba's vision of the reasons buried for fifteen years, it is still crumbling, barely finished making round brilliant Burial and his prowess, is going to hit this small job then none of his students after his "death" has not been keen to do. Because it's a long time that they are too busy to play masters, to still have time, if only for the space of a few days to be as **servant** 954 (*).
954 (*) I was a little hasty here, pretending to put all my students in the same bag with the brightest of them. In advance, I apologize to all those among them who do not feel flattered to be in brilliant company! I'm happy Anyway to remember Giraud, tapping his work (which fell on him unexpectedly) to read the thesis Contou-Carrere, in terms of "service" for sure, vis-à-vis Contou-Carrère and to me at least, and perhaps also vis-à-vis the mathematical community; see about the last paragraph of the note "Jesus and the Twelve Apostles" (n ° 19, page 151).
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18.5. THE FOUR OPERATIONS (a corpse)

18.5.9.7. g. Five Theses for a massacre - or filial piety

Rating 176 7

(June 19) It is now exactly two months since I started, breezed to write notes above (19 and 20 April), with the name all found "The Sixth nail (in the coffin)" (n ° s 176 1 to 176 6 , besides it, part of the batch). Zoghman Mebkhout had brought me Saavedra book the week before - and it was enough of a look to make me what it already has returned.

I must admit that this discovery was an emotion, hardly less than that of "memorable volume" exhumation of reasons (Lecture Notes n ° 900), a year before to the day. Rather, the emotion of the year last reappeared, somehow, unexpectedly revived by the discovery of an "operation" intimately linked to this exhumation; an operation (it was immediately obvious) that had prepared, and a scale any comparable. I was struck then again, if not suffocated by that sense of quiet impudence - **the same** impudence (it also was clear from the outset by many signs that do not lie) is taking to something closely related to me, something that no other person in the world that I had long range and nourished. . . This was so strong, the same limit of anguish, I've been there myself surprised.

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The spontaneous reaction, and the natural outlet, would have been to do as last year - saying my emotion p. 1184 while it was fresh, and thus get to the heart of this new component to my Premature Burial by those were my relatives. I restrained myself yet 955 (*) because I needed a minimum of availability to visit Mebkhout besides he had things to say to me that I felt good, even if they did not touch me as neuralgic way, they were just as "hot" for him, all cases, and equally significant for Burial. Moreover, it seemed important to note these things I had learned by him and who were still familiar to me, as they were fresh in my mind again - as the ins and outs around this famous book-burial were not likely to escape me, even putting me only later. Therefore, the day after the departure of my Friend, I started (from 15 to 18 April), the story of his misadventures, the group notes (n ° s 171 1 to 171 4) forming now the end of the Apotheose.

This means that before coming to the famous "Sixth nail", I had time to re-enter it. As a matter of fact, retracing the instant the first pages, I find traces in my sarcastic description (and a tad remote) of the new pot-aux-Roses, emotion that had first attacked me, to the point of making me spend white night, at a time when I had yet much needed sleep. For once I felt, yes, the

"Weight of the past!"

It was June 10, three days after having put the famous "end point" in the burial - which suddenly cycled more beautiful! Of course, I had no idea myself how it was restarted - that there even three hundred pages (pretty much) that remained to write! When I finished with the sixth Notes ("the dirty work") forming the "Sixth nail", I thought well have done the trick, and "Four operations" also at the same time - apart from a dozen pages (for III and IV operations) to retype the net and add the footnotes provided page. In a few days I thought I could entrust the strikes the entire manuscript of Burial III.

Yet from the days that followed (maybe even the next day or two days after I had grown finish with the last "nail") there was an unexpected bombshell, where it remains for me to return. Again, my spontaneous movement would have been going to start right away. If I waited two more months 955 (*) Still, I wrote four or five pages in the emotion of the moment, but it remains little trace in the written text nine days later, on 19 April.

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before doing so, it is not that the desire was missing in me, certainly.

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But there were things more pressed

p. 1185

prepare for the strike. Rereading the four operations since the beginning, it was clear that there was great needs to develop further here and there - and the rest is history!

Still today (unless new unforeseen yet - touch wood) finally is the day pomp where I put the real end to the Burial, practically speaking I hear: that I write all last pages, supposed to be part of my thinking about the burial, in all crops and Seeds at least. After that, it just remains to write this "Letter" which must take place foreword for Crops and Seeds - then I think taking a few days off, well deserved and I@ more well need. . .

A few days after writing the previous six notes, I learned of the composition of the jury thesis Saavedra - the jury I was covering well deserved sarcasm in the penultimate note "Mr. Verdoux - Or cavalier "The thesis was defended February 25, 1972 at the Faculty of Science of Orsay, a front panel formed by **J. Demazure** (reporter), **Castelle** and **A. Grothendieck** . For a "bombshell" was a bombshell! The coronation of Ubu! I had also the hardly believe the official source of information, while I had not kept a shadow of a memory to have attended such a thesis defense. Certainly, the history of Monsieur Verdoux-Landru is corsait again ! I phoned at random to Demazure, if he remembered me with being part of a thesis committee called for Saavedra. Demazure could not remember much of anything, either, but still enough to ensure that the defense had actually taken place (he would most certainly too able to say when and how), and that there had been one and the other, in addition to Castelle (which I did not remember not even the name. . .). It does not much knew, if only he had been rapporteur thesis. It@me who I taught him that the thesis, officially, would have been a 25-page text (which had to assist him his work as rapporteur, I suppose). So it was he who was surprised. He promised that he would deal send me a copy of the thesis. It would have me very interested to know what she looked like, but I still waiting - apparently (from what Demazure finally told me a few weeks after) this thesis would be found; perhaps he has not worked hard. Still, no more than me apparently it has trace in his papers. But that is a detail. . .

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So, I end the air! With hot sips that I had paid on this jury, apparently

p. 1186

inept, "making learnedly mine to judge" a work he "did not have to enter very well what it was!" One can imagine that I had a mad desire to repackage these taunts to save the furniture in short, keep holding - and then not, it would have been cheating. There are already enough cheat like that in all this Burial, without my even put mine. Again, these taunts were entirely justified. Now that I know the composition of the jury, I can even specify that it@me, above all else, that have fully deserved the sarcasm. After all, they had to remember especially Demazure and Castelle is this thesis, Saavedra had prepared me, or at least he had started me on a subject I had given him. It was I who was supposed to be in on it, and them they trusted me. If anything finds these famous 25 pages Demazure which is believed to have been the rapporteur, they perhaps stood - and even if the same monumental blunder was there, in a simple summary of theory, which was not Demazure in the game and who trusted me, had no chance to notice.

As for me, who had virtually stalled math for two years, except for my classes, this defense I expédiais there breezed surely, between a course in Orsay and a meeting Surviving and Living or some public discussion (if it is) on atomic waste stored nearby (Saclay), it

18.5. THE FOUR OPERATIONS (a corpse)

Saavedra followed the work of the past two years, no more than anyone else - and I had no doubt that the work of Saavedra was standing. I can not say more exactly where I had got this conviction. Unlike all the other students that I had had until then, I had no direct presumption by previous work with me, the seriousness of Saavedra. Would I took my university assignments in these time there, so much so lightly, I would have trusted him on his countenance, so to speak? If the text of the book (Released the same year), the 25-page thesis is perhaps a summary, was ready at that time and I used to get an idea, it is true that "at a glance" it presented so well that the idea is perhaps not even occur to me to check some of the work that was supposed to be the contribution Personal Saavedra. It is also possible and even probable (but I have no memory about it) I am trusted me with the opinion of Deligne, that after my departure had followed the work ⁹⁵⁶ (*).
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In one as in the other case, I must admit that my responsibility is engaged in the same ^{p. 1187}
As for having awarded the title of Doctor of Science in light of a thesis that, twenty-three years later appears as a **thesis cage**, in the words of the note quoted above. But it is not that I was myself and to my knowledge an instrument in this deception, and it bears responsibility for giving my deposit (lightly), which removes provided his trickery character. It appears only especially great. After all, the true motivation (for the one who pulled the son) was certainly not allowing a wave PhD student in distress to have a title with it, before changing profession and disappear behind the scenes - but someone not lost to appropriate, and gently casually, fatherhood over a vision born in me and eventually reach before he even heard pronounce (mathematics) words such as "spray" or "pattern". It is thanks to my sudden activity and intense for the survival of the species and other fine causes more urgent (including the same former student and friend told me to have to outrun, because of its sole and absolute dedication to the only mathematical ⁹⁵⁷ (**)) at a time when my energy was fully absorbed elsewhere, my great friend and pupil has achieved what truly unique conjuring trick, to make me the instrument of my own dispossession! In the provisions where I was then completely disconnected from my old math interest and making a blind trust those among my students, Deligne in mind that since the end of the seminar had already SGA 5 started playing a little game in their own way, any name (for example) might have concocted for his famous categories that I did not remember that far, I would say yes and amen! As I said yes and amen to Verdier announcing that there would be no book about homological algebra new style, or Deligne announcing that half of the seminar SGA 7 we had done together would suddenly change paternity. . . But the fact that one who paid the price of a scam operation there agrees benêtement, and without suspecting anything, does not change the nature of the scam, if not it doubles as Abuse of confidence. And the fact that the Serre and other omens are there, too, their account and give them unqualified blessing ⁹⁵⁸ (**), gives the thing a dimension
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unusual - that of corruption of an entire ^{page. 1188}
environment and a time - without the Honorable make any great she is, or remove him one iota of its indecency.
As theatrical surprises jerks never come alone, just a few days after having the revelation of the composition of the thesis committee of my former student Saavedra, I also got the information idoine for Jouanolou thesis, a thesis a bit special too, which I have had occasion to speak as ⁹⁵⁶ (*) I do not even remember that Deligne was busy work Saavedra. This is one thing I learned April, looking at the introduction to the book of Saavedra.
⁹⁵⁷ (*) See the note about "brothers and husbands - or double signature" (n ° 134), including 614-615 pages.
⁹⁵⁸ (**) See, for this blessing more explicit, the note "Family Album" part. ("The Burial - or slope naturelle").
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little bit here and there in my thinking ⁹⁵⁹ (*). Nor Saavedra, he had never bothered to send me a copy of his famous thesis ("everybody quotes (from the colloquium Perverts) and that no ever seen"), so I ended up writing her a letter a little dry (April 25) to ask him some number of questions about the strange vicissitudes of this thesis. He replied almost by return "May 1, evasive to questions of substance (as it was "still very sore back about the past"), but by against information could not be more precise at the coordinates Administrative: the thesis was July 3, 1969 to IHES (Paris), before a jury presided over by Fr.

Samuel , with as examiners **J. Dixmier** , **A. Grothendieck** , **JL Verdier** . My correspondent adds, with a hint of malice: "As far as I could tell, all the board members were present!" (thing me also confirmed by JL Verdier, I got a phone call about it shortly after). Again, I did not have a shadow of a memory of this thesis then of defense, who obviously had done Also on the sly (and sorry to degrade my brand!) 960 (**). If I thought the defense had made in Strasbourg (and this defense Plaçais due early seventies years knowing that Jouanolou was a post in Strasbourg in those years), it is probably because of a reference cryptic JL Verdier that argument (in a presentation Bourbaki February 1975 n ° 464), cited as "JP Jouanolou Thesis, Fac. Se. Strasbourg "(without date or title) Yet it was part like me the jury. - Would his memory as faulty as mine, or rather, capricious, placing the IHP

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(Henry Institute

p. 1189

Poincaré) where the defense had made in Strasbourg? Figure it!

This same Verdier was also kind enough to send me his own copy of the thesis. I thought

First, looking at this package of 208 loose sheets 961 (*), it was a photocopy of a draft,

I rappellais I also have myself held hands and commented out in detail, the

Jouanolou time when working with me on this thesis would not stop hanging out. But Verdier me confirmed that it was definitely there the final copy of the thesis unfortunate that apparently never was honored to be drawn more than three or four copies (mine, with my annotations, had to return the hands of Jouanolou, and I have never seen. . .) Or be pinned.

Explanations a bit more detailed as Jouanolou kindly give me afterwards (in

a letter of 3 June), plus the call to Verdier, allowed me to give me a little in the bath of

situation. Jouanolou had come, obviously, to a "saturation point" for his thesis, he

had continued without conviction since the beginning (but not that I care to go clear account

the situation 962 (**)). In 1969, he had arrived at a locking point where it would have been unable to resume work so slightly, to reflect my many observations. I then had to go

obviously and "let it run." Anyway, it seemed, in retracing it again, that the text

represented a work setting seriously and usable form, although it is far from perfect - it was clearly

better than "better than nothing", and could pass as providing a text indispensable reference in

the absence of any other that would have me completely satisfied 963 (***)).

959 (*) There has been talk of this thesis in the sub-grade n ° 85 1 (p. 349) note "Solidarity", and also in the note "The heirs. . . "(N ° 91) p.387- 88. See also the "Student and Program "(n ° 25).

960 (**) The thesis defense is placed at a time, I think, where I already had just "get" math to get interested in biology (and more particularly, molecular biology).

961 (*) In the Service of the Theses of the Sorbonne, there is a thesis submitted 215 pages - apparently missing six pages to copy Verdier. If it is, the copy filed Audit Service is the complete one that exists in the world - and figured over the market are we assured me. They must have a service pin for child records found that arrive in pieces spare. . .

962 (**) See the section quoted above "The student and the Program", n ° 25.

963 (***) Anyway, it's still the only text in the world that presents the theory of the coefficients l-adic version derived categories - and found a text on top of it, to bring joy to its height. The saw went through

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18.5. THE FOUR OPERATIONS (a corpse)

Of course, the idea would not come to me ("even in dreams") that Jouanolou take his revenge for his way, the lack of conviction with

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which he continued this work with me, scuttling himself p. 1190

and erasing virtually every trace of that famous "reference" I wanted so much to have! This again

a "return things" which I would be unsound to complain (as the desire not miss it!). In

my relationship with Jouanolou, which was important to me was to find in him "arms" to push the

wheels of a trolley of imposing dimensions. I counted as a foregone conclusion that he, Jouanolou,

was involved in my plans, but I think at any time to stop the insistent signs

Yet that showed me that it was not. It is true, certainly, that Jouanolou himself had

chose to come work with me (he had to find his account to work with a "boss" prestigious, without

suspect in what he promised ...), and it was he who freely chose their topic work among the

wide range of subjects on which I was willing to support him (all topics related certainly to the same "chariot" which probably, in fact, did not say anything worth it). To put it differently: as each was Jouanolou

dealing with some contradictions in himself, at his own desires and choices in his

work in this case.

My own contradiction did not place in my relationship to my work, but in such polarization

my duties, I was unable to see my students anything but welcome arms and ima- me
giner none of them can be divided in the work he was doing with me. With the additional decline
that gives me a long reflection on the burial, I realize also that was far Jouanolou
being the only one of my students to be "divided" in one way or another, in this work. But it is
an extreme case, since it is the only one among them who was not able to identify with the task he had chosen, and
whose work will be done without conviction and without joy. My responsibility in this situation is to have
not consented to take really knowledge, preferring to what should be accessory (the accomplish-
ment of my tasks) **before** what is essential (the task "chosen" by the student is truly **hers**
also, and continued with joy).

Therefore surely Jouanolou is also the only one of my former students that he arrived to collect me
a grudge (who never said his name, certainly). Cultivate such bitterness is an outlet and a derivative, which
is unhelpful certainly, if not to evade its own problems (and we rarely seek further). it
Nevertheless it is based, and I do not complain to me if today (twenty years later) I harvest
some fruits.

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To find myself faced in quick succession, there are less than two months, with unusual episodes p. 1191
Saavedra's thesis and that of Jouanolou, made striking for me this thing, just interview
in the first part and Crops Seeds; that even before my departure and in the years that followed
immediately, all was not well (as I thought as a matter of course!) in my
students and me. Thus, among the twelve theses that were passed by the students who have worked with me
level of a state doctorate, **four** of these theses are flagrantly, the "thesis of
Burial "Master! They follow over a period of five years, between 1967 and 1972, and two of these
theses Burial place before my departure. The first is that of Verdier in 1967, reduced to a thesis
summary of 28 pages, a prelude to the burial of the new homological algebra I had introduced, and
Verdier had undertaken to develop. It was discussed at some length already 964 (*), for
it is unnecessary to return again. The second is that of Jouanolou in 1969, which enshrines the funeral
formalism of the l-adic cohomology, from the point of view (obviously crucial for les six operations) of
the. . .

964 (*) See in particular, about the notes@redit Thesis and comprehensive insurance "and" Glory galore - or ambiguity "(n ° s 81
170 (ii)).

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derived and triangulated categories (why Verdier was supposed to provide basic reference). The third
is that of Deligne in 1970 (?), brilliant thesis he was deeply rooted in the ideas he also
took me 965 (**), without my name will be pronounced only! The fourth is the thesis of Saavedra,
he just discussed at length, where another alleged that the author 966 (***) sets, with the mastery
Technical we know it, ideas and

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results with a third on the Galois group Motivic (via

p. 1192

complete theory of the so-called category "tannakiennes" and four!) without referring to my modest and
deceased!

