

Chapter 28. The Crafoord Prize, 1988

1988 was the last year that Grothendieck stood in the spotlight. He was awarded the prestigious and well endowed Crafoord Prize conjointly with Pierre Deligne, his former student and successor at the IHÉS. This prize had been established by the Swedish industrialists Anna-Greta and Holger Crafoord in 1980, and has been awarded every year since 1982, alternating between mathematics, astronomy, geosciences and biosciences. It was conceived as a complement to the Nobel Prize, but with particular emphasis on the natural sciences for which no Nobel Prize exists. The Royal Swedish Academy of Sciences awards the prize, and it comes with a considerable financial award. The winners of the prize in mathematics are Arnold and Nirenberg (1982), Deligne and Grothendieck (1988), Donaldson and Yau (1994), Connes (2001) and Kontsevitch and Witten (2008).

Grothendieck and Deligne were awarded the prize “for their fundamental research in algebraic geometry, especially the introduction of étale cohomology (Grothendieck) and its application to various fields of mathematics (Grothendieck and Deligne), including the proof of the Weil conjectures.”

In a report on the candidates for the prize obtained from the Swedish Academy there can be found a list of leading figures in algebraic geometry, in which Weil, Serre, Grothendieck, Deligne and Faltings are described as exceptional. Then follows the conclusion:

Coming now to the difficult task of nominating to you a candidate for the 1988 Crafoord Prize, and with the above in mind, I propose to you as candidate Alexandre Grothendieck. It is my deep conviction that the achievements of Grothendieck in, and his significance for, algebraic geometry in particular, and mathematics in general, can stand comparison with the achievements of each one of the distinguished mathematicians mentioned above.

In order to justify my proposal and my statement I could first of all mention the fact that modern algebraic geometry, as it stands today, is built upon the foundations laid down by Grothendieck. However - and I would like to stress this point - this itself would not be sufficient for justifying my statement and it is certainly not my principal point. My main motivation is in fact the originality, the brilliance and at the same time the naturality of Grothendieck's ideas, the deepness of his insight and the richness of his imagination. Grothendieck has shown us completely new ways and methods, he has revealed us entirely new roads into algebraic geometry and many other parts of mathematics.

This eulogy maintains that Grothendieck and Deligne “revolutionized” algebraic geometry. In 1988 the prize was endowed with the sum of \$270,000. Grothendieck received news of the tribute on April 13. In the following days the news was widely reported by the press, in newspapers such as *Le Monde*, and became generally known.

On the occasion of the award ceremony, Grothendieck received many congratulatory letters. His most prominent well-wisher was the French president François Mitterand, whose letter dated April 18, 1988 contained no personal salutation and was written in a rather official tone, which above all emphasized the high level of mathematics in France.

LE PRÉSIDENT DE LA RÉPUBLIQUE

Paris, le 18 avril 1988

Message adressé au Professeur Alexandre GROTHENDIECK
lauréat du prix CRAFOORD 1988

Le prix CRAFOORD qui vient de vous être attribué en même temps qu'au Professeur Pierre DELIGNE s'ajoute aux autres prix prestigieux qui ont déjà récompensé vos travaux.

Cette distinction témoigne de la très haute qualité de l'école mathématique française dont le récent colloque sur les "mathématiques à venir" rappelait à quel défi elle doit faire face pour attirer de jeunes chercheurs et se maintenir à un niveau mondial.

J'attache du prix à une distinction remise par un jury européen à deux chercheurs européens qui ont formé des générations d'élèves en France.

Je me joins avec plaisir au témoignage de reconnaissance de la communauté scientifique et vous adresse mes félicitations personnelles.

A vous
François Mitterrand

François MITTERRAND

Monsieur Alexandre GROTHENDIECK
Professeur à l'Université des Sciences et des Techniques
du Languedoc
MONTPELLIER

On April 19, in a letter addressed to Tord Ganelius, the permanent secretary of the Swedish Academy of Sciences, Grothendieck declined the prize, explaining his reasons. The letter of refusal was printed in *Le Monde* on May 4, with some insignificant alterations which, however, greatly angered Grothendieck. At this point the whole issue became somewhat sensational. The refusal received far more attention by the press and the public than the actual prize-giving; even the tabloids reported it, and Grothendieck received a correspondingly higher number of letters concerning the rejection.

