

One can see Grothendieck confronting the world's ills with his signature rigor and passion. He fought against the injustice he saw, accepting no compromises.

A party of one, he was unafraid to be himself and to speak his truth. The man who had advanced mathematics in the most profound ways did not believe that math was the answer to everything. He taught us that life is more valuable than any equation.

Grothendieck's genius was to recognize that there is a “being” hiding behind a given algebraic equation (or a system of equations) called a scheme. The spaces of solutions are mere projections, or shadows of this scheme. Moreover, he realized that these schemes inhabit a rich world. They “interact” with one another, can be “glued” together and so on.

EGA and SGA, the abbreviations of their French titles.

Monumental like Euclid's “Elements,” they have not been surpassed to this day in clarity, generality, technical mastery and conceptual perfection.

They are the fruits of endless discussions, 12-hour seminars, solitary thinking — of work, in a word, for

that's what it takes: the obsessive, sustained search for truth in its most universal and abstract form. With no compromises, ever.

As Pierre Deligne, a former student of Grothendieck's and himself a mathematical maestro, put it in Le Monde, Grothendieck "had to understand things from the most general possible point of view," and once he achieved that, everything "became so clear that proofs seemed almost trivial." Perhaps that's why Grothendieck's ideas "penetrated the unconscious of mathematicians."

Edward Frenkel

He had always been uncomfortable frequenting the “better” places and felt more at ease among the poor, even the impoverished. The solidarity of outcasts had created in him a strong feeling of compassion. He lived his principles, and his home was always wide open to “stray cats”. In the end he came to consider Bures a gilded cage that kept him away from real life.

If I can believe his most recent visitors, he is obsessed with the Devil,

whom he sees at work everywhere in the world, destroying the divine harmony and replacing $300,000 \text{ km/sec}$ by $299,887 \text{ km/sec}$ as the speed of light!

He remains, however, the same Grothendieck who contributed to the renown of the IHES during its first ten years of existence. He is the same person to whom we owe the magnificent ideas on space and symmetry that I am now about to develop.

One should perhaps add the effect of a well-known "Nobel syndrome". After his dedication at the Moscow Congress in 1966, where he received

the Fields Medal, when he was laboring over the last (decisive) stages of the proof of the Weil conjectures and perhaps beginning to perceive that Deligne would be needed to complete in 1974 the program he had set for himself, and perhaps yielding to the pernicious view that sets 40 as the age when mathematical creativity ceases, he may have believed that he had passed his peak and that thenceforth he would be able only to repeat himself with less effectiveness.

But what kind of intimate

concerns, what secret fears are indicated by this obsession with the point? The ultimate form of this research, that of which Grothendieck was proudest, was that concerning the concept of a “motive”, considered as a beam of light illuminating all the incarnations of a given object in its various guises. But this is also the point at which his work became unfinished: a dream rather than an actual mathematical creation, contrarily to everything else I will describe below in his mathematical work. Thus, his work eventually opened onto an abyss.

But Grothendieck's other originality is that of fully accepting this. Most scientists are careful to efface their footprints on the sand and to silence their fantasies and dreams, in order to construct their own inner statue, in the words of François Jacob. André Weil was typical in this: he left behind a perfectly finished product in the classical style, in two movements: his Scientific Works, recently graced by a compelling Commentary written by himself, and a fascinating but carefully

filtered autobiography,
Memories of an apprenticeship
, in which the effects of privacy and
self-censorship are veiled by the appearance of a smooth
and carefree tale.

Grothendieck played at a different game, nearer to

Rousseau's

Confessions

. From the

depths of his self-imposed retreat, of now nearly ten years –
which it would be indecent to

attempt to force – he sent us a vast introspective work

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R'ecoltes et Semailles

. I will make

use of this confession to try to clarify some of the main features of his work. But let us

not fool ourselves: Grothendieck reveals himself in all his nakedness, exactly as he appears

to himself, but there are clear signs of well-developed paranoia, and only a subtle analysis

could reveal all the partly unconscious blockages and silences. The existence of

R'ecoltes

et Semailles

aroused a somewhat unhealthy curiosity in the eyes of a certain public, akin

to the sectarian devotion to a guru, an imaginary White Prince. For myself, I will stick to an analysis of the work and of the biography of the author, remaining as rational and honest as possible, before letting R'ecoltes et Semailles illuminate this exceptional body of work from within.

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