The four-burial operations (which will herald the "Four Operations" in capital letters!) Are visibly
related and in many ways 967 (*). They follow in the space of less than five years, beginning the year
even after the end of the seminar SGA 5. This seems to have been the starting point and place
rallying for fossoyantes provisions in my former students, and this good since before I left! What celles-
entered prior to my departure is a remarkable circumstance about this "second level" of
Burial formed by all of my former students "before" - fact that I did not know really
yet integrated into an overall understanding. It is this "second level" which, right now, I think
the least understood of the three. But this is not the time to revive thinking about it,
Surely, the coming months will certainly bring me many new elements coming to me
of my former students themselves. At this time, it's time to assemble them into a whole picture living
the "second level".

There is a fifth thesis still 968 (***) which for me is part of the series of theses-Burial, but
thesis "after", and even ten years after the previous series. It is that of Contou-Carrère, passed in
December 1982 and more special in a way, too. It differs from the previous four by this,
the valiant efforts fossoyants Contou-Carrère, to be nice to the people who matter and make
forgiveness for having been more or less my student, did not spare him provided that Verdier (he had grown
wise to choose as supervisor 969 (***)) will make mine unexpectedly the "flow"

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without warning -

p. 1193

what, for want of better, he fell back again on me. It was not necessary that I should figure Director thesis, as Contou-Carrere had found his theme and working methods developed by its own
965 (**) This is the work "Hodge Theory II" Deligne. I elaborates on the rooting of this work in yoga reasons, in my vision of "coefficients of theories" (including a theory of "Hodge coefficients"), in the note "The points on the i " (n ° 164), especially pages 739-740, as well as the subscore n ° 164₁ (p. 805-806). As and M. Raynaud C. Contou-Carrère, Deligne chose his work themes including that for his thesis without waiting I asked him one, and continued this work completely independently, without even talking to me before it was virtually completed term. That does not stop her work (on mixed Hodge structures) is rooted in my ideas more deeply than this is the case and Raynaud Contou-Carrère, who use mainly the language and techniques that I have made, while issue pursued by one and the other is entirely original.

It is true that (as the wind blowing today) ideas gone with the wind, especially if they are not published the bargain (like Serre yet just explain it to me peremptorily, there a few days). . .

966 (***) This is at least the belief here that I arrived in the penultimate note "Monsieur Verdoux - or rider for" (n ° 176 s).

967 (*) It would be interesting course to probe further these links - but as I say a few lines later, it is not Now the moment.

968 (**) Of a total of fourteen theses made by the fourteen students (both "before" that "after") who have worked with me level of a state doctoral thesis. It did so, in the number, the more **of a thesis on three** which is a thesis-Burial - which is not bad!

969 (***) At one point besides I always thought (from what Contou-Carrère himself assured me) to be its director Official theses. I have learned of a supervisor "parallel" (in a pair when it@me who should do figure supervisor "spare" in case ...) that when Contou-Carrere was forced to fall back on me, and at the same time (because the situation had become too much, crappy) reveal me the role played by Verdier. It@no wonder with such shenanigans not possible according to over the years, Contou-Carrere has finally stopped practically still do math. It must be said that it is not the only one. . .

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18.5. THE FOUR OPERATIONS (a corpse)

means, and that I had not followed his work, and that it is placed in a context (that of schemes in reductive groups) that I was a little lost. This does not preclude the idea of starting his job, know some method of resolution of singularities "equivariantly" for adhesions cycles Schubert, is directly inspired by an idea I had explained to him in detail how (circa 1975 or 76), for a resolution of canonical and simultaneous singularity adhesions orbits, to the adjoint representation of a reductive group on itself 970 (*). Needless to say Contou-Carrère, who felt for a long time how the wind blows in the beautiful world he has a legitimate desire to access, not breathe a word of this relationship, where would we go if we put again to mention such imponderables an **idea** (not yet published), supposed to **create** another (or asks you a little...) - except, of course, when that which is honored to quote is one of those whose name raiser the brilliance of the work presented (which If indeed it is entirely superfluous to specify why it lavishes thanks, which soon when can only be founded. . .).

END OF "FOUR OPERATIONS (ON leaner)"

970 (*) I was intrigued, in the late sixties by the fine work of Brieskorn on singularities (surface) say "Rational" and their links to some simple root systems (those where the roots are all the same length), and I asked myself the question (ridiculous, needless to say) to find a direct description of a rational singularity in terms simple algebraic group corresponding to its roots diagram. That@how I came to a description simple geometric (and obvious, frankly) of resolution of singularities referred to blows Killing couples, with all a beautiful set of conjectures the key that I have a little forgotten since, and I have told in time to anyone who would listen. But as I have not published and following the new axioms that just explain kindly Serre is the first one who picks wins - and I saw also that there are who collect much like that, necessarily. It is sometimes convenient, change of axioms. . .

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18.6. The yards sorry

18.6.1. (1) What remains unresolved

Note 176

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(March 25) Last night I spent in bed for several hours to get back in the bath of "yoga p. 1194 reasons", instead of quiet sleep as I should. And yet sometimes, instead of rely on my notes, I still spent an hour or scribbling diagrams implications for conditions

intrinsic who are known to me on a cohomology class De Rham (a projective variety not a singular body since, no, say) to be "algebraic". I found **twelve** variants in Altogether, conjecture Hodge and Tate 971 (*). At the same time, I could convince myself that must have at about the hands you need to define "the" category (triangulated) patterns on a diagram finitely of Z, or at least a very close approximation thereof (assuming that this is not yet "" Good), but to that has provided a theory of "mysterious functor" I had postulated the late sixties 972 (**).

This is not the place to dwell on it, certainly. But now I see that it now or ever, given the state of deplorable neglect in which I see the motivic theme fifteen years after leaving in the bad hands, draw some lines-force of ideas which I succeeded once. I have no heart to wait again, time to find leisure (once completed "In the Fields of Pursuit") to write "The" systematic book he would write; This story detailed a dream, like first

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big step

p. 1195

the **dream** takes root, finally! in the soil formulations carefully matured (and published...), and it flourish following his own nature. Besides a first step already planned and announced for this book of "mathematical fiction", ie a sketch of the algebraic formalism duality said "six operations" I will join the Volume 3 of Reflections 973 (*) a short work where I intend to ask some questions crucial related patterns and algebraic cycles. I had trouble to see them rot in a grave, and me soon see the return to daylight and participate again with the seasons. . .

For more than five weeks of reflection has returned to the Burial, without leave. It is

probably why the thought of "orphans" left behind in a sick world, came back

lately with some insistence. The last note which deals in detail how a

orphans, is "the melody to the grave - or sufficiency" (n ° 167) on a theme close to that of

motivic thinking last night and now (which I just mentioned). That was a month ago day

971 (*) (March 27) Each of these twelve variants should lead to any basic pattern characteristic zero X, a

"Class coefficients" of a type corresponding to X (where the notion of "type coefficient" is the one discussed

in note "The melody in the tomb - or sufficiency", n ° 167). If the proposed conjecture is true, this class of

coefficients should contain the patterns on X as a subcategory (triangulated) full (conjecture none other

that the same assertion, in particular when X is the spectrum of a body. . .). For details, I refer to the part of

Reflections Volume 3 will be devoted to the theory of motives ("The reasons my love").

This also means that these twelve variants of well-known conjecture, give rise to many different ideas (a priori

at least) a notion of "pattern" on a characteristic zero. This will allow the future to eleven rivals of my friend

Stone "discover" each with its own concept of motive, while pretending to ignore those of others and especially (as

rigor for fifteen years. . .) A deceased (known for his predilection for unnecessary details...).

972 (**) This question of "mysterious functor" establishing the "missing link" between crystalline cohomology coach. p (via the

filtered notion of F-crystal, F as "Frobenius"), and p-adic cohomology coach. zero, obviously crucial issue

our understanding of the cohomology of algebraic varieties, has not been seriously addressed, nearly twenty years

after I have raised in terms could not be more clear. . .

973 (*) In the current state of my publishing projects, the first four parts of Crops and Seeds (ending with the

third and last part of the burial) must form Volumes 1 and 2 of Reflections. Volume 3 will be formed of

fifth part of R and S (read notes on the autobiography of Jung) and a number of shorter texts,

most of which were announced in the Introduction. The first volume of "In the Fields of Pursuit" is intended as

Reflections fourth volume.

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day, the day before I throw myself aillais (yet without suspecting what awaited me!) in a note would be called (it was already decided in advance) "The four operations." Finally, it was sixteen notes instead one, I thought I never would end - and then if I have yet come to make the turn, these "operations" extendable 974 (**)!

And there, I want above all to return to the orphans, to call them at least each by name,

it will make them perhaps the good, and to me it surely will do. The first time I spoke, it was there

A year in the note of the name exactly, "My orphans," the end of March last year, in a breath with

Note following the "Denial of inheritance - or the price of a contradiction" (Notes n ° s 46.47). In writing these notes

and giving them these names, as guided by an obscure prescience, I do not doubt me how

much these things I had left were indeed orphans -

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in a stronger and more poignant meaning p. 1196

that I could not imagine me even in dreams; or how far would this "contradiction" of which I was then

first and timid observation. And remember immediately reminds me of another, the month before, when I

have seen him write, as if it was another, more penetrating than me, writing by my hand, " **we will fight not corruption** . "It was while writing the " World Without Love "(n ° 19). I still remember, in Seeing black on white the word " **corruption** ", I was taken to court first. Someone of "reasonable" in me scolded me, really, you do not go with the back of the spoon - it is a great word "corruption" must not spoof! You better change register!

I must have sound me for a few moments, minutes maybe. Then I knew I was not going change the "big" word there, nor add a note to explain that the word had escaped me in momentum the pen, and it should not be too much to take it seriously. These "flashes" that were returned to me here and there this world, someone inside me, more perceptive than the "I" who decides "reasonable" labels, knew what their senses before I even bother to try to make my story ⁹⁷⁵ (*). . .

I remember also the exact moment when thinking of that day there suddenly changed quality when the **other** in me took over to write. It was just after mentioning the loving warmth that had surrounded my early years in the mathematical round, thanks to the welcome received from my seniors, and into their families: Schwartz, the Dieudonné, the Godement. . . The change occurs when I followed that with "Apparently, for many young mathematicians today is to be cut... of all current affection, warmth ... that cuts the wings to work and takes away a deeper meaning than that of a livelihood gloomy and uncertain. . . "- and when at the same time, suddenly appears and takes life my eyes this **world without love** , which again interpellait me. . .

This is without having to look that came to me last year that name "my orphans," for what I had left when I left (decreed "death" by relatives whom I had entrusted...). That is sure that name

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expressed a **real** simple and tangible: I had "left" or "given" that were not p. 1197 "objects" or "property", but they were **living things** . When I think it always like to things alive, vigorous and fruitful, made to grow, to flourish and to design and produce other living things, vigorous and fruitful. If I feel a "richness" I left it not the rich banker, but the gardener, or one of the mason, who with their hands these have given rise exuberant gardens and the spacious and welcoming homes. This sense of something valuable (if fragile) above binds me to the **concepts** , the **issues** , the **themes** that I know ⁹⁷⁴ (**) (May 9) Just two weeks after writing these lines new facts emerged in extremis, relaunched the investigation "Four operations", which has already increased by a good twenty notes and subscores new ⁹⁷⁵ (*) I@ in the story, first in March last year in "The note - or the new ethic" (n ° 33) and two months later, after the discovery of the burial, throughout much detailed notes, forming the X procession or "Van Funeral" (jointly with the Gravedigger), 93-97 notes.

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fruitful, and I had left in younger hands - those things that still need work and solicitude; more tools than good to the point that I had shaped, or "houses" that I had finished build and develop through ⁹⁷⁶ (*). Other than me be busy it at will to their will cooking and lounging there; if one is too small they will enlarge according to their needs, such as myself even often had larger and larger still, where yet it had seemed lately that I "saw great."

But it is **what remains outstanding** , by the shipyards that had just started on the splendid sites with the stones of beauty (and already workers are gone, having won what they liked and degraded rest. . .) - this is where my past mathematician continues to take hold of me. It is these **sites** abandoned, and I found today looted and dilapidated, I would now like to review.

18.6.2. (2) The miser and the crumbling

Rating 177 (27 March) The day yesterday was occupied by stewardship. I had to reread fifty first pages of the third and final part of the burial to entrust them to type. It took me not less than five hours, doing odd rajustages -d@xpression here and there, and adding a few footnotes. The striking "The key to the yin and yang" is about to be completed. After trouble not possible that I had with the hitting that part ⁹⁷⁷ (**), I ended up doing on

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services of a

p. 1198

Secretary of the Faculty, who did the work outside his official work. The troubles are over, thank you God - it is a conscientious and efficient work, impeccable thirty pages per week. It eventually will.

It was time !

Apart from that, the question of a shaped building the triangulated category of motives on scheme of finite type on absolute basis I continued to trot my head - I still spent most of the night thinking about it in bed instead of sleeping - beware! It seemed at first that the idea that I had that would not work for zero characteristic patterns (finite type over the field \mathbb{Q} , say), already Based Spec (Z) itself it did not seem to work, then I remembered that I had determined

In principle the structure of the category of motives over finite fields, in the sixties. Supposing said the work I had done so, I see finally appear the principle at least a description complete in the general case, pretty screwed it must be said, but not unaffordable I think. The only new ingredient in relation to my ideas of the sixties is the philosophy of Mebkhout expressed in his "theorem of God" strange memory. Otherwise, I use as the hypothetical ingredient theory of "mysterious functor". If it is not available now, it is certainly not it be "unaffordable" (to use a phrase that I have met 978 (*)), but because the people I have known to work on the cohomology of algebraic varieties lost, even in math, sense of essential things, pounds Relationship certainly absorbed a funeral that demand all their care. . . To be fair, the work done by Deligne on Weil conjectures in "Weil I" and especially "father II" will surely come at the right moment, when it comes to build les six operations on categories coefficients intended to express the reasons. Still it took a "confused" to the deceased and crumbling wishes to have the idea after fifteen years, out of the padded coffin where his dear students and heirs were 976 (*) On the drive in me that drives me to "build houses" (mathematics), see note "Yin servant, and new masters "(n ° 135). 977 (**) See, about these "trouble" (this is an understatement), the debut of the note "Prayer and conflict" (n ° 161), and those the note "Jung - or the cycle of" evil "and" good ", which opens the fifth and final part Crops and Seeds. 978 (*) This is the term by which peremptory my ex-pupil brilliant Deligne was pleased to bury the "standard conjectures" - which suddenly none of my boldest contemporaries dared to attack for nearly twenty years for a complete quote, see note "In Praise of Death (1) - or compliments (n ° 104). 896

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to assign more, he who is aware of nothing and forgotten as saying the little he knew, so that the problem of the description of the category of motives over a base scheme S is only **asked** in full, and 0

same time and coincidentally, that the very principle at least a construction p. 1199 form (which takes into account all known structural elements associated with a pattern) is finally clear explained 979 (*).

After the "memorable volume" 1982 on the grounds, it seems that the "nest egg patterns" during which ten or twelve had been the preserve and secret one, has become a common loot three or four, which communicate with each other conspirators tunes, or as Large insiders some secret sect and ultra-selects. Yet just a few days, to ask a few black and white simple questions and submit them to the attention of all, and a few weeks if it wishes to identify with some care, clearly indicating what ingredients are available, and which ones need to be developed. If within fifteen years since 1970, and in the three years since the "memorable volume," neither one first or then none of the few, wanted to take these few days of his precious time indeed, without even speak of weeks is surely for good reasons, none of them certainly does concern fathom. But this atmosphere they like to talk, and the spirit in which they are maintained, are by themselves already degradation of an adventure of discovery, became simple way to raise above the others, when it is not to despise. Such an atmosphere is likely to spread corruption and is the antithesis of creation, even as those who indulge it would be the brightest geniuses. Turning now in such provisions - those of brooding miser his money - they cut the force creative in themselves, as they like to choke in others.

18.6.3. (3) The tower construction sites - or tools and vision

Note 178

(March 30) before yesterday I was fifty-seven years, and I made a little break. I just made a little typing corrections to the end of "The key of yin and yang," I continued yesterday. It@a work relaxing and enjoyable - if, at least, where the person who made the strike puts also his, and that text where I spent whole comes back to me disfigured. There is a recreation that I paid for myself two days to read with 0

care about fifty pages to the net, to detect them here and there even a comma p. 1200 that is not in its place. . .