Here is the main part of what Grothendieck wrote to Ganelius:

I am touched by the honor given to me by the Royal Academy of Sciences of Sweden awarding this year's Crafoord prize, together with a significant sum of money, jointly to Pierre Deligne (who was my student) and myself. Nevertheless, I regret to inform you that I do not wish to accept this (or any other) prize for the following reasons.

1) My salary as a professor, even my pension starting next October, is more than sufficient for my own material needs as well as those of my dependents; hence I have no need for money. As for the distinction given to some of my work on foundations, I am convinced that time is the only decisive test for the fertility of new ideas or views. Fertility is measured by offspring, not by honors.

2) I note moreover that all researchers of high level, to which a prestigious award such as the Crafoord prize addresses itself, have a social standing that provides them with more than enough material wealth and scientific prestige, and with all the power and privileges these entail. But is it not clear that superabundance for some is only possible at the cost of the needs of others?

3) The work that brought me to the kind attention of the Academy was done twenty-five years ago at a time when I was part of the scientific community and essentially shared its spirit and its values. I left that environment in 1970, and, while keeping my passion for scientific research inwardly I have retreated more and more from the scientific "milieu". Meanwhile, the ethics of the scientific community (at least among mathematicians) have declined to the point that outright theft among colleagues (especially at the expense of those who are in no position to defend themselves) has nearly become the general rule, and is in any case tolerated by all, even in the most obvious and iniquitous cases. Under these conditions, agreeing to participate in the game of "prizes" and "rewards" would also mean giving my approval to a spirit and trend in the scientific world that I view as being fundamentally unhealthy, and moreover condemned to disappear soon, so suicidal are this spirit and trend, spiritually and even intellectually and materially.

This third reason is to me by far the most imperative one.[...]

If one views Grothendieck's life as a stage play - which could only be a tragedy - then with the attribution of the Crafoord prize we have reached the final act. An image springs to mind when reading the many letters that he received on this occasion: around the hero, who is about to turn his back on the world forever, a great chorus has gathered, a chorus of voices which try to hold him back, conjuring up everything that had been of importance to him on in his life's path. Everyone is present in this choir: voices from his childhood in Hamburg such as Utta Heydorn and Sigrid Bendt; greetings from his best friend from the childrens' home *Le Guespy* in Le Chambon, Rudy Appel; his closest companions along his mathematical path such as Serre, Samuel, Choquet or Jacob Murre, his thesis advisor Laurent Schwartz, his students such as Demazure, Illusie or Mebkhout; his fellow campaigners from the *Survivre* period such as Jaulin or Guedj, his most faithful supporter during the months of his absurd trial, Lascoux, and innumerable brief acquaintances or people completely unknown to him such as the widow of Fritz Strassmann, the chemist from Mainz who was a co-discoverer of nuclear fission. The "King" is present in the figure of the President of the Republic, and there are also figures playing the part of the beggars. Everyone has gathered, and all are saying the same thing: Stay with us!

Clearly somewhat surprised by the media response, Grothendieck answered his well-wishers in a quasi-open letter. This happened on April 24, 1988, before the refusal had become public knowledge. He gave his letter the sarcastic heading “Congratulations to the congratulators for the Crafoord Prize 1988”. He began by politely expressing his thanks for the congratulations, but then, as he so frequently did, he adopted a moralizing and didactic tone that rendered discussion difficult if not impossible. Above all he lamented the fact that not one of the people who supposedly knew him well, and had read *Récoltes et Semailles*, suspected that he would refuse the prize.

Among the many letters to him were some very serious ones which examine his reasoning, and also some that are rather bizarre. As can be expected, most of the letters expressed recognition, sympathy, and even admiration. (Those who did not share Grothendieck's reasons for refusing the prize hardly felt the need to write to him.) Grothendieck's reaction was distinctive of his personality. He painstakingly put them in order and archived them. If they lacked a date he marked it himself. If he wrote a handwritten letter in response, which usually occurred on the day he received it or immediately afterwards, he marked this on the original letter. This accuracy, even in the details, was certainly characteristic of his work method.

