

First part .

FATUS AND RENEWAL

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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 <sup>1</sup> (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.

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(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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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 eyes.

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

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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

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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

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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

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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

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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 ...

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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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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<sup>©</sup>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

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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<sup>©</sup>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<sup>©</sup>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 never 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 <sup>1</sup> (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!

<sup>1</sup> (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 <sup>p. 14</sup>

"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** <sup>2</sup> (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-

thème ", 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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## 6. The dream and the dreamer

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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#### 6. The dream and the dreamer

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

6.5. (9) welcome abroad

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.

3 (5)

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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### 6. The dream and the dreamer

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

p. 28  
also phenomenal. The fact is that I bathed in ambiguity, I was playing on two tables that communicate quainter not: 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 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

p. 31

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.

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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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### 7. The double face

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

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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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## 7. The double face

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

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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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7. The double face

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

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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

p. 54

"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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## 7. The double face

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

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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 tual or other, there is no question of experience. This is **the requirement vis-à-vis oneself** . The requirement I

⑥ 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, har-

ceremony 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

⑥ 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

p. 62

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

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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 (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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## 8. Teacher and students

(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 <sup>p. 68</sup> 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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#### 8. Teacher and students

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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#### 8.7. (31) The power to discourage

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

### 8. Teacher and students

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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### 8.7. (31) The power to discourage

in the work that they had chosen <sup>12</sup> (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 <sup>p. 74</sup>

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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## 8. Teacher and students

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!

#### 8.8. (32) The ethics of mathematician

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 <sup>13</sup> (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 <sup>14</sup> (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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### 8.8. (32) The ethics of mathematician

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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9.1. (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 entière-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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### 9.3. (35) My passions

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©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© seen things different magnitude rejected by the de-dain 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©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 retrou-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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## 9. Harvests

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 <sup>10</sup> (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 <sup>11</sup> 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<sup>©</sup>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<sup>©</sup> 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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## 9. Harvests

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 <sup>12</sup> elsewhere. Finally, this episode also illuminates the question I examined here; that of a profound disturbance of this open- ture 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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## 9. Harvests

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

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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. The Child has fun

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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

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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<sup>©</sup>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<sup>©</sup>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<sup>©</sup>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<sup>©</sup>a side issue. The kid<sup>©</sup>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<sup>©</sup> 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<sup>©</sup>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 less 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

p. 119

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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