The work is the tone remains at the zenith. For weeks, a sadness in me tells me that there more important things waiting for me, that lead to their natural end these notes I@a to describe. I write as against the current, and yet I know that, barring accidents and acts of God, I stop me when I finally put the final point in the Burial. But to compress, to exile this sadness, which therefore is as heavy as a stone, not to give him a voice in these ratings (if only by allusion and going right now), is a pretty clear sign that for some time, my thinking has more quality "meditation". It is part of the division between the writer (in

having custody of them put entire 980 (*)!), and one who lives and feels (without stopping yet, for "ask" on what he saw and absorb its meaning). Here I feel that it is time to get to this "end point" (without 979 (*) As I announced in the reflection of yesterday, I think this description to include in the next volume of Reflections, with an overall sketch (very basic) of the "vast array of reasons" - holding that the scam has hidden motives lasted long enough. I note now that the construction principle envisaged not dependent on any conjecture species on algebraic cycles, like "Hodge" or "Tate" (or one of the twelve variants, discussed yesterday). 980 (*) Yet in the preceding paragraph I just wrote (with no inner reserves) that I "was investing my whole" in the texts that I entrusted to type. Like what the same words (or almost...), As the context may be relevant different or indicate a different shade.
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provided that little botch yet to see and say. . .), And to return myself. . .
Besides working on the notes, there is something else these days a diversion. This is the recovery, as despite myself, a mathematical thinking. I realized a few days that shaped construction a theory of motives, with the full extent that I saw him he was twenty years ago, is not that far "to the horizon, "he seemed to me. It could even be that a theory" fully adult ", with the formalism Full of six operations (plus bidualité), a matter of a few years working for someone who would invest them entirely (without degrading its creative energy by fossoyantes provisions). It also appears to me that there are two "keys" 981 (**) for the explicit description of "the" reasons of class 0 on a p. 1201 scheme, say finitely on absolute basis Z (cases which should always be able to bring themselves). On the one hand, there is the theory of "mysterious functor", with a general and flexible enough to move granted appropriate triangulated categories, connecting coefficients De Rham - Mebkhout and coefficients ordinary-adic (coach. zero). On the other hand, there is the question of the explicit construction of the category patterns on a body **finished** k (a building "purely algebraic" preferably without reference to algebraic geometry k), and further, the functor "motivic cohomology" up separate schemes finitely k (and begin, projective and smooth patterns) to search. I had built the latter to equivalence, using the heuristically Weil conjectures and those of Tate 982 (*). 981 (**) Yet there is a third "key" that I did not mention here because the problem in question seems to me (rightly or wrongly) less delicate. This is the proper definition of "coefficients De Rham-Mebkhout" (first without filtration or F-structures) over, say, a smooth pattern on absolute basis Z. This definition should at the same time provide the key of "the" good definition of general crystalline coefficients for. $p > 0$, my dear former students (Berthelot in mind this time) still do not unable or unwilling to release. When in June 83 (there will be two years) Mebkhout explained to me his "philosophy" around the theorem of God, I the impression that his description "purely algebraic" (type "Rham") for the category of discrete coefficients constructive patible (C) with a smooth pattern on the body C of complex, was dual approach (not published) followed by Deligne in Seminar (mentioned elsewhere) given by him to the IHES in 1969/70 (except error), with blows of promodules connection. I presume that the transition from a point of view to another is through the functor dualizing $Rhom (. O_x)$ relative to the beam the proposed structural scheme, which turns $3 \times$ finitely-modules (which can be considered as " O_x -modules IND-consistent "equipped with an integrable connection) in the modules" pro-coherent "(also equipped with an integrated connection). The advantage from the standpoint of Mebkhout is that it provides a simple and profound algebraic expression (M-consistency, homonomie, regularity) for "good coefficients" which lacked Deligne. The advantage from the standpoint of Deligne is that provides equity (instead of antiéquivalence) with coefficients of transcendent nature that it is expressed, and it is better suited to the expression of the multiplicative structure (tensor product) for the proposed coefficients category. I presume that, in practice, there will often interest to work on both fronts at once, mutually dual to each other. The interpretation of Deligne seems more close to a direct geometric intuition, via the module (or promodule) integrable connection. This is expressed by the fact that (if the base body is C) to a building beam C-vector represents a unique connection to promodule, instead of a complex such promodules. That is why (in my regret, we guess. . .) I expect that his point of view (although he had no regrets buried him, as thereby burying the problem bequeathed by the coefficients disavowed master. . .) That will be best suited to develop formalism of the six variances, and as a third ingredient - key in the construction of categories of reasons. (May 9) See also in this sub-note "... And obstruction", n ° 171 (viii) and "The five pictures" (n ° 171 (ix)). 982 (*) If I remember correctly, I confined myself then to describe the category of semi-simple patterns. An immediate variation of the Construction (following the same principle) also gives a plausible candidate for the categories of reasons not necessarily ment semisimple. When I speak here of "units", it is actually an "isomotifs" or patterned isogeny. But using the functors "l-adic realization" for the first number, we get to rebuild from there the category of reasons-not-iso (Where Hom will therefore be type modules over Z, not on Q).

When I say that my building used heuristically conjecture Tate, must not take literally. if is true that there (over a finite field, in this case) on a smooth projective scheme, cohomology classes that are "Motivic" (in a direction that remains to identify precisely) without being "Algebraic" (ie not derived from algebraic cycles), then it is necessary to restate the conjecture Tate (like that of Hodge moreover, this time above C) by replacing "Algebra classes" with "classes motivic". Assuming we get well (as I suggest below) to define the cohomological functor canonical (and presumed "universal" in a suitable sense) on the category of projective schemes and smooth over the finite k to category (so-called "semi-simple patterns k ") already built, this will provide an ipso facto definition shaped cohomology classes will be called "motivic" as elements of $\text{Hom}(T_i, H$ word (X)) (in dimension $2i$), where T is the subject of Tate, and H word is the hypothetical functor considered. That is why the construction of this

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I have no doubt that this
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construction is correct. The work left to do, probably significantly p. 1202 more delicate, is to "pin" this category in terms of the given finite field k , and above all, to define the functor "motivic cohomology", not least of all on the class diagrams Abelian k (this which should be enough to "pin" the searched category. . .). The second problem seems less likely technical, more direct "geometric", as the mysterious functor. Moreover, it seems to me **the** key of a standard solution of conjecture 983 (*) and also there, of all issues so irritating that arise in the cohomology theory in characteristic $p > 0$. So many reasons why this question carries a powerful attraction on me! This is the third evening when I leave it to the notes with the idea to quickly review the themes that I think are the hottest among those left behind by my students and by all, when I left the mathematical scene, there are fifteen 984 (**). This time I will finally happen!

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Project 1: Topos . I mention them here especially for memory, being expressed myself in a rather circumscribed p. 1203 tanciée about them in the note "My orphans" (n ° 46). View the disdain with which some of my former students, Deligne head are longer treat this crucial unifying concept, it was doomed from view I left to a marginal existence. As I recalled in the note cited in the guidebooks and multiplicities all kinds are however not meet at all in geometry - but it is of course very well do without see, as happened for thousands of years to see symmetry groups, assemblies, or number zero.

A soft and delicate language about topos, "sticky" intimately to the topological intuition was developed with great care in the first two volumes of SGA 4 (the famous "gangué non-sense" which speaks Deligne in the introduction to the first exposed gloss volume named "APG 4 1 2

"). This is the About invest- natural language and intuitions around the concept of "beam" introduced by Leray; this second step (or the "second wind") in the development of intuition and tool "sheaf" I think of a comparable range to the first (provisional finding its expression in the well-known book Godement). As of now, it is this vision that has made possible the emergence of cohomological tools l -adic and lens, before it is buried sine die by the very people who pretended to be appropiate these tools.

Developments SGA 4 about topos does not claim to be complete and final, but I think they are more than sufficient for most immediate uses of geometric topologique vision. Like the general topology and the theory of ordinary beams, the "general topology topologique" seems to me to ask itself really profound question. It is a carefully crafted language to point serving a certain enlargement of the topological intuition and geometrical shapes, which we is dictated by the things themselves. The disrepute into which this vision has been maintained, and the **derision** that functor now seems like **the** crucial question of all, for building form (and not hypothetical as in the sixties) a theory of motives.

983 (*) The term "standard conjecture" is not to be taken here in the literal sense, nor "Tate conjecture" in Note b. p. former. Rather, in the statement of these conjectures, it would be appropriate to expand the class contemplated cycles (initially reduced to only algebraic cycles). In the term "final" standard conjectures "readjusted" (and even when they

would be valid as such), the cohomology classes "algebraic" will still be replaced by classes "motivic". I will return to the standard conjecture more detailed manner, in "The reasons my love" (in Volume 3 of Reflections).

984 (**) For a first "tour" very summary of these themes, see note last year "My orphans" (n ° 45).

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hit her, belong to me of the great misfortunes of the mathematical world of the 70s and 80s.

Here it is not a "run-down site" which he would revive, but in a house fully completed and installed, those who lived there and who were called into a place of work and life, have chose to leave in débinant worker who had built it. The house is spacious and healthy and everything is in its Instead, as the day when the worker left to attend to other tasks. If she needs something, it is not 0

not the work of his hands, or those of anyone else. Perhaps the act of respect for the worker himself, p. 1204

for these things that these hands have done with love and he knows best, He will dissipate the scent of violence and contempt, and he will make friendly again what was done to accommodate.

Project 2: cohomological language . This is primarily the language of derived categories, and other share views that I had introduced to the non-commutative cohomology, one and the other in the second half of the fifties.

The first current was supposed to be the famous "thesis" Verdier, and burial by Verdier himself of his thesis 985 (*) was at the same time that the point of view of algebra derived categories homology. He had played a crucial role in the flowering of the sixties themed cohomologic in algebraic geometry, for the duality formalism particular, and developing formulas fixed points (type Lefschetz-Verdier). Practical needs had shown the context of failure triangulated categories developed by Verdier in the early sixties framework has not been renewed as it should.

Current side "noncommutative" we have a good working basis with the thesis of Giraud but it is limited to a formalism-1 fields, lending itself to a direct expression of geometric objects cohomology dimension until 2 only. The issue of developing a cohomological formalism not commutative in terms of n-fields and n-sheaves, imperiously suggested by many examples, ran into serious conceptual difficulties. View disaffection or, rather, the general contempt, in which are the foundations of the issues fell into a beautiful world, these difficulties have never addressed before I stuck with me there is a little more than two years 986 (**).

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I see now the two streams join in a new discipline, which I have proposed elsewhere 987 (*)
p. 1205

call the name **of topological algebra** , synthesis of traditional homological algebra (style cat-ries derived, certainly), the homotopy algebra formalism (still in limbo) n-categories n-groupoids and fields and idoines sheaves, and finally the vision of the topos, which now provides the framework for nature "purely algebraic" the largest known, to implement the topological intuition. Ideas departure for such synthesis were met since the sixties, including that of **differentiator** called to replace the inadequate notion of triangulated category, and also applying to contexts "not additives." Some important developments in homotopic algebra, such notions of limits and coli-Homotopic mites developed by Bousfield and Kan to the beginnings of seventy years without their knowledge of my ideas (treated bombinages grothendieckiens by my dear students), are in the

985 (*) See the note about "credit Thesis and comprehensive insurance" (n ° 81) and "Glory galore - or ambiguity" (n ° 170 (ii)).

986 (**) This is the reflection in my letter to Daniel Quillen February 1983 where I discovered how "jump right" to above the "purgatory" gaping compatibility relationships increasingly screwed, which seem to break into the description shaped n-categories (not strict or no-fields as I call them now), for increasing n. The case n = 2 is already no picnic, and no one, I believe, has yet found the courage to explain them all for n = 3. This letter is become (as I recall below) the "kickoff" for the long journey "In the Fields of Pursuit" begins in the Next month the momentum of reflection initiated.

This letter was not considered worthy of being read by the addressee or to receive a response. I ended up receiving a commentary

silence of the person more than a year later, on which I express myself in "The weight of the past" (n ° 50). (See p. 136, second paragraph.)

987 (*) See the footnote under ° 136 1 to Note "Yin Servant - or generosity" (including 638 p.).

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right wire them.

I started two years ago to draw a contractor for the work that I see to do with the letter to Daniel Quillen 988 (**). This was the kickoff for writing "In the Fields of Pursuit", a first volume ("History of Models") is almost completed, and will probably appear as volume 4 in the Reflections. I anticipate that I will take one if not two volumes, one or two years of work, to complete this preliminary survey of a substance of great wealth, and that twenty years later I always seems to be the only one to understand. It is therefore the one site that has been abandoned for a fifteen years, but came to life in my hands for about a year. The writing of the sketch a program, then Crops and Seeds, interrupted this work, I nevertheless take account and finalize, as soon as writing is finished R. and S. and the text (all of limited size) which are to form, with the last part of R and S, volume 3 Reflections.

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Site 3: Six operations bidualité. This is the perspective that I introduced in the formalism p. 1206 duality the Poincaré or Serre, discrete or continuous coefficients. The name "six operations" that I had introduced has been carefully eradicated by my cohomologues students. They simply use the ones here and there that suit them while dropping the profit and loss structure they form a whole (With bidualité formalism), and especially the irreplaceable thread that provides the view (no-MENT to release good "categories coefficients", cf. lower). For over twenty years it formalism exists and is proven, none of those "in the know" did not bother (if is in paper intended to remain secret and which I have no knowledge) to clear the "form" Algebraic common to many situations where one has such a duality "boilerplate" speaking formalism in six operations 989 (*).

We see that this is, not strictly speaking a "site abandonment" (since the work for-ization to provide here is ridiculous), but rather a fruitful perspective systematically evaded (as has been that of topos). This abandonment was surely for many in the state of lamentable stagnation I see (with some exceptions 990 (**)) on the theme of the cohomology of algebraic varieties in comparison especially strong momentum that I had given him between 1955 and 1970.

As I already announced in the Introduction (I 8, "The end of a secret"), following harvest and Semesh 991 (***), I intend to include a brief outline of the essential features of the formalism "six operations". Thanks to the care of my

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students, its very existence is now unknown to all, with the exception p. 1207 of those who have been directly associated with one or other of the two seminars SGA 4 (1963-1964) and APG 5 (1965-1966) 992 (*), which obviously have forgotten. Thus will I do what is in my power to restore honor (if workers is on the lookout for good tools) a tool of perfect efficiency, and a view fruitful which in the cohomological theme, we are constantly led straight to the crucial problems. 988 (**) On this letter, see in particular the "weight of the past" (n ° 50, page 136, 2nd paragraph). 989 (*) (May 9) In a first set SGA 5, I took great care to explain in great length this form, which would be like the motor nerve of all the upcoming seminar. This presentation, the most crucial of all in SGA 5, disappeared from editing-killing. There are traces of a "hint at its existence throughout the volume! See note b. P. (*) Page 942 in the note "ancestor" (n ° 171 (i)).

990 (**) The "exceptions" are mostly (before 1981) the two important works Weil I, II Deligne, and some results sporadic in crystalline cohomology, and theory of Dieudonné Barsotti-Tate groups on bases since. $p > 0$ General (which I had initiated towards 1969). It has been, as I have pointed out elsewhere, a revival in the wake of the theorem

God - Mebkhout (one always ignored the other...), including the theory of bundles Mebkhout (called wrongly "perverse" in lieu of that right. . .), Developed by Deligne et al.

991 (***) I remember that this is Volume 3 of Reflections, containing also in principle the last part of Crops and Seeds.

992 (*) These are also the two seminars, coincidentally, that the text that is as "central" and named (oh irony!) "SGA4 1

2 "recommends not read mostly... (May 29) to reach the vision of six operations, see Note" Details useless. . . "(N ° 170 (v)), part (b) ("machines to do anything...").

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The three "sites" (or houses, or tools ...) to retire, I just review, concern plus an **algebraic language** common to express the most varied geometrical situations, such particular geometric situation as the cohomology of algebraic varieties. If the second site, one I call "topological algebra" I sometimes rub deep probably issues (such as Such issues homotopy groups of spheres), it is by accident, not by deliberate. My main motivation, again, has been and remains that develop algebraic tools of generality

and a sufficient flexibility for the development of this **arithmetic geometry** still in his prime childhood, I spent fifteen long and good years of my life to carry, give birth and nurture, from embryos that were the Weil conjectures. It is this geometry that is the substance actual geometry, which over the years was really the heart of my love affair with the mathematics, and remains today. This is the substance that will be discussed now in three themes "among the hottest," I still have to go through.

Site 4: "Problem coefficients". This issue was already in germ in the same formulation Weil conjectures 993 (**). It was the center of my interest in cohomology, throughout the sixties. It was clearly stated, with all the general and the necessary precision for the main types of coefficients then glimpsed 994 (***). I speak about this issue, obviously crucial

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for

p. 1208

an understanding of the cohomology of algebraic varieties, from the first return to my work and the act respect what notes the "My orphans" (n ° 46), and I return to this subject in the note "The melody tomb - or sufficiency" (n ° . 167) Two son essential drivers: firstly the formalism of six operations the bidualité, he just mentioned. On the other hand, the need to find adequate generalizations, above a basic pattern more or less general, the types of "coefficients" already known above a base body, are carried out (even if only implied) in the description functor cohomological already known on the category of projective and smooth patterns on the body: cohomology l-adic, crystalline De Rham, or finally (when $k = \mathbb{C}$, field of complex) or cohomology Betti Hodge.

I do not think it is an exaggeration to say that this problem contains the seeds 995 (*), both the "Deligne-Hodge theory" "mature" which is still waiting to break, as the "theory of the coefficients De Rham-Mebkhout" which it also expects 996 (***) and for a single reason that one and the other 993 (***) see about the beginning of the note "maneuvers" (n ° 169), I commented on the initial issue conjectures Weil. (May 29) The start has become autonomous in a note "Context" Weil conjectures "" (n ° 169 (i)). 994 (***) It does not appear he appeared "types coefficients" of a new type, relative to those I anticipated from the second half of the sixties.