Far more interesting of course, was the manner in which Grothendieck responded to all this mail.

There were many enquiries from media representatives (press, radio etc.), asking for interviews, articles, or other statements. Such suggestions or requests were refused without exception. There were also invitations to lectures, talks, or research visits. Even the national university of Ivory Coast invited him for a three week stay¹. As this rather formal letter of invitation is typical of the others, we will quote its first few lines: *"Votre lettre à l'Académie Royale des Sciences de Suède, publiée dans Le Monde, comme tout ce qui vous touche ne peut laisser personne indifférent. Et je me surprends de converger largement avec vous!"*² Even though Grothendieck's answers are not available, there is no doubt that he refused all these invitations.

A few of the letters expressed respect for Grothendieck's motives, but also the opinion that he could have spent the prize money for a “good cause.” (These came mostly from campaigners and acquaintances from the *Survivre* period.) This could be suggested in a completely “naive” and direct manner, as in the somewhat melancholy letter from Sigrud Bendt, daughter of Rudi and Gertrud Bendt, so cherished by Grothendieck:

¹ Letter from Professor Bamba Siaka Kante from the mathematical institute.

² Your letter to the Royal Swedish Academy of Sciences, published in *Le Monde*, like everything else that concerns you, cannot leave anyone indifferent. And I am surprised to find myself mostly in agreement with you!

Dear Schurik, I naturally read with astonishment about your refusal of the prize. I admire you, what would Mutti have said about it? But the thought came to me, why not accept the prize and give it to needy people?

At the risk of digressing somewhat, we shall cite a few more sentences from this letter, in which so much of Grothendieck's life is reflected, including some of the perplexity with which even close acquaintances regarded him:

Dear Schurik, I've been waiting a long time for mail from you. Now I have the feeling that nothing else will come. It saddens me a little. Have I annoyed you? That would not be at all what Mutti wanted. She really cared about you and she was so pleased every time she received a letter from you. During my holidays she would always read me the letters. Your touching esteem for Vati and herself warmed her heart. Mutti was deeply thankful for your generous gifts. [...] Mutti never had much money, that's why for her it was a wonderful feeling to finally have some money³.

We shall deal with another case in which Grothendieck's past caught up with him in more detail later in this chapter.

There was a not insignificant number of letters in which the writers speak above all about their own personal problems, and naturally there were also “cranks” who expressed themselves on obscure mathematical, religious or other questions.

As already said, Grothendieck answered almost all of these letters. If he was not particularly interested in the writer, for instance the President of the Republic, Mitterand, he was short and formal. Otherwise he took great pains to give a personal response to the concerns of his correspondent.

Surprisingly, by far the longest, most interesting and substantial correspondence was exchanged with a woman who until then had been completely unknown to Grothendieck. She apparently had serious material difficulties and also health and psychological problems, and had turned to Grothendieck for help. One can only admire the attention and sensitivity, but also the rational and practical manner with which he dealt with her situation. He even instructed a good friend to take up the case of this woman, accompanying her for instance to court hearings and administrative procedures. He had clear principles however, and did not needlessly waste time. When he realized that perhaps his correspondent was in fact indulging in somewhat lachrymose self-pity, rather than undertaking practical steps, he made some crystal clear suggestions in a last letter and then broke off the correspondence. (The question thus remains unanswered as to whether he actually gave the unknown woman financial support, which he had in any case not ruled out in his letters. According to the above-mentioned friend, Grothendieck paid for the costs of her legal counseling.)

When reading the completely reasonable and rational correspondence with this woman one can only feel bewilderment when considering that this was already the period when Grothendieck was receiving messages from good and bad angels, when

³ For information on the Bendt family see the chapter entitled “Schurik in Blankenese” in Volume 1 of this biography, *Anarchy*.

he was identifying with Marthe Robin of the stigmata and the fifty-year fast, who had died in 1982, that shortly afterwards he tried to fast to death in order to consciously experience the moment of death, and that less than two years later he would predict the Last Judgement and an imminent Golden Age. Even in the letter of refusal to the Swedish Academy one can find a hint of this when he mentions “before the end of the century totally unforeseen events”. Two different aspects of Grothendieck are visible here, which are difficult to combine into a single image.