995 (*) In making this finding, I have no intention to minimize the originality and importance of the contributions in question Deligne and Mebkhout any more than I think diminish the originality and importance of my own contribution to the birth and the initial momentum of arithmetic geometry, noting that this "was already embedded" in the Weil conjectures.

996 (***) It can be said, is pretty much, that the contributions in question first Deligne (circa 1969) and Mebkhout then (after 1975) address the problem of defining "coefficients Rham" proper (that would insert cohomology Ordinarily Rham smooth patterns in a formalism of the six variances) in both directions very different. Deligne defines a "good" category coefficients above spec diagram (C) only, and functors $R \Gamma$ in the structural morphism $X \rightarrow \text{Spec } k$ a separate scheme typed ended on C, and for coefficients constant (alas!) X. Mebkhout defines a "good" category coefficients, in principle, to any separate X-type finished on a characteristic zero K - but it does not grow up to define functors $R \Gamma$ and $R \Gamma^*$ to a morphism $f: X \rightarrow Y$ such schemes over K, and develop a duality theorem for f (except for $Y = \text{Spec } (K)$ - and yet, only in the transcendental context, probably much more difficult, complex analytic varieties). A Another limitation of the theory developed so far by Mebkhout (in an atmosphere could not be more discouraging it must say) is that it is made now as smooth X (fault, I suppose, to always use the view lens, which provides a satisfactory substitute to the rings of differential operators beam, so convenient in the case smooth).

To desolate sites, these are sites sorry! they say eloquently systematic alienation of my

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theory are still in diapers, instead of as adults had acquired a year or two the theory of l-adic coefficients (for the first characteristics): it is the eagerness of my students cohomologistes, Deligne head, burying the problem left by the master at the same time as the master himself.

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For fragmented that are not made in part by Deligne (filled with all the facilities p. 1209 the spoiled child of science), and the other by Mebkhout (in complete isolation that posed him very people best placed to greet), they nevertheless provide in conductors son precious, to get to identify certain categories of critical factors. These important contributions were present in my mind while writing the note quoted above "The melody in the tomb." Since then, I plunged deeper into the bath of "Yoga factors and reasons" that had already emerged over the years sixty, and I now have a more accurate and complete picture. As I think back on the problem of coefficients (and that at the same time units) in the volume 3 of Reflections, following the outline of the

formalism of the six variances.

Suffice it to say now that I see basically three types of basic coefficients ^{997 (*)} on a basic scheme X roughly one: the coefficients l-adic (the first number **one**), coefficients **Rham-Mebkhout** ^{998 (**)} (interesting especially for type X ended on a basic scheme S, the most cases

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Important are those where S is the spectrum of the rings Z, Q, or C), and finally the coefficients ^{p. 1210} Betti (for type X over C). Only the third of these categories seems determined now without no hypothetical element. To set the first (if only for that type of X ended on absolute basis Z), or to describe his relationship with the second, the existence of a theory of the mysterious functor (which I had postulated in the late sixties problem also seems to have gone down with the rest. . .) Appears to me the crucial ingredient, which I will have to return more detailed manner in its place.

Site 5: Reasons . I spoke at some length on the burial grounds by

My friend Pierre Deligne, with the blessing of the congregation in full force, to be useless dwell here again on this. I would rather stress here a new fact that just appear to me, and which should have appeared there are fifteen or twenty years. There is a more months, building "shaped" the category of motives over a basic pattern more or less general (a finitely scheme on Z say, or only on the spectrum of an algebraically closed. . .) Seemed like a thing definitely "on the horizon", drowned in the mists of the distant future. This mindset was probably a tenacious legacy of the already distant days when a motivic thinking had started on the bases can not more hypothetical, then we do not even yet had the cohomology l-adic formalism. he is also this "mitigating factor" for me is that my foundation of writing assignments for former students (and those marked by the influence that they can exert) vis-à-vis the major key ideas that I had introduced and developed in certain directions during the sixties.

^{997 (*)} If I talk about types of coefficients "Fundamental" is suggérer.par for this designation all other types of Important factors that I can see now, need to be described in terms of these, either by "combining" suitably, either by bringing suitable structure enrichments, or both at once. Among the enrich-structure chissements envisaged on the coefficients of Rham-Mebkhout, there is (in addition to the "filtration by weight", which seems "internal" to the coefficient category envisaged), a "filtration Rham" which plays a leading role in motivic applications. It is possible that this additional structure has little meaning (from the viewpoint of a formalism six operations) that when combined with the a "discreet" structure to Betti, which should help to formulate good properties that must satisfy the filter. I think back more detailed way on these issues in "The reasons my love "(in Vol. 3 Reflections).

^{998 (**)} I recall that for this type of coefficients De Rham-Mebkhout now I see two dual variants of each other, that of Mebkhout and one I hesitate to call "Deligne" while it is a child repudiated by him! (May 29) For comments on repudiating child, see note "... And hinders" (n ° 171 (viii)). For details on the coefficients Rham see noted "The five photos (crystals and 3-Modules)", n ° 171 (ix).

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the things that they were on hand, has absorbed so much of my energy between 1958 and 1970, that motivic my thoughts (and others on topics that took figure of "luxury" under my tasks compelling the time) were consistently reduced to the bare minimum, I allowed myself against almost a guilty conscience that would make the "truant"! Anyway, I stayed under the impression that the problems coefficients, that was what was ripe to be done right away (but others saw that I was already busy elsewhere. . .), While the reasons for the time, it was just good for a book "mathematical fiction" if I found the time to write, surely, things would have very quickly changed pace, if I had indeed set to write, instead of me wade on tasks that no then the world has been keen to continue, so that everyone is happy to use that I did. . .

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Still, I finally realize this thing, in itself evident yet again

p. 1211

that goes before: that the moment one takes the trouble to describe the coefficients enough "fine", ie, taking into account all the known structures associated with a pattern, you end up describing **the pattern itself** . Or more correctly perhaps, we finally describe a category, containing the category (triangulated) units as a **full subcategory** (which is not bad) - as the cat-series patterns on the body complex appears (if we assume a relatively strong version of the conjecture Hodge) as a full subcategory of the category of Deligne-Hodge structures. As to characterize ser exactly, in terms of "algebraic" directly adapted to the coefficients with which we work, what **is** exactly this full subcategory, ie **what** factors exactly "are patterns", you come here in matters that may be much more difficult. These are those for **compati-bedded** between various geometric-arithmetic structures associated with a pattern (which I compatibilities

already alluded to, I think, in the note cited "The melody in the tomb"). This is the solution of those problems (Which seem unrelated to the actual construction of a "theory of reasons") that may be indeed "for a hundred years." In any case, experience shows us again and again that such bets (on the more or less "unaffordable" a matter) have little meaning, except that discourage where courage is not faint. . .

(April 1) Some comments yet on the formalism of " **Galois group** (or **fundamental group**) **motivic** . "This concept (which I cleared and started to develop in 1964, before he had the honor to know my future ex-student Pierre Deligne) gives rise to intuition and formalism of great precision and finesse. Its existence and its essential features are independent of the construction particular that was adopted for the concept of pattern on a body (or "smooth" pattern on a diagram any), as long as it meets some reasonable conditions. I told Neantro Saavedra the task of putting in publishable form, in a context as general as possible, Dictionary I had reached around 1964 between on the one hand, the geometry in categories I called "tensor rigid "(category k -linear operation with" tensor product "satisfying suitable conditions k here being a **body**), and also the theory of linear representations of pro-algebraic groups over k (Or, more accurately and

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more generally, "sheaves proalgébriques" k). It led to the good job
p. 1212

late in his thesis, published in Lecture Notes in 1972 (LN 265) 999 (*). I pushed it farther dictionary 999 (*) (10 May) Since these lines were written, I had the opportunity to read the book in question, whose author did not see fit to send me a copy. I noticed that in this book, Saavedra did figure brilliant inventor the new philosophy exposed to it, faithfully following the notes I had passed him, and with hardly pronounce my name (either for the concepts introduced in this book and for crucial results nor on already known concepts as the crystal laminate module or pattern). The very name "tannakienne category" which he renamed the main concept, is a hoax so brilliant point that has certainly not more invented by himself, that the theory which he has as the author. This "paternity" also was all temporary, and my friend Peter is already loaded, ten after the publication of 904

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elsewhere (especially regarding the translation of filtered or graded structures on certain etc. functor fibers or that of a term "polarization" associated with tannakienne category), it is in fact the thesis of Saavedra 1000 (**), or in the "memorable volume" LN 900 (where the thesis Saavedra is redone and the concept of motivic Galois group is at the center of the problem, not my name there is more pronounced about that, as for other related reasons).

I also note that the first step in determining (up to equivalence) of the class patterns on a finite body, which was discussed previously in 1001 (***), was the determination of the group Galois moti

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vique said finite field, which must be commutative (topologically being generated by the element p. 1213 Frobenius), and is in fact an extension of Z (generated by Frobenius) by a pro-algebraic torus Q 1002 (*). The second step was the description of the element of $H_2(Q, T)$ which (according to Giraud theory) classifies the G -sheaf functor fibers 1003 (**).

As I expressed in the note "Memory of a dream - or the birth of reasons" (n ° 51), I fell the motivic Galois group seeking the link between representations l -adic, for variable, a Galois group profinite $Gal(K/K)$ in the modules l -adic, for example obtained by taking the $H_i(X_{\mathbb{A}_K}, Q_l)$, where X is a smooth projective scheme X and i is an integer (or optionally, a submodule suitable thereof). Greenhouse watching the image of the Galois group $Aut(V(I))$ for all l , which is a Lie group l -adic reductive, and it seemed that its structure (in the sense of the theory of Lie) was independent of. In seeking the deeper reason for this phenomenon (itself hypothetical yet until today), putting it in connection with the conjectures of Tate, I discovered the concept of motivic Galois group, following that of "pattern" and "motivic cohomology".

If there was a simple and profound thing I've taken to date, and there has been creative act in my life mathematician, it is with the birth of this important concept, connecting the geometry and arithmetic. Wherefore, that memorable April 19 last year, I was suffocated by a feeling of inimaginable **impudence**, seeing this thing properly with this great casualness, as the last of trifles that would improvise here at the moment to turn a technical paragraph: see, it's stupid like cabbage, you just have to apply here 4.7.3 proposal of our small article exposing the theory tannakiennes categories. . . 1004 (***). Here's how to do mathematics in the 1980s, after volume, to arrange for her to come back (according to the expectation of all) than any previously designated for this. For some details for this brilliant operation on a body (the first and only such a scale before the operation "SGA 4 1

SGA 5 "made in the same inimitable style), see the following notes" The Sixth nail in the coffin "(n ° s 176 1 to 176 7).
 1000 (**) (May 10) This is a presumption that turns out wrong. It was due to my belief that Saavedra would absolutely not
 able to "close" the program I had told him, when already the only mastery of perspective "representations
 linear sheaves proalgébriques "seemed long to overtake, and his mathematical background was more
 reduced. Given the way Saavedra exceptional means, for me it is unthinkable that the less than two years between my
 departure (where he had no notion of cohomology, or on the structure of algebraic groups) and the publication of the book, it
 has been
 the ability to assimilate (and this perfectly, as evidenced by the holding of the book) the crowd concepts all-out with
 where you juggle it. On this subject the note "Monsieur Verdoux - or cavalier" in the sequence of notes already quoted "The
 Sixth nail in the coffin. "
 1001 (***) (May 10) I find that this determination, too, is in the inexhaustible book Saavedra (without referring to my
 modest person, is needless to say). It uses the cohomology theory of global class field (determination
 group $H_2(Q, T)$, where T is a multiplicative group Q) - it is therefore also part of what my ex-student (the
 means seemingly superhuman) have assimilated in less than two years. . .
 1002 (*) This is the motivic Galois group that classifies the reasons **semisimple** . For general reasons must be
 sound produced by the G additive group $_{\text{has}}$ over Q .
 1003 (**) The crucial point is that this class becomes zero (due to the existence of functors fibers "l-adic cohomology") in
 all seats $l = p = \text{car.}k$, and the existence of the functor-fiber lens gives us sufficient information on the fate of
 this class in the missing place p .
 1004 (***) As I write this, has become for me the association with any similar way to introduce the definition of
 The function coefficients in the beam-adic, without reference to a person and as the latest banalities that would
 905

bright

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in previous years 1970 1005 (*).

p. 1214

But I leave the subject, okay - I was supposed to visit a site, not making sense. I point
 therefore, as in the case of profinite fundamental group, if X is geometrically related schema on
 a k , it is necessary to distinguish between the fundamental Motivic group of Scheme X itself, and the group
 fundamental Motivic " **geometric** ". The two do not coincide, **even** if k is algebraically closed - the
 that the basic motivic group of k does not mean trivial (it is connected, no more!). he
 must be introduced the fundamental Motivic group "geometric" of X , which is supposed (among others) establish
 a link between the various groups of Lie l-adic associated (as quotient) to the fundamental group profinite
 geometric $\pi_1(X_k)$. It is defined as the natural homomorphism core

π_{word}

1

$(X) \rightarrow \pi_{\text{word}}$

1

$(\text{Spec}(k))$

(Relating to the choice of a fiber-functor on the category of smooth patterns on X).

The point I wanted to get to is that this core, we might note π_{word}

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(X/k) , should be

first step towards building a "motivic homotopy type (geometric) X_k @which I have already
 refers in passing above 1006 (**). The description in the form of this "homotopy type" 1007 (***)
 whose "cohomology" should be other than motivic cohomology x , is part of the conceptual work
 interesting perspective on the construction site "patterns" in a decidedly different direction

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(And to a large

p. 1215

measure, probably independent) from the central task, which is that of the actual construction of the categories
 patterns and six operations formalism for them.

Site 6: Standard Conjectures. As I explained in a previous footnote page
 (Note (*) p.1202), these conjectures can be heard in two different senses. First, in the sense
 literal as I had made at the Symposium in Mumbai 1967 1008 (*). In this form there, they
 seem to me to summarize the most crucial issues now in the theory of cycles
 algebraic of all viewpoint of at least said equivalence "homology" for these cycles.
 In formulating these conjectures, my main motivation was however not directed at
 cycles to themselves, but to the way they provide (perhaps...) to build a theory of motives
 semisimple over a field, satisfying the wishes that should be "common knowledge" for fifteen
 or twenty years (and yet still remaining hidden...). I will indicate in Volume 3 Reflections di-

paid weakened variants of these conjectures, which would be enough to build such a theory (and whose lower is practically necessary and sufficient for this purpose). As I have already noted elsewhere, even as in original form guess would prove valuable in a given field k (k over, for example, if for all k), this does not mean by Himself that the cohomology classes might be called "motivic" 1009 (**) (which they can hope to make true various conjectures, the type of Hodge improvise the same brilliant author. On this subject the sub-note "... And the non-sense" (n ° 169 6) in note "maneuvers" (n ° 169), p. 891.

1005 (*) And even now, in the sixties - see notes about the "Eviction" (n ° 63).

1006 (**) in the note "Requiem for wave skeleton" (n ° 165).

1007 (***) as the object type, I expect it will be a relative homotopy type (meaning Illusie) in the topos "extension" (the Giraud direction) of fpqc topo Spec (C) associated with the sheaf (this fpqc topos) functor-fibers on the grounds of the Class smooth on X. The relative cohomology (the basic topos just described) this homotopy type is quasi-coherent (And "coherent"), and can identify with the motivic cohomology X_K . Using a complex point of X (if K coach. zero) for a functor-fiber Betti, the homotopy type-fiber corresponding to be canonically isomorphic Q-homotopy type (neglecting twist phenomena...) associated by way transcendental $X \otimes_{\mathbb{K}} \mathbb{C}$, at least when $X \otimes_{\mathbb{K}} \mathbb{C}$ is 1-connected.

1008 (*) Algebraic Geometry, Bombay, 1968, Oxford University Press (1969).

1009 (**) I think I can offer a reasonable definition of motivic cohomology classes on an algebraic variety

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and Tate example) are necessarily algebraic. If we discovered one day that are classes non algebraic motivic cohomology, this would probably mean that the importance of cycles algébriques in the theory of motives, ie in the arithmetic-geometric study of the cohomology of varieties algebraic, would be less that there was place for me to believe the beginnings of the theory. Still the actual construction of a theory of the reasons that I see now is a priori independent current conjectures (type Hodge, Tate, or "standard") on algebraic cycles.

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This prevents the standard conjectures and their variants on the one hand, and those of Hodge, Tate and p. 1216 Many variations of the other conjectures that such statements involve **existence** cycles algebraic (ie algébraicité of cohomology classes), or (in modified versions) statements existence of cohomology classes called "motivic" are intimately connected to each other and that the description of the main "types of coefficients", and, ultimately, that of the patterns of class itself 1010 (*).

Again, a work settlement of ordering and information, which was done for almost Twenty years has not been done (or, above all, made public) by those who preferred to today bury fertile ideas (when they were not published) or slag (when they were), and in book profit (immediate) and credit (later), rather than to inform and make available all fascinating issues, crucial to our understanding of the links between geometry, topology and arithmetic. I see what is missing here is not the competence nor the brilliant gifts, but simple honesty and some **decency** also in relation to a "community scientific "dispenser of prestige and power, those who do not feel so far kept the any obligation, to any "return" as an attitude so little "service". That is why, then I lost contact with the subject for over fifteen years and I'm not "in the know" of nothing much to say, it's me yet who will make an effort to get back into the bath of what was familiar to me once, at least to repair my best, in Volume 3 of Reflections, omissions younger and more talented than me and do at the end of this purpose they have not been generous enough to do. There I think I made the rounds of these "sites" that seem to present (and already from the moment of I left the mathematical scene) "the

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hottest ", in the context of building this" geometry p. 1217

Arithmetic "I threw them throughout the sixties bases. I do not mean to say that I made Summary turn **all** substantive issues that I am perhaps the only one to see and that I hold heart. For all I know, they are still at the point where I had left when I left mathematical scene, and many have not even had the good fortune yet to be explained in the literature. Among them, I point the **Riemann-Roch discrete conjecture** in the schematic framework in 1011 (*). Equal-projective and smooth, at least when the basic body has characteristic zero. In the general case, the crucial event (which he discussed above) is that of a finished base body. Modulo description of motivic classes in it think I can move forward, "the" good definition of motivic classes. Compare with the comments in Note b. p. (*) at 1202 page.

1010 (*) This does not contradict the statement that I just made, that I foresee the construction of the category of reasons (say on a body) is "independent" (ie "technically" or "logically" independent) of various conjectures

considered. These "close links" I am talking about (which, p. Eg., The twelve variants I@ seen the kind of conjecture Hodge and Tate suggest as many different types of "coefficients" cohomological) are heuristic nature, not technical - as the link between the formula (called "speculative") Lefschetz-Verdier and the trace formula for correspondence Frobenius. In the latter case, this essential link heuristic, which is not a logical arm © was duly noted in the two sub-notes "The real math...", "... and the" non-sense "" (n ° s 169 5 169 6) in note "The maneuvers ".

1011 (*) This conjecture is explained for the first time, it seems, in the sub-grade n ° 87 1 of the note the suggestive name "The Massacre "- having nothing but conjecture is one of the things massacred SGA 5, disappeared without a trace of a **name** in editing-Illusie.

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ment, there is the generalization of the theory of **local class, and overall geometry** in a statement **duality** which itself is essentially kind "geometric" (while giving classic statements "arithmetical ticks "as corollaries). This is discussed in letters to Larry Breen 1976, reproduced in Appendix in Chap. I "In the Fields of Pursuit" (which therefore appear in Vol. 4 Reflections). In such statements the main work ahead will be a careful description of the categories of "coefficients" in which we work. An important role is played by some autodualité discovered by Serre 1012 (**) in the category of algebraic groups unipotent to isogeny-radical closely above a body of k because. $p > 0$) (autodualité which is still unknown to me he appears outside the handful of people to whom I happened to tell it). The question of generalizing such statements to dimensions SUPREME EXTERIOR is (for me at least) a total mystery (but Milne have lights in the case of a surface algebraic. . .).

The duality of issues back, I think, in the late fifties, when I had also branched out the construction of a **complex** (of channels) " **Jacobian** " proalgébriques of groups, associated with a schema finite type over a body (to start...), in terms of "local jacobians" suitable associated with these various local rings, in analogy with the complex "residual" or "Dualising" I had built some years to Coherent duality. All these dual issues were seen relegated to second place in the sixties, for tasks including developing

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ment of "non-sense" of étale

p. 1218

and l-adic and language topos. A tip of my program on local and jacobians overall relative, was completed around 1977 (without mention of my humble self) by C. Contou-Carrere, who was quick to pack saw the reception given him by Deligne is Raynaud and 1013 (*). It takes aujourd'hui of some courage to take and develop ideas that are too clearly mark my (then even they would try his best to hide it). The only one who is stubborn it is Zoghman Mebkhout and the fate that was reserved and which culminated in her prowess Symposium Pervert, show quite clearly the risk that short.

If I wanted to make a list of good questions that I had discovered between 1955 and 1970 (and which I have talked about me here and there), I would still for days and even weeks without doubt if I wanted

be so little explicit and get into the ins and outs. This is not the place to do it, and I

doubt that I ever will. Besides if I want one day (who knows!) A young mathematician

to invest in one of these questions, just to get your feet and make themselves known, it is better that rediscovered itself, rather than run the adventure of getting some stick label.

Beware of Pervers Conferences that the future holds. . .

18.7. (7) Evening fruit

18.7.1. (1) Respect

Rating 179 (2 April) It@been five weeks (since February 26, with the note "Silence", opening later

notes grouped under the name "The Four Operations") I@ board review the facts

principal of "material" or kind (ever so slightly) "technical" regarding the Burial. In "The Four

operations ", I limited myself to the aspect of" scam "in the strict sense of the term - one in which exceeded located

1012 (**) In addition to this beautiful idea of Serre, also influenced me the view "geometric" introduced by Lang in the body

Global geometric classes and Serre in the local class.

1013 (*) See note "Coffin 3 - or jacobians too much on" (n ° 95) and the sub-grade n ° 95 1 , about some of misadventures Contou-Carrere in the great mathematical world.

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18.7. (7) Evening fruit

This "threshold" which was mentioned in the note of the same name (n ° 172), separating the **bad provisions**

(Speaking with the reflexes of "automatic discharge", despite often the most basic instinct of mathematical ticien) of **bad faith** patent and characterized plagiarism. In the part that I just wrote, "The yards sorry, "I see myself faced especially to the" first level "of Burial, below the" threshold "- the funerals ment of a broad vision

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and key ideas powerful, certainly that person is obliged to take, and all p. 1219 the world is right to ignore or forget - even in doing so to "bury himself", condemning his work (or at least the part of this work is directly affected by the vision challenged) to infertility more or less complete.

There I seem to have finished making the turn at last! Regarding the "tour of construction sites" (abandoned) he brought me a more detailed understanding of the Burial of my work, to bring me back Contact the same time, ever so slightly, with themes that I had lost sight for fifteen years. This did permits, especially, to get a clear idea of emergency orders in what I propose to put black on White in the next volume of Reflections. My purpose is not, of course, ask foundations meticulous science in labor - this is something I did enough, and if there should be more no one else to give such a task, as I once gave me, too bad for everyone and for all! My purpose is rather to identify some key ideas, in an overview Service born between 1955 and 1970 and I found today (especially through the efforts of some of those who were my students, and with the acquiescence of all) either forgotten or put to ridicule or without appropriate shamelessly and mutilated and drained of much of their strength. By resuming today I finally loose the Flanged knowledge instinct in me that often, in the sixties, I kept the bare minimum for the endless tasks of "service" benefit. That time is gone - yet I know that in this new phase in my mathematical passion, drive service is not less present than it was once. I do not "serve" no less than before this "community" great minds eager to learn in 1014 (*), which continues to give my math investments deeper meaning as a personal hobby and a way to autoagrandissement.

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In these investments, certainly "the boss" him either not more missing than before. Faced with p. 1220 malice and derision from the very people who for me were "my family" in the world mathematical, wounded many times in one basic decency of feeling by those I loved and whom I trusted unconditionally ago in me this irrepressible movement before those lost the sense of respect and **show my respect for me** , for respect for these living things, strong and beautiful as my hands I have brought to the light of day. The best testimony, perhaps, I can bring this respect is by making myself a slave to those things for a few years 1014 (*) I am speaking for the first time about the "mathematical community" in the first part of Crops and Seeds, in "The" mathematical community ": fiction and reality" (n ° 10). With reference here to a "community great minds eager to learn ", it might seem that I again flaps on something, the fictional character became clear in the quoted section. But in Part VIII of Fatuité and renewal, I had already been brought for the first time in my life (better late than never...) to the finding of a collective dimension in my own "Adventure of Knowledge" in the mathematical level. (On this subject, the two sections "The solitary adventure" and "The weight of a past, "n ° s 47, 50, specifically, pages 134, 135.) It is also clear that the" community "(or" community ") that saw this collective adventure, is of a different nature than any sociological entity, embodying themselves in an **environment** determined

a **time** given, with such a "mentality" special, or (today) with such a structure of power and such class interests. This "ideal community" to which I refer, "without boundaries in space or in time," no less "real" for I, as a sociological entity. It is essentially, in that it is she (as I wrote in the wake of the same sentence) that "keeps on giving to my math investments a deeper meaning than a hobby staff and a way to autoagrandissement. "It is not over" fictitious "than I am myself, who feel make part, more lucidly than I once was doing. The "fiction" consisted, not in the perception of the existence of such a "Community", but in the confusion between it and an environment which I had identified.

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the precious years that still remain to me assigned. Thus, mathematics thoughts I account develop in the coming years in the wake of Reflections, will they still together the resumption of a **breeze** and the **gift of service** , an **act of respect** .

Before the end point in the burial, I would like to make a short record, beyond the "facts hardware ", that this reflection taught me. First I will look at what she taught me about others, to finish with what she taught me about myself.

The fact that still most striking now, among those emerged into the light during the reflection is the **degradation of morals and minds** in the mathematical world of the 70s and 80s. This degradation is expressed, among others, and a hundred thousand "little things" as those revenues me

flashes all over the eight or nine years - the "nothings" confusing enough yet for provoke thought in the first part of Crops and Seeds and the main question: how (and when) things they are get there? And what was my role and what is my place in this deterioration insidious and relentless that I see today?

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This deterioration culminates in operations like "" SGA4 1

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"- SGA 5" or that (most incredible

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yet) Symposium Pervert, far surpassing cynicism and disregard everything I could imagine, the day before the day where I discovered my defending body.

This is not the place to come back to these "nothings" (including more than one was reported in my thinking by the way, here and there), or on major transactions (served by small operations). The spirit that is expressed in each and the other, the "nothings" and the vast scams, is the same. The "threshold" that can sometimes be good draw between the acceptable and the villainous itself is fragile and artificial well, a kind of safeguard which, anyway, no one (apparently) does not care. I do not regret through this burial where my person is involved crucially, having had opportunity to look more closely than ever, perhaps, this spirit, which is certainly neither the privilege of this one Burial (initiated in honor of my modest person) or the only world mathematicians. I can only say that I have no knowledge that this spirit reigned in this world, or in any other science, at another time than ours. It is a sign among many others, no doubt, the final stage in the decay of a civilization and of which, despite everything, still make sense.

In recent days, my thoughts lingered more than once on this strange coincidence, that my departure mathematical scene, there are more than fifteen years, had been due to shock some corruption in science, which I had chosen for a long time to close your eyes (while believing I stay away from it). I got confronted suddenly saw, in the same institution where I intended to finish my days in 1015 (*). There he was the interested complicity, almost universal, scientists with military aircraft. This insidious takeover of the military on the scientific world as a whole is also a recent phenomenon, only appeared (at least to the extent that we know labor holding) since the last world war. Certainly if this "shock" -There has disrupted my intended path (planned by me as by all) as to trigger my departure without return of a world to which I had identified so far (with tacit caveat...), is that there was in me a need for renewal près-health and urgent, I have realized that in hindsight. I had subsequently

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tend to minimize what

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had the special opportunity to trigger this unusual departure. But I know, too, how are huge (at the same time invisible) these inertial forces that tend to keep us indefinitely in the same "trajectory" justly, and who oppose the inner renewal - and that makes me measured

1015 (*) See note on the subject "The pullout wholesome" (n ° 42), and also "brothers and husbands - or double signature" and its sub-

notes (n ° s 134, 134 1)

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rer also the power of the internal shock he had to tear myself away from a trajectory as firmly drawn that was mine.

What I'm getting at is that the "special occasion" that triggered my departure is not without have a **meaning**, surely. This sense in any case was very strong presence in the early months, and probably even throughout the first year that followed my departure. Subsequently, under the influx of impressions new and the same dynamic that first tumultuous renewal, it was natural that the sense recedes into the background and it finally disappears from view. But even as I cease to perceive such "Meaning" of my past or present actions and their fruit, that sense has not disappeared. And my return a mathematical activity, with more detailed contact he implies with this world that I left, unexpectedly brought me to this forgotten past. For one of the first fruits of this "back" (return equally unexpected had been my departure once. . .) Was discovered in this world that was mine, another corruption, I do not think I ever known him. If I try to give a name to this new thing, it occurs to me: **loss of respect**. I felt painfully more than once during the past years, when I saw "as those that I loved, crush quietly as another that I like now, and that he recognizes me. "In thinking about the burial, I found it more than once again and in more virulent tone, directed this time against such things that I had given birth by my hands, or against such successor who dared to be inspired. For those moments, I met truly

the "breath" and "smell" of this spirit, which has lost the sense of respect. But I know, too, that this mind-there "does not blow as around my home", even though this is his breath on me, and on those I affection, that I "know" truly - as we do not know the taste of a bitter fruit that the eating only. This spirit today became the zeitgeist. . .
And I see that these corruptions, one that sparked my departure and was waiting for me in my "Return" are not unrelated. If I try to identify with words that vague feeling of a connection, I would say than

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in the attitude of ease of science vis-à-vis the seductions of money the military (to p. 1223 speak of this aspect) and amenities it offers, I detect a lack of self-respect, as well at the individual level and collectively in 1016 (*). And it is the loss of self-respect that I acknowledge the root of loss of respect for others and for the work of living out his hands or those of the Creator. I do not claim to have "understood" neither one nor the other "corruption." There is firstly the "zeitgeist" whose particular dynamic is largely beyond (to me it seems) to individual action. This collective dynamic for me remains a total mystery, I never thought to want to fathom. There are other hand how each be particularly gifted with its faculties of perception and creativity, and weighted all the weight of its special packaging, meets the spirit of the time and made this reply (knowingly or not) one of the crucial elements of his particular adventure.

In my reflection I have long tried to identify some choices, and the forces at work behind these choices, in the case of the two main protagonists of the burial: the deceased, and the Principal Celebrant to Obsèques 1017 (**). What is sure is that I learned things along the way, but not that I succeeded in my task. I may say that I have probably **not** fully successful, in terms of my protagonist. I gathered the pieces of a puzzle, I have gathered, I am convinced that the pieces are good and assembly, pretty much, is correct - but knowledge of **all** me

1016 (*) I am sorry to risk hitting here, some of my old friends who make them the "ease of attitude," without au As certainly miss estimate in respect of themselves! There is no sure also that scientists at other times, if they had been placed together in front of the "seductions" of the same order, would have reacted differently. The opportunity of the thief!

1017 (**) (22 June) A third "main protagonist" eventually show me, "last minute" in the note "The album family "(n ° 173), Part C (one among all - or acquiescence)., d and e..

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still lacking. This remains a parts assembly that, now, my remaining **foreign** - foreign to my person and in my experience, and by that very misunderstood. The work done will not probably, on other occasions, to recognize me somehow to be careful where I interest to watch out (and I get older more I realize that there is often interest. . .). But this falls short of true understanding. And the question comes if finally the effort in this direction was not a delusion - or the **goal** at least (That of "understanding others" in such conflict) was

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not an illusion (as the **path** followed has p. 1224

yet been rich in lessons. . .). I think that really understand the conflict in this **person there** (Or any other in which I have been closely linked and where I see popping similar contradictions), it is without may also **include all short conflict** . And I know that such understanding can come to me a meditation on others (which never escapes my immediate knowledge), but only a Meditation on myself. If the long reflection "The key to the yin and yang" must be fertile, it is not not by occasional fumbles on the person of another, but by the returns on my own life and My own experience, and understanding that I had.

18.7.2. The gift

Rating 180 (April 3) I do not feel led me ultimately to try to look back in a few lines or a few pages of what appeared to me about my protagonist in the funerals is lying. In the current state of things, it seems to me that it would be little more than an exercise in style, not the way for a renewal of an understanding of the fragmentary. For now, I look forward rather arrive at the end point of this reflection on the Burial!

I know, moreover, that this final then point will not mean the end of the burial itself, surely the coming months, with the echoes of all sorts that will me these notes, fruit loneliness, they will be full of surprises and lessons that solitary reflection could not give me. he does not say either that all the surprises that will have me bitter, and perhaps even the future near me he also provided some joy - appreciated especially since she will probably uncommon; as I had the joy also, just last year (a good year!) to receive letters full of heat three among my former colleagues and friends I had in particular esteem and affection in 1018 (*). In terms of overall impact, however modest it may be, Crops and Seeds of "zeitgeist" in

the mathematical world, it is hardly necessary to say I@ me about any illusions. Can-
be, at most, the publication of these notes will she end to such injustice unprecedented and will do
readjust such abnormality too glaring - and again, I may be optimistic. And it is also possible that the
unexpected reappearance of the deceased himself, died and rose gamy for ages, will

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an end, or at

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least one more circumspect muted in snug concert derision that surrounded the work of his hands, he
had left. And if this reappearance does not end at the same time in good form boycott on a vision and
on strong and fruitful ideas, perhaps the least she inciterat such generous young mathematician
others to be inspired without reservation (at the risk of displeasing) and to endorse them in compliance.
Yet if I wrote Crops and Seeds, not for any of these things, some of which will come
perhaps more, who knows! I wrote "for me", of course, like everything I write - as the way
an understanding that gropes. At the same time, the thoughts of others, of those I
loved and which I left one day, when my adventure took me **elsewhere** - thought little me
left throughout the writing of Crops and Seeds 1019 (*). These notes, together with a reflection,
1018 (*) This is letter D. Mumford, IM Gelfand and J. Murre.

1019 (*) This thought is expressed more than once in Fatuité and Renewal (Part Crops and Seeds).

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and sometimes meditation, have been and remain for me a **donation** made to those that, beyond myself, I
address me. And I know certainly that that gift may not be received by any, except myself. I do regret
not mean that I did. Moreover, it is received today by such of those to whom it is intended, may
will be there tomorrow. This testimony both spontaneous and long matured, where every page and every word
come in his time and in his place, no less true tomorrow than today. But whether today
or tomorrow, if something unforeseen greeted with joy it will be to learn that my donation was received, were it not
by one, which would be recognized through me. . .

18.7.3. (3) the messenger (2)

Rating 181 more than for the "top" of the table of the burial, I feel prompted to make a
detailed retrospective of my lights and my perplexities about the two other plans, trained
one by the "busy group of my students, with power shovels and ropes", and the other by the "Congregation
whole. "On this one, and its role in the burial, I expressed myself so pretty
detailed in footnote "The Deadman - or the whole Congregation" (n ° 97) 1020 (**). For which
is my perplexities about the role and motivations of my dear former students, they appear most
clearly in the note "Silence" (n ° 84) without

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be seriously reconsidered, however, at no time p. 1226

further reflection. It is at this level, that of the "second level" of the table of Burial, that
my work leaves more to be desired! 1021 (*). There was no where comparable work than I did in the
Note cited "The Gravedigger...." That part of the table deepened in two subsequent notes, in the light
dynamics of yin and yang: "The providential circumstance - or Apotheosis" and "The disavowal (1) -
or recall "(n ° s 151, 152).

The note "The Gravedigger - or the whole Congregation," which is the last note among those written
in the "first breath" in thinking about the burial, is also probably the culmination. With the
decline in nearly a year, I am convinced, however, that some collective motivation pa-
raissait fairly obvious behind the burial of my humble self (seen as an act of "retaliation
for dissent "), although the real key **nerve** of Burial, at the collective will. This
which makes me doubt is that this motivation seems to be entirely absent, or alternatively a range de-
risoire compared to other forces at play in the case of each of my students in 1022 (**). But one of the facts
most striking throughout the burial, it is precisely the "unanimous agreement" between the three "planes"
successive, whose acts and omissions are linked and complement (as orchestrated by a desire com-
mune an "absolute coherence"), as well as at a funeral ceremony in the proper sense of
term! In a remarkable unanimity in such uniformity in the internal provisions and
acts, also guesses a common motivation, even a "nerve" that animates each other.

I do not mean to suggest that this "diffused resentment" that I@ seen here and there, caused by my "dissi-
dence" felt (superficially) as desertion, and (deeper) as a questioning

unacceptable - this grudge is null and void, and that it plays a role. But I doubt

Now that this role is crucial that this is the "nerve" common - which would be common to all, then, **except**
to the very people whose role in the burial was the most crucial of all! (Namely, those were my

It is perhaps less apparent in the following parts, but is nonetheless present.

1020 (**) (June 22) My still unclear perception of the Congregation materialized unexpectedly recently in the already noted

cited "family album" (n ° 173), parts c., d., e.

1021 (*) (22 June) for a continuation (modest) reflection on the "second level" of the table, however, see note on 19 June "Five Theses for a massacre - or filial piety" (n ° 176 7).

1022 (**) This fact appeared in the reflection of the note "Velvet Paw - or smiles" (n ° s 137), p. 644-645.

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students and thus, the first custodians of a legacy.)

This "cause" (relatively rational appearance) what my "dissent", seems no common me- safe yet with the breath of violence

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I felt in an operation such as the massacre of a

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"Splendid seminar" under the complacent eye of the Congregation; and also without common measure with the iniquity equally violent that spreads in a Pervert Symposium, to the applause of the assembled crowd.

It is not that I was a colleague or an obnoxious boss, and too afraid that animosity accumu-

EAA he provoked discharges until he was around; she expected it to be declared dead and

buried to finally unload against him and those in whom we "recognize the" so slightly. Nothing in

the echoes that come to me here and there, not going in the direction nor a **fear** that my person would have inspired and

who would later found his hand late 1023 (*), or of acts or behaviors so little accurate

which one would make me **grievance** that might feed animosity or violence (which does not yet said his name).

This is a typical situation of violence which I called "free" or "without cause." If this violence then ended up at the center of my attention, in the long meditation "The key to the yin and yang" (which itself is as the heart of Crops and Seeds), is surely not a coincidence. This

violence, I do not know that yesterday, far from it, and it is not in my life that I mathematician

I was confronted for the first time, face to face. And I happened sometimes to forget its existence in

the world of men, it was never for long, for she herself was responsible soon enough

to remind my good memory. And to talk about today - a "coincidence" strange (I

admit) often unwelcome (or at least, unwelcome...), I do not remember being seen face

in my life to signs

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familiar of such violence so as insistent, repetitive, harassing, that

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since my "back to the math" and especially since the writing of Crops and Seeds; and more strongly, in all these months and weeks.

Surely there is here an insistent message, which returns again and again to me, and probably will return to it is heard. I began to lend ear, in the last weeks of long meditation

the yin and yang - knowing that I had not yet reached the end of what he had to say.

In the two months that have passed since, underground work had yet to continue in silence.

It seems to me that what is essential and hidden in 1024 (*) began to settle things more accessories

1023 (*) It is true that I have spoken at length in "Fatuité and Renewal", the **fear** that surrounded, from a time that

I did not know place, "man of knowledge", which I have sometimes seen the signs around my person. But this was

the widespread fear attached to prominence precisely, not my person itself - it disappeared as soon as a contact

is little staff could have been established. I feel that at the level of personal contact, I was rather perceived as "good paste", and as the person who would fear.

It has not been different, I am sure, even among this student which was discussed in "Barb -

or twenty years after" (n ° 27), in which some "jitters" continued to show long enough, each new

meet. This stage fright strikes me today as a sign of inner insecurity ("Unsicherheit") invasive, which later

found compensation and outlet in the attitudes of domination and contempt. Among his many students, I had three

opportunity to know were each, sorely tried by his malevolent attitudes, ostensibly "free". Visibly,

the spirit that has set in and reigns everywhere in mathematics environment has favored the emergence of such aberrant behavior,

which in turn helped shape the spirit and print it disconcerting that mark a hushed brutality. . .

1024 (*) In writing this line, I was aware that the term "hidden" here was a stopgap, a kind of concession to the "consenting sus". Often I have seen, discovering such a thing that I had ignored my life, that this thing was not

"Hidden" but rather conspicuous, obvious, sometimes to the point that it was palpable, but not that I agree to

to see her. This is usually in the discovery of new, whether a mathematical work, or work

self discovery. The cause for such blindness to the blockage of the faculties of elementary common sense or intuition is not a deficiency of these faculties. It lies rather in an almost insurmountable inertia of the mind to depart

unstuck well established consensus - that they be allowed in the entire company, or such longer limited medium whose it is a part, or even whether they are concluded and sealed inside us only such articles of a treaty that

"Boss" has concluded with itself and for its sole convenience. . .

18.7. (7) Evening fruit

apparent (or at least, less difficult to admit). The image of "dwarf and the giant" (provided by my friend Pierre) continued to haunt me. Behind this image, I detect an archetype of considerable strength, that would be as a shadow, or shadow, of the repression suffered in childhood. Its role would be that of an outlet, and compensation, repression of the creative force, long repression internalized in the "helplessness unspoken conviction." . . . In this archetype approached, I think I feel a powerful engine of acts of gratuitous violence, striking one perceived as "giant", as the bearer of a force intact - triggering acts without "cause" other than just a **good opportunity**, when the risk incurred seems nil or minimal.

Maybe I said too much already, whereas with these lines I just touch a tenuous and intuition insistent, signaling me a job that must be done, and remains before me. For this work, the burial is one of the materials only, with many others that come to me in my life called

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"Private". This is not the p. 1229

Instead of continuing or only to approach it. His place is not in notes for publication.

18.7.4. (4) Paradise Lost (2)

Rating 182 (4 April) In this retrospective promised, what my thinking was taught on others, my thought, in spite of myself, insistently to my own person. This is for me a good sign - the sign of the strong need for me to return to what is essential. It is the knowledge of myself that comes, moreover, an understanding of others, and not the reverse. And more than once since I happen meditate, concern "to understand others" was a way of diversion in the essential task of the get to know myself.

Before returning to myself deliberately (and against my impatience to reach the famous "Endpoint"), I would still like to include testimony that came to me recently about my Friend Peter. This is the only witness of its kind that I have learned since my departure from the scene mathematical. He gave my friend a very different light from those known to me otherwise. It reminds me again, very appropriately, that reality is constantly more complex and richer, the images that I can try to make me chugging 1025 (*).

The evidence in question is not direct. These are impressions of a meeting (more or less fortuitous) a foreign mathematician with Deligne, which this colleague spoke (hot again, I presume) to my matching, which sent me into the story in a letter. Courtesy of my correspondent and colleague (which I call "Z" in the following) that made him the story, I give here the translation of the part of the letter concerning this meeting. My correspondent assumes that the scene should be in 1981.

(NB this is also the year of the Symposium Pervert, conference he had not discussed elsewhere between my correspondent and me.)

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"... One day he went to Z. Bures for a conference, and got there in one piece [" room

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tea "to IHES visibly] where they served tea, and where there were many mathematicians.

That the door opens and Deligne enters the room. Mr. Z. tells Scene fairly lively: he Flapi the air, arms dangling, one felt around him a i-LEMENT. All other seemed to stare at him, like a rare bird without

1025 (*) I do not mean to suggest by this that the effort we made (and I make myself constantly) to get a picture of reality, as "faithful" as possible, and adjust the image over the "information" of all kinds from us - this effort to be vain or sterile. On the contrary, there is a dialectic here highly effective to put us in contact with reality and to "know". To the extent where only the image (weighted by the nature of things, an inertia) remains completely inert, frozen, she also becomes an obstacle to the understanding of reality, or rather: an **average** effective failure to shut our apprehensive faculties, and to "evacuate" the knowledge we do have of reality.

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that person could not tell him anything. Z. sat a little apart, near the window, and Deligne rather undecided, sat down beside him. Z did not know what to say. Then the thought came to him to just say, how extraordinary it was the set of ideas around the "topology spreads" etc., and new ideas that you made. ["You" here and in Subsequently, means: I, Grothendieck, to which my correspondent address]. Immediately the eyes Deligne began to shine, he said, yes, this is one of the best things there in the mathematical ; and as it was beautiful to listen to your 1026 (*) conferences. . . and he told: Thinking So just this, and this. . . by listing a lot of things where Z. understood nothing (according

he told me in itself), but he saw the enthusiasm, which had suddenly appeared in his interlocuteur. Deligne and added: what a pity, you (*) are removed! He was sure the crystalline cohomology and many other things would not be in this state rather rebarbatif but they would now standing well as constructions cohomology spreads, if you ¹⁰²⁶ (*) there were really attacked again. . . "

Two things struck me in this story. There is the sense of isolation, which seems much hitting Mr. Z. I would be hard to say whether this impression comes from a very special moment in the Deligne life, or if such isolation eventually permeate its relations with all its congeners. I do not have had no other evidence going in the latter direction.

The other striking thing, and also unique among the echoes that come back to me is the appearance Sou Doe this enthusiasm, this heat, at the mention of my name and a past. He was a past that long since he had decided to declare null and void. And roots as he had in this past. And in the past, too, there was still a childhood freshness, freshness he had banished his life of "adult"

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important and admired man. It must be part of fashion, around him, not to p. 1231

referring to the past, the time when he was still a student among others, enamored of a beautiful passion. . . - nor in the house of the opulent man, surrounded by stylish furniture, one speaks of humble beginnings, or needy. . .

And now this stranger, sitting at his side by the merest chance, suddenly begins to speak and heat, as if this were the most natural thing in the world, of what no one ever talks about (not before him, at least. . .)! Surely, it was as if suddenly this select atmosphere stuffy and had fainted, and this heat of an unknown awakens in him the same heat, and - for a moment - the connects again to a distant source, raw forever forgotten and lost. . .

18.8. Discovery of a past

18.8.1. (1) first breath - or the finding

Score 183 I come finally to the most personal part of this balance-retrospective started there more a month. It remains for me to quickly review what this reflection taught me **about myself** .

The first thing that reflection has made me discover is a **past** - my past mathematician, on which I had never bothered me before to stop me, was it that for a moment. Behind the apparent flatness of a large area skin and without problems, I saw again opening depth all that is commonly overlooked, retracted (as a surreptitious kick sent well broom) of conscious comfortable image that was wont to do yourself and what surrounds us. From ¹⁰²⁶ (*) As above, "you" here refers to me, Grothendieck.

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18.8. Discovery of a past

"Burr" (or sweepings ...) never discussed, at least not in my mathematician living there action insidious, and sometimes intrusive, the fatuity in relation to such of my friends. From the beginning, this fatuity had taken the form of a kind of mathematical elitism, which remained unspoken and which I had no conscience, as my attitude seemed obvious. This elitism (or "méritocratie" as appellation Chevalley and Gaj), had to harden over the years. He crystallized this attitude "sport" that I finally discovered towards the end of "first breath" of reflection. Under outside genuine, this attitude sanctioning of jealous possessiveness provisions vis-à-vis what was perceived as "turf" for myself and for those he liked to host there, seen their brilliant qualities.

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These provisions very "boss" do not exhaust fortunately the content of what was between 1948 and 1970 p. 1232 my relationship to my friends, colleagues and students in the mathematical world, or mathematics itself - it takes a lot. However, they were in an insidious base note, I have never taken worth noting before last year, in the first part (or "first breath") Crops and Seeds.

This gradual discovery culminates with the "Sport mathematical" section (n ° 40). It seems to me mark the moment a qualitative shift in thinking. I felt in the moment as

through a pass , which would have opened me a sudden breakaway on a new panorama. . .

Looking back another year, I see that first long period now of my life mathematician among mathematicians, between 1948 and 1970 as a kind of **barter** the "birthright" that belongs to me (as it is for each), to live fully (if this is my choice) adventure special and unique, against the "mess of pottage" of identification (I would have desired without reservations, never quite achieve. . .) With a "mathematical community" idyllic, fictional, and even time dispensing of comfortable benefits ^{in 1027} (*). For this image, I do not pretend to have any say on this period of time, certainly too rich to be locked in a formula in the punch. But the image I seems to understand an important aspect, appeared for the first time in this first phase of reflection. This

appearance reappears in the name "Fatuité and Renewal" has taken (after the fact) that part of Crops and Sowing.

The most personal and deepest part of the first phase consists of the last three "chapters" in 1028 (**) VI-VII: "Crop", "The child has fun" and "solitary adventure." In "Harvest" I rebuke first contact with certain moments of my life (not just my mathematician of life, this time) - moments responsible for renewal of strength. It was as if, moved by an unknown force, by any secret and imperious voice, I tried to find the same provisions **of innocence** ,

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to cross the threshold p. 1233

I still felt obscurely before me. Without that I would have known then predict, of course, I had to time to the discovery of a possessive attitude vis-à-vis the mathematics itself. I kept to climb a slope, without haste and without hesitation, as if my feet were following an invisible path they only "saw". I knew, without telling me, he led me where it was, so that little by little, step by step, the fog dissipated.

Thus I reached the new threshold in my journey, and this **collar** instead:

"... And I felt, soon arrived at this point, the one who comes to a gazebo, where he sees deploy the landscape he has traveled, which every moment he could perceive only

1027 (*) This is the ambiguity of which was discussed in a previous note b. p. (Note (*) at p. 1219).

1028 (**) Of course (and as I says in the Introduction to R and S), these "chapters", grouping related consecutive sections by a common theme or particular affinities, were introduced afterwards, when completed writing what would be (only) the first part of Crops and Seeds. In Fatuité and renewal, it occasionally happen to them refer to as "parts" of R and S (not to be confused with the five parts "Fatuité and Renewal" etc. in What all of the reflection from February 1984 to today has grouped).

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portion. And now there is this perception of scope and space, which is a release. . . "

As soon crossed this sensitive point of reflection, it deepens into a meditation on my own. Since the very next day, I feel the need to introduce the image of the "boss" and "worker", aka the child picture which had become familiar to me for two or three years. But I was far from suspecting how it would be useful in thinking still to come, while for nearly two months now, I thought I about to reach the end, to get back to my illico mathematics notes to "On Continued Champs! "

In the four sections forming the "chapter" "The child is having fun," I'm back in touch with some aspects and events of my relationship to mathematics. I had already extensively surveyed nearly three years earlier (July-December 1981), but I had ample time since to forget them. My

About this time is best to put me in provisions to probe the meaning of my unexpected return to a mathematical investment long-term, and reach "me" be between the two passions apparently mutually exclusive, which now dominate my life: mathematics, and meditation.

This "exclusion" of these two mutual passions also appears to me now less draconian, it has another two years. In "In the Fields of Pursuit" mathematical thinking gives way sometimes, or even becomes the occasion for reflection so little personal, where my person, as a being gifted sensitivity and feelings of curiosity (not only mathematical) and destiny is no longer entirely absent. And in reverse, in this reflection on myself what

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Crops and Seeds, this

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even thinking puts me in touch with old loves math, and becomes an opportunity here and there primer of mathematical thinking in 1029 (*).

It is possible that these possibilities of coexistence or symbiosis between these two different expressions of the drive for knowledge in me, must, by the very nature of things, remain fairly limited. But he was clear at least for me, when thinking of last year (and already from long meditation continued three years), these two passions are in no way antagonistic nature or even gasoline different. In the last part of the reflection, "The solitary adventure", I try to identify as closely what exactly these passions differ, and "adventures" as they open up to me the one and the other. It is During this questioning I discovered this obvious fact, which I pretended to ignore my life: that mathematics is " **a collective adventure** ," and my own mathematical adventure takes meaning that its links to the wider collective adventure which it belongs.

Actually, I'm first touched this fact in passing, in "The solitary adventure," while my purpose at this point is rather to define in words something that was well known to me against, and Yet I continued to have trouble fully accepting: that meditation, it is an **adventure lonely** . This formulation effort of something "known" is certainly not useless, far from it! It made me deepen this knowledge, while making me discover in stride this obvious fact and again (to

me at least), link connects me to **another** adventure (which at that time I wanted, or someone or something in me would have wanted to distance. . .), Mathematical adventure which itself is collective. The land is ready now for the next day in the "Finding a division" section, I enter at the heart of my perplexities. That is the conclusion, first, that "putting the boss," and even though would delude himself (as he would rather be in his nature...) can only be the collective adventure - the only one likely to bring him "back" substantial. "The only child is lonely by nature"; it is

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the only child that can attract an adventure that no one else in the world wants, and knowledge,
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1029 (*) (May 10) These "thought starters" have also, now, paid off, by the renewing of my understanding certain themes, left on the shelf for fifteen years.

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18.8. Discovery of a past

While tangible and often obvious that he can share with anyone yet. And now it© there, although unfortunately at the option of "boss", that is the "preference of the same" in the case of **my** "business".

This observation leads to the finding of a **division** in myself, **the boss-child division** . It©the first time I make such a finding in extreme attention and rigor provisions. This is not a **decree** , that I have formulated in accordance with a particular "way of seeing" or philosophy or what not, and who claims a more or less universal validity. It is a simple **observation** indeed, from a careful examination of a case very particular case, that of my modest person, at some stage of my development. Perhaps this division then disappear one day, but only if the owner continues to attend to the necessary, while leaving the worker-child work at will. This is not my concern today, and it was not to be. AT each day at a time. . .

(April 5) It is true that this division had been revealed to me there will be nine, in a dream, with a parable staged with overwhelming force. That was two days after discovering meditation, this power long ignored in me, at my disposal at any time - and that is by going to the bottom of the meaning of this dream I found it in me that is not divided, **the other** in me, so long silent and invisible, "a being very expensive, increased death a long life. . . ."The new thing, the essential thing then appeared, it was **not** the division, I knew only too much, not that that dream revealed to me with such force on the nature of this division, incarnating two familiar and loved ones of which one nor the other had the name and were **the same** - but it was these **reunions** , coming after four hours of intense meditation, like intense birthing labors.

I knew then, and in the days and weeks that followed, that the reunion was not the end of the division. But thanks to them, I saw that division with new eyes - as an important thing, certainly, but all in all "accessory" to a more essential reality, one by one , **undivided** , indestructible, of this in me that I had found, and that I later recognized as the "child". This double

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This knowledge was then very lively and acute. She was blunt in the years p. 1236 followed, in the sense that the knowledge of this division "accessory", yet very real and tangible, has tended to be retracted. While "the boss" had been led to "bet" thoroughly on meditation (The famous "three legged horse"...), He longed to suggest (without daring, or clumsiness, to say never in the clear. . .) With meditation and all that, the division now, it was a thing of the past, there were any more as well say, just a little smudge here and another there, okay we© not going deny it, but it was still almost as if there were none; had to look at the môme-worker so happy to give their heart and a walking boss cake on tiptoe especially to bother him - true romance, as saying! I wonder if the reflection of last year, the before the turn (with the "mathematical sports"), especially where I make a very unexpected retrospective on "my passions" (in the section of the same name, n ° 35), is not just a little in these tones-again where lighting power a hint of pink. . .

Still, this "finding of a division" then I opportunistically called into contact with a actually I had tended to lose sight of for many years. At the same time, it made me find in a new light, with new eyes, this division very clearly perceived eight years before. I can say without reservation or doubt, because I remember that when this "Observation", there was no association with the episode of the reunion, and that he had me just taught about a certain division and its nature! This association has finally stand that sometimes, when I took over the notes of the day. This shows how the content

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"Accessory" (and unwanted!) The knowledge appeared during this episode, was whisked away. That must be more easily, there was no at that time, and after the turning point of reunions, thinking about this content there, and the image (appeared in later years) the "boss" and "the ouvrier-child", the better able perhaps to express this content, yet lacking.

It seems to me now that it is this "observation" renewed the division, which is the most thing important that I learned about me in this first part of Crops and Seeds. This finding holds in some lines from one of the shorter sections of this part of the reflection. On to

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would think that if

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it was to get there, not maybe there would be continued over a hundred and fifty pages the mysteries manifestations of the conceit through my life of mathematician. Nothing is more true surely, in terms of "Common sense" current. But it is also true that "common sense" to cut billhook is not capable understand the delicate and deep channels of a discovery work, whether self-discovery, or cruder work in 1030 (*) of mathematical discovery. I am convinced that in this long Crops and Seeds reflection, everything is in its place and time, prepared and matured by all those that preceded it.

18.8.2. (2) Second Wind - or survey

Rating 184 (April 6) With this short observation of a division, towards the end of March last year (there is a bit more than a year), I first grew completing the Crops and Seeds reflection. I had no idea that he would come even five times as much (counted in pages)! In the following days, I take care and other things, and my thoughts begin to return on mathematical themes. Yet

"Little point" still left open in reflection, still trotting in my head. Beyond a perplexity that might seem pure detail, I should feel vaguely that I had not really done

yet turn the forces at work in the "tilt" of the boss to a mathematical investment

lengthy. Or, if I properly updated the essential springs, my understanding was still

pale and fleeting, not having "placed" enough for the thing it penetrates further. This last

small point "would become the means by which I went back to what remained imbued with a sense of blurring. This resumption of reflection takes place in the section

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who was then (and still for three weeks)

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supposed to bring Crops and Seeds, which soon took the name "The weight of the past." This name expresses the unexpected discovery of this **weight** from my past mathematician, along with the strength of the link continues to connect to the collective adventure. And yet, what I foresee that day is that the summit of modest proportions of an iceberg whose huge submerged part would gradually appear, over the month and the entire year that followed. . .

This section closes this first breath of reflection is both as a primer and a

the second call. The "weight of the past", obviously, has its root in my attachment to a work, and

even more than the finished work, carried out in the attachment to the main ideas and visions which

I feel good, I "know" intimately fertility and power, and I realize more or

1030 (*) If the work of scientific discovery appears to me as "cruder" than self-discovery, it is (I think)

for two reasons. For one, it hardly involves our own intellectual faculties, ie a fraction of

our being. (The scientific work tends also to hypertrophy that part of our faculties at the expense of others

and an overall balance of the person, and ultimately, to transform it into a monster computer. . .) On the other hand,

internal resistance (opposing the discovery of reality) into play by scientific work, are usually without

in common with those who oppose self-knowledge. This is also why "scientific adventure" only

very rarely, and almost never these days, a "truth Adventure" - an adventure, so that starts to contribution

our humble abilities and courage to take an unwelcome truth vis-à-vis ourselves first, and vis-a-vis the world then outside.

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less confused and yet for years they vegetate in barren and arid land, and secretly

insidiously hostile ... So this reflection "The weight of the past" which remind my good memory and

work and my relationships at work, is it an opportunity for a long note in which for the first time since

my "start", I speak about the work and the fate that has been done to him. What had been felt

confusedly for ten or fifteen years, finally takes shape and manifests in words, sometimes hesitant to

come, and which, once written down on paper, clearly tell me a message that I had previously avoided

take notice. Subsequently, given the length of this note written in one go, I split in two,

with the names "My orphans" and "Denial of inheritance - or the price of a contradiction" (n ° s 46.47).

This double notes can be considered is the kickoff for reflection on the Burial 1031 (*).

This would play three weeks later, on 19 April, under the influence of emotion aroused by the "Measurable volume "LN 900, dedicating the exhumation of the grounds under the guidance of the" new father "Deligne. This "second wind" of reflection continues intensely until late May - mid-June, it takes end (as I think I am again about to put the final point, the real thing!) by

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the épisode- p. 1239

disease in 1032 (*).

This second blast is not, strictly speaking, a reflection on myself or my past, but rather an "investigation" of the burial that I had just discovered, along with an effort to "digest" somehow and progressively, the obvious facts and yet (probably saw my ineradicable naivete!) amazing, amazing. If she still learned something about myself, it©mostly me making startling strength of my attachment to my past and my work. I was touched to the quick, light Artwork as torn into pieces, such pieces for the bin, such other to in mock, and such others appropriate shamelessly as the trifle to all comers. . .

I knew then that I was not "out of the arena" again, as I had grown in exultation that had monitoring the crossing of a "neck" and the vast panorama that was then opened before me in 1033 (**)!

Or to put it differently, I could measure then all the **weight** of the past, and the strength of the mechanisms egotistic who continue to attach myself. This was a big surprise!

There is yet another thing about myself that I discovered during this second phase reflection, likely to complete what I had learned in the first. In it, I put

Updated especially some "to" a fatuous attitude in me by attitudes of **exclusion** vis-à-vis such colleagues or even friends, for one reason or another, I do not tidied in the world of "elite"

I felt myself part (tacitly, it of course!). **The place** of the same coin is a

attitude of **complacency** and ambiguity in my relationship to younger mathematicians (in particular, to my students), I had virtually co-opted as part of themselves, of "My World"; either because

their brilliant means or simply because I had accepted as students and were soon

when perceived by me as under my "protection". I begin to put the finger on this attitude

in note "Climbing" (n ° 63 ☉of May 10, followed by the note "Being apart" (n ° 67☉of May 27, one and the other devoted to my relationship with my young

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brilliant friend Pierre. This reflection deepens in p. 1240

note "Ambiguity" (n ° 63 ") June 1, where it concerns my relationships with my students in general. This is

1031 (*) This situation unfortunately does not appear in the table of contents to the Burial I (or The Emperor©dress China), where the double-note in question form the procession II (Orphans), not the parade I (which is posthumous student). it

due to the order in which the references to follow one another "notes" (n ° s 44-47) within the ultimate section "The weight of a,

past"(n ° 50) Fatuité and Renewal section that these notes are supposed to comment.

1032 (*) On this episode disease, see the two notes "The incident - or the body and mind" and "The trap - or facilitated and exhaustion" (n ° s 98.99).

1033 (**) This exultation is expressed in "Finish the ride!" (n ° 41), and is muted five or six weeks later, in note "One foot in the ring" (n ° 72).

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I finally reveals some ambiguity, because they have never been identified and examined by me, had me followed until recent years. I also faced again this ambiguity far all

lately, in a slightly different context, in the sub-note "Eviction (2)" (n ° 169 1) (in the second part of it, dated 16 March). I see myself led to conclude that the eviction of me seminar

SGA (which is the sum of an investment of ten years of my life) 1034 (*), eviction implementation

by the care especially of some of the closest among my former students, is simply the natural harvest an ambiguous attitude pleased me that I was to interview them regarding their right place and mine in SGA work with vast dimensions, in which one or the other of them had invested within one year or two.

18.8.3. (3) Third breath - or discovering violence

Score 185 I still have to review what taught me about myself the "third wind" of

reflection, beginning 22 September (after the end of the episode-disease) and about to touch to an end in 1035 (**). This is, above all, reflection continued in "The key to the yin and yang," which is the part that seems to me the most personal and deepest of crops and sowing. Without About deliberate, it©me and my relationship to the world that usually appear at the center of attention.

When it seems to deviate at times, to bring to the themes in more general appearance,

or to dwell on the person of my friend Peter is always at the center, however, the actor-observer in

one that feels, perceives, questions and probe, it returns without delay, as drawn by an invisible force. Before anything else, and without wanting to be, so it is a **meditation on my life and myself**, addressed by an unexpected way: that of the Burial.

This is the part of the reflection also appears to me to be the richest, the one by which I most learned. Many things "known" themselves

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located in relation to each other, and things that were

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only interviews or approached, or "sues" but neglected, drowned in the confused darkness of all-coming, began to emerge from the shadows and reveal and weight, and their contours. It was like a new opening, the prompt for a major new departure into the unknown - at a time when it seemed that famous "mathematical investment lengthy" would end for years at work

Discovery myself. . .

There is no question here to review in detail the various stages of this long reflection, or make a "list" of what she taught me. I would rather say in a few words which I think is most important for the knowledge of me as so matured that material still continues over days, months and years.

This discussion began in the mind of a "parenthesis" I opened (the space of a note or two breaking everything. . .) To the reader (and at the same time, put myself) "in bath" a dialectical view yin-yang (or "male-female") of things. The reason for such open parenthesis was the need to get to locate in terms of an intuition of yin and yang, a striking impression

1034 (*) For the latest episodes of this eviction, see note "The Funeral -" im Dienste der Wissenschaft "(n ° 175).

1035 (**) I set aside here the fifth part of R and S, which originally was a "digression" within the Funeral Ceremony (Or even, within "The Key of yin and yang"). This part is not completed at the time of writing this retrospective on Crops and Seeds, and is not included in it.

(June 22) It emerged during the following weeks as part of the thinking "The four operations" (or the Burial (3)), according to "The key of yin and yang", is a "fourth breath" Crops and Seeds, which is not included in this final retrospective.

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I was given the review of a "Eulogy of Death" in 1036 (*): that of a deliberate to "overthrow" roles in an original relationship yin-yang. This "bracket" opens on 2 October. It is November 10 only after tight hundred pages of reflections on games of yin and yang in my life and in particular in life in general, and (finally) in the game of mathematical discovery, the time seems finally ripe to **formulate** at least 1037 (**) this association of ideas rather appeared six months earlier, waiting can fathom in full knowledge Fourteen days later again in 1038 (***). (And it is near two months later still, on 14 January that finally closes the famous interlude on the yin and yang, without that I realize for some time that it had already closed. . .)

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Very quickly and without having sought neither expected is "conflict" in human life and the person p. 1242 is at the center of attention. Energy ego suddenly and powerfully mobilized by the discovery of the Burial, came there in unexpected extra strength to confront me again, and on the go, the "Conflict mystery" which for years interpellait me in 1039 (*). While in previous years, that mystery was gradually came to the forefront of things I wanted to fathom and understand, as far as was possible, without ever even I have "taken the plunge" and be launched me whole. . . Gradually during the reflection reveals what, in my life has been like the "hard core", the center this formidable mystery, as the heart of "the mystery of evil": violence may be called "Free" or "unjust" violence for the sake, they say, to hurt, harm or destroy - an violence never said his name, often muffled, under airs innocent and affable ingenuity, and especially more efficient to touch and destroy - the "claw in the velvet" delicate, lively and no thank you. . . On this Violence then that attention ends up wearing, during the discussion continued in the following notes "The claw in the velvet" (n ° s 137-140), and she also remains the center of attention until the end of the key. It still form the high point in the final notes evoking the "endless loop" of karma, passed from parents to children and from children to grandchildren, from generation to generation since the dawn ages.

This is the first time in my life that I am confronted with this mystery of violence "without hatred thank you" - a violence deeply embedded in the lives of men, and that marked my life, since my youth, with an indelible imprint. It is also the first time I am doing the finding of this footprint in my being. That is the conclusion also, at the same time, simply because of **the existence** of such violence, its fearsome omnipresence in my own life and in that of each 1040 (**). This simple observation alone

contains the seeds at the same time **accepting** therefore formidable. It is this, perhaps, that is what I

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learned the most important (or at least **begun** to learn), during the whole p. 1243 reflection Crops and Seeds.

It is not there a culmination, a culmination of a reflection. Rather, it is a first step still carrying me beyond a threshold leading into the unknown. In my journey and my maturation this humble not seem to me a greater range than the embryos of "answer" I glimpsed (as the days that followed) to the question of " **causes** " of the "causeless violence" ¹⁰⁴¹ (*). This question itself only makes sense, otherwise heavier than a simple matter of "mental mechanics" once

1036 (*) For this "praise Funèbre" (by skillfully dosed and administered compliment...) See two notes of the name (n ° s 104, 105), and the note "Jewels" (n ° s 170 (iii)), which provides a partial summary.

1037 (**) In the note "Reversal (3) - yin or yang buried" (n ° 137).

1038 (***) In the early days of the note "Velvet Paw - or smiles" (n ° 137).

1039 (*) This "interpellation" began to be perceived especially since my long meditation on my parents, which continued between August 1979 and March 1980.

1040 (**) This finding is the high point of reflection continued in the note "Without hatred and without thank you" (n ° 157).

1041 (*) See the note of the same name (n ° 159).

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full view and assumed the existence and scope of fact on which we question.

Some will say that I^o out of the subject, that the finding of a general psychological fact (or I claim to such), regarding each and all, belongs to objective knowledge reserved for disciplines scientists (such as psychology, psychiatry, sociology or whatnot), it is not field (perceived as vague and intangible, if not entirely far-fetched) from the famous "knowledge self. "But I see (not so vague and intangible, but also made clear that mathematical familiar and obvious. . .) That outside the self-discovery, such a finding is meaningless living - he loses making is anything but a philosophical-psychological exercise in style that the development of a "thesis" (very certainly interesting and everything. . .). This fact by itself is a **discovery** , a discovery intimately personal that nobody in the world can do it for me, and I can not do instead no other person in the world. This discovery is a step, the last one almost in a journey to discover myself. She do relative to something important, daunting, me marked and I had held until now neglected, as if it was a special kind of bad luck (Perhaps taking such and such peculiarities in my humble person) that I got exposed seen all Throughout my life, and I^o seen others be exposed or impose, as long as I take the trouble to open eyes and look around me.

It is no coincidence that matter, surely, that from the beginning of this reflection on violence, I am me been led by the same inner logic of thinking to do (for the first time in my life as) a back on the few cases I kept remembering where it is I who

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was doing to others, and without

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think twice certainly violence "beyond belief" ¹⁰⁴² (*). The value of this return is not it gives me the opportunity to fight the guilt (and in public, what is more) - something I also completely failed to do. But is that it has opened a door to a deeper understanding of the violence - a door that^oup to me now to pass, when I please,

18.8.4. (4) Fidelity - or women in mathematics

Note 186 This is what I see as the most important, from the perspective of the trip to the discovery of myself. This last phase of reflection on the yin and yang, centered on violence, continues all Throughout the past four parts: "The claw in the velvet", "violence - or games and goad" "The Other Self" and "Conflict and discovery - or the enigma of evil" of 7 December to 14 January (which represent slightly more than a third of the Key).

Looking back, it seems to me that the main role of the previous eight parts of the Keys is having me eventually led to this critical reflection. Many of the things that I develop in this part Preliminary were things that were familiar to me for years, and yet that I had "reminded" to allow a "who lands" reader to follow, and to give thought internally consistent, which otherwise might be lacking, or being apparent to me. At times the style is affected by these interior dispositions of one eager to get it over with these reminders, to finally arrive at the "bright Topic" - while often these supposedly recalls were a far more reaching, and I worthy poses so little about them, that this "bright" which I could not wait to arrive (and which, hurry or not, I do not Sometimes more than a month later. . .). These provisions seem especially sensitive to me in three parts consecutive "The couple", "Mother Death", "Denial and acceptance." Even then, it is true, by taking

contact with things supposedly "known", I could not help myself at the same time renewing acquaintances, 1042 (*) See note "The violence of the just" (n ° 141) following the party cited "The claw in the velvet" of the Key. 924

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and sometimes a new day - it was even for things as if impersonal at first, that the inventory of these "doors to the world" that are each groups of couples (or "keyhole") yin-yang bound by immediate affinity.

But with the following three parts (also those that precede the last four, centric theme of violence) that I approach

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again the shores hitherto unexplored: "The yin and mathematical p 1245.

yang ", " The reversal of yin and yang, "" Masters and Servants ".

It is in the first of these parts has its place "surprise" that would throw a new light on the direction, or sense at least the Burial. It is therefore, in my approach to

mathematical and, more generally, in my spontaneous approach to the discovery of the world, the tone core of my being is **yin**, "**feminine**". In other words, while the conditioned ego structure, the "Boss" of my company, is yang (not to say, "macho" zinc strand), my original nature, "child" in me (who is also the worker who shapes the child discovers playing...) is "female" dominant.

It also not this feature alone distinguishes my "style" approach staff

mathematics than any other. It seems, indeed, that even among mathematicians, it is not so rare that the base note (or "dominant") original is yin. What is exceptional by in my case against (me it seems) is that in my approach to discover and especially in my mathematical work, I have been all my life fully faithful to this original nature, without any hint making any alterations or corrections, either under the desiderata of an internal Censor (wherein anyway there never saw the fire, so they would not suspect a sensitivity and creative approach "feminine" in a case "men" like mathematics!), or for the sake of me comply with the canons of good taste in force in the outside world, especially in the world scientist. There is no doubt to me that this is largely due to this loyalty to my own nature, in this limited area of my life at least 1043 (*), my mathematical creativity could be fully deployed and unhindered, as a vigorous tree, firmly planted in the ground, freely deployed pace nights and days, winds and seasons. This was so despite the fact that my "gifts" are rather modest, and that the beginnings did not announced

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auspiciously in 1044 (*).

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By the time I make this unexpected finding on my approach to mathematics, in the note "The rising sea. . ." (N ° 122) 1045 (**), it comes a little as a kind of unexpected curiosity, a bit © margin "of my life, where others in relationships all bear the mark of my options and yang superyang. It is later in thinking only, centered on the dynamics of conflict, and on the occasion of a return on the 1043 (*) As I have had occasion to say and repeat on several occasions in R and S, one of the two forces egotistic strongest that have dominated my life since the age of eight years (until 1976, when I was forty-eight years old), was repression

the "feminine" traits in me, the benefit of experienced strokes as "manly". It was during the discussion "The key to the yin and yang "only, I realized that this repression has not exercised in my mathematical work (or, later in meditation or self-discovery work). The dominant "female" original of my being has been able to give their heart, in a generally perceived activity (and rightly) as "manly" par excellence! (See the note about "The more "macho" arts ", n ° 119.)

1044 (*) If I say "small donations", this is not false modesty. This is something that I could still see and yet, both in contact with brilliant mathematicians, incomparably more vivid than me to capture the essence and to learn and assimilate new ideas, as in labor relations such anonymous students and without luggage mathematics seriously, but whose curiosity and mathematical creativity were momentarily put on the alert.

I speak a little of my "debut" (at least, the beginning of my contact with the world of mathematicians in 1948) in the "welcome Abroad" (n ° 9). It three years earlier, however, in 1945, that begins my "mathematician of life" where most of my energy is devoted to mathematical research. Until 1949 or 1950,

Prospects for me, as a foreigner in France, find a livelihood as a mathematician, yet seemed to more problematic. If it would not be presented such an opportunity, I planned to learn carpentry as livelihood that could be to my liking.

1045 (***) See also the subsequent note "The arrow and the wave" (n ° 130).

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Burial, that I realize how much the relationship of my fellow mathematicians to my person and above all, my work, saw this unusual feature, involving them in reflexes reserve (when it is rejected) before an approach style felt obscurely as "displaced" (to not say unseemly). Such reactions were common since I started in the mathematical world, but temperate in times lenient by the atmosphere of mutual respect that prevailed, at least in mathematical circles where I had the good fortune to land. Later, they had to be repressed without more, given "the power of the results of Grothendieck" (to quote a letter to Borel Mebkhout where these "Reservations" are mentioned). They have become the rule by cons, and sometimes extending comfortable behind a some discretion tone (which is still required) since leaving the mathematical scene, while former compliance has eroded and disappeared long ago, and that the person (believed dead and buried) is more present to give the reply ... This unexpected aspect of the burial, as the funeral symbolic of the "mathematical feminine" in my humble person, is probed in both notes "The providential circumstance - or Apothéose "and" repudiation - or recall "(n ° s 151, 152) of 23 and 24 December in the middle so meditation on violence.

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There is one final aspect of my person I would like to mention again, appeared in writing of the Key p. 1247

yin and yang, in the last of the cited parts, "Masters and Servants" (which immediately precedes the turn of the thinking initiated with "claw in the velvet"). This is the "Service drive" and the role that it played in my choice of investments and mathematics as main force at work in vast, endless foundations of tasks that no one else after me has yet found the courage (or humility...) to take over and continue. This aspect, present in me with exceptional strength, testifies eloquently of the "female" dominant of my original nature, which is preserved (or even a refugee...) in mathematical activity (where nobody would have thought of going to look for. . .).

The thought occurs to me now that it is even possible that this drive helps its part, not nature ego this time, in this "tilt" that took place in favor of an intense mathematical activity relé-glove in the background, for an indefinite period, the working meditation. The latter, by its very nature, is a lonely job, a job that (I think), unless mistake, can not register with a view to a Investment for all or some "ideal community of beings eager to learn." it SEM blerait so that there is a deep urge distinct from the ego desire confirmation or approval, an impulse expressing the deep ties of the person with the species to which it belongs, which must be frustrated in a lengthy meditation work, in the sense that I want. And this may be a cause further, in addition to those (already alone powerful enough) that come from the structure the ego (the provisions of the "boss", so), that makes such work seems something so uncommon, that I @ not sure I ever met trace others.

18.9. De Profundis

18.9.1. (1) Gratitude

Rating 187 (7 April) I believe I have finished a tour of this retrospective-balance, what taught me the entire reflection Crops and Seeds. I only excluded from this retrospective part five Crops and Seeds ¹⁰⁴⁶ (*), which is not complete at this time. It started as 1046 (*) (22 June) And also, the fourth (I am writing)! See note b. p. (**) 1240 page. 926

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a "digression" in the "Key of yin and yang," digression which eventually spread throughout a month, and materialized in a hundred pages of "reading notes" on the autobiography of Jung. As the end of this digression was still not clearly

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view, I postponed. I looked forward especially p. 1248

to finalize the burial, whether written, typed, printed and sent to the right and left, finally - and we speaks more!

I suspect also that this fifth part will bring me unexpected light on the same In-INTERMENT, yes! - by considering that I plan to Jung@relationship with Sigmund Freud, during which years had master figure to the young Jung, still seeking his way. In first reading Chapter (autobiography) devoted to this relationship, I only saw the fire - and a number of unusual things caught my attention, I returned to some, I traveled again this chapter. visibly, this relationship is tense ambiguity, that Freud himself seems to have felt strongly, and Jung likes to totally ignore (as would the first seminarian came...), putting Freud@discomfort on on behalf of its sole "neurosis" (that is happy to describe in bright colors, perhaps even a too bright to be quite true. . .). Still, various associations came with me

relationship to me and my friend (also) non-student Deligne associations that I intend to follow and possibly to delve a tad. I have a feeling that what happened with the Burial, regarding psychological mechanisms involved, is not a competition unique circumstances and atypical possible, on the contrary! And I suspect that Jung's relationship with Freud could provide lights further in this regard.

But for me now at least, this fifth part (which may have the name "Jung - or the sinking of an adventure" in 1047 (*)), it is not the burial, even if it came out - and I would say: it is no longer Crops and Seeds! It's **the After** - just as the echoes of all sorts, including surely green and not ripe, which will return me to send the three parties "Fatuité and renewal ment", "The Burial (I) - or the dress of the Emperor of China" and "The Burial (III) - or Four Operations" in 1048 (**). The that is already a thousand pages or more, once that part to be completed typed net - it's not bad like that! Each day has enough trouble of its. . .

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This rush to finish and "send it" is probably above all haste the workhorse that smells p. 1249 powder, impatient to get into the fray in 1049 (*). But perhaps, more profoundly, there he has the desire to break away from me a certain past. These "thousand pages" materialize strikingly all **weight** of the past - and see this work done there, until the last stewardship tasks (including any last will probably send Crops and Seeds to hundred and thirty recipients already included on my list Interim shipment. . . 1050 (**)), it also seems to me, almost instinctively, as the moment also where I have **dropped** the weight. Illusion? Only the future will tell me. . .

So now I turn to the "final agreements" before the famous "end point", that for more than a year now I have grown to see me, and day by day, week by week, month by month found himself repulsed by the influx of the unforeseen who claimed his place.

1047 (*) Thinking write "stalemate", I found myself writing "funeral" instead. It is said that the new name suggested by this slip "Jung - or the burial of an adventure" is equally appropriate, or even that no longer touches just yet, that one I had planned.

1048 (**) Do not confuse the fourth part of Crops and Seeds, with the subtitle "The Four Operations", with following notes grouped under that name, which in this part (notes n ° s 167@76 7).

1049 (*) There is already talk of such provisions in the final section of "The weight of the past" (n ° 50) "Fatuité and Renewal" in a slightly different light (where the "workhorse" is replaced by the bull hence to the pursuit of a piece of cloth red one "waved in front of his nose." . .).

1050 (**) The famous "weight" will become more "striking" again, with the coup two hundred thousand pages (200 X 1000), instead of thousand!

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What is left to say, in these agreements? There is gratitude, speaking by "thanks."

This reflection is the result of loneliness, and yet I was helped in many ways.

Help most obvious came to me to Zoghman Mebkhout, in many ways also: through patience with which put me "in the bath" philosophy around the theorem-God Mebkhout; over there confidence that in me by informing me, against all odds, difficulties and setbacks that was hers in its relations with those who were my students; by his help to find me in a bushy mathematical literature, with whom I had lost contact; Finally, for the friendly interest and without reservation that he carried, from the moment he became aware at that job in which he saw me engaged, in which he especially (I think) perceived and received the **testimony** .

I am also grateful to Pierre Deligne to have moved to see me and take *connais-*ciency (at last October) while the written part of the Burial, and to me his *commen*

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tary 1051 (*). This visit helped me, too, in more ways than one.

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Finally, I was helped by the good will and mood of sympathy that I found with secretaries the USTL that ensured typing the manuscript: Ms. Boulet, Ms. Boucher, Ms. Brown, Ms. Pantry, Miss Lacan, Ms. Mori. Two of them took their own time to ensure an on time

Part of the strike, without wanting to accept payment for this work - a gesture that touched me deeply. It is Miss Lacan, on the other hand, to be assured alone strikes the entire second half of the entire my notes for Crops and Seeds, with care and exemplary efficiency. To all and to each I happy to express my gratitude.

I also think of all those and all those who in many times during my work have

I could seem to disturb this work and my peace, an often unwelcome way in 1052 (**). Surely these "Disturbances" themselves, which at times proved me and some still let me in the residue of sadness, they also have a role to play in the work of mine, and to bring me a message he not up to me to listen and learn. When sadness or resentment resolve into gratitude, I know

that the message was received. . .

18.9.2. (2) The friend

Note 188 These final agreements of the burial were, for almost a year now, all found their name: De Profundis ! In the Introduction (I 7, "The Funeral Scheduling") I even suggested to me later still, announcing (perhaps imprudently...) it is the "complete satisfaction" of the deceased who form "The final mark and the final agreement of memorable Burial". I was excusable then to this prognosis (As if it was over something) - at the time of this writing (in May last year) it seemed indeed a very short-term prognosis, while I thought I was just about to reach such agreements end of "De Profundis".

It is true that so far more acute than last year (when the "second wind" of reflection was coming to an end), I realize

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how I am far from really "turn" of the

p. 1251

Burial, except the only physical facts (which he seems to "stick" to my sufficiency in 1053 (*)).

If it is true, as it seemed at times that include the Burial is also "understand the

1051 (*) For this visit and the details that Deligne made me see the two notes (n ° s 163, 164) forming the "Latest homework (or visit) "of the Burial (III).

1052 (**) Reference is made here and there in these "disturbances" in the notes of recent months. On this subject, in particular, the note "The

messenger (2) "(n ° 181)

1053 (*) (May 10) Yet after these lines were written, more than a month happened to "cram" somehow new facts appeared in two dozen added subscores in extremis!

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18.9. De Profundis

conflict, "it is likely that the time I have left to live alone will not do this" tower "- not deep, at least.

So I can say that it is in very different provisions of those were mine in writing the Introduction to Funeral, as I write this final note to this. Does this mean that I end this reflection without being present that sense of "complete satisfaction"?

I do not think so. Once a vision deepens, such work had inspired the vision and prepared deepening, and that could seem "eventually led" appears **unfinished**, by the appearance of a "beyond" what had been done. Yet the **meaning** of work and the satisfaction or dissatisfaction that makes us feel, is not in its outcome, and does not depend on whether the work is intended or not find completion. The meaning of work is the work itself, it is in the **present moment** - in provisions in which we do, in love we put into it (or in the absence of love...) - not in a hypothetical future beyond our reach.

In March last year, even before he discovered the burial, I write in the introduction (I 1, "Dream and fulfillment," p. iv):

"... I leave this work to the complete satisfaction of one who knows he conducted a work term. There is something, though "small" is it, that I have avoided, or that he stood at the heart of and say that I would not have said, and at that moment I would leave the residue of dissatisfaction, of regret if "small" they are. "

I know now that this work I thought "completed" is not even today, and the will perhaps never. But I also know that this is something, after all, accessory. This "satisfaction complete", I felt strongly at the same time I was writing these lines that try to identify closer, she followed me throughout the writing

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Crops and Seeds. This is an old friend of mine, who p. 1252

had already accompanied me throughout my life mathematician, informing me in a low voice that I good road. I found it later in the meditation work - it is the same.

When I cease to hear, work loses its meaning. That why his voice is precious to me, and I take good care of my work never go away. It is through this that the work was, at

Throughout my life, a source of joy in this "complete satisfaction" of the one who gives it all around. It has not been different in the work ends - this work is " **Harvest** ", which is the same time " **Seeds** ".

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