Although the letters which Grothendieck received after declining the Crafoord Prize usually expressed agreement with him, one must assume that the majority of people reacted with incomprehension, doubtless in part because of the once again reiterated explicit criticism of the scientific establishment. Grothendieck probably regarded the intensive correspondence as enriching. On June 23, 1988 he wrote to his German friends:

I am still receiving mail and other echoes in regarding the whole Crafoord Prize story. I've made a few very interesting acquaintances because of it, among others someone who is just the right person to translate Reaping and Sowing and my future works⁴ (in as far as the dear Lord doesn't scrap them as “high-class kitch”).

We now return to the second case mentioned earlier in which Grothendieck's past caught up with him. In the wake his refusal of the Crafoord Prize, there followed a short exchange of letters with Pierre Sauvage, in which Grothendieck's convictions and moral principles, doubtless difficult for everyone to share, become especially clear. And this exchange of letters brings us back to the events which took place in Le Chambon-sur-Lignon more than forty years ago. For an instant Grothendieck's personal history returned to the fore.

Pierre Sauvage was born in Le Chambon; his Jewish parents had found refuge there, and later emigrated to the United States, where they began a new life. Their son only learned of his Jewish origins and the events in Le Chambon at the age of eighteen. He became a successful filmmaker, and in 1982 he founded the “Chambon Foundation”, whose mission is to keep alive the memory of the events which took place in this grey mountain city. His documentary film “Weapons of the Spirit”, completed in 1989, serves this purpose. The exchange of letters with Grothendieck concerns this film. On May 4, 1988, Sauvage wrote:

Dear Mr. Grothendieck,
We were together in Le Chambon, I as a Jewish baby born there by chance in 1944. Rudy Appel and other former residents of La Guespy told me about you. [...] It is because of Le Chambon that I permit myself to write to you, and because of the considerable financial prize which you have refused. I will not attempt to create a relation between geometry and morality, but why shouldn't I point out to you that the sum which was offered to you could be used in preserving the memory of Chambon, and in so doing also the future.

⁴ Presumably he is referring to Roy Lisker.

And this in three ways. 1) It would make it possible, with your assistance, to complete my film about Le Chambon [...]; 2) you could contribute to the creation of a historico-moral [*historico-moral*] museum in Chambon [...]; 3) you could contribute to a “Daniel Trocmé” scholarship⁵, which we Jews from Chambon want to create for the College Cévenol.

My first priority today is in fact the completion of my film “Weapons of the Spirit”, which documents what happened in Le Chambon during the war years.

Sauvage then goes into some details about the film's production costs and some technical details, then excuses himself and concludes:

In any case, if Chambon means anything to you and if you consider my efforts deserving, I would request that you consider whether it would not be possible to donate the money which you refused to “Friends of Le Chambon”.

Grothendieck answered on June 5 as follows:

[...] As you said yourself at the end of your letter, there is no lack of good intentions in the world, for which there is no money, and as a consequence of my refusal of the Crafoord Prize I have received a large number of letters asking me to rescind my refusal. In consideration of the special circumstances and the general context of the prize's attribution, there could be no question of my accepting it - I would have had to betray myself. The prize could be worth a thousand times more and it would be exactly the same. And if you had ten million dollars, which would allow you to distribute your film to every corner of the earth, the world would not advance by even the width of a hair. Because that which is wrong is not something one could buy, or even improve - a billion of billions of billions of dollars would change absolutely nothing. Surely you know this deep down, but, like everyone else, you have the tendency to forget the nature of things. Your film will achieve neither more nor less good (or evil) than what it achieves for you personally [...]

The reason for this is that for the last few years I have been living a very retired life, without feeling the need to belong to any group. That does not mean that your initiative of creating or renewing a link between “former residents” who have been scattered to the four corners of the earth does not seem interesting to me. On the other hand, I have to admit that your way of “shouting from the rooftops” about the “Righteous Among the Nations” of Le Chambon seems to raise simple human solidarity into an act which should solicit the admiration of posterity (like objects in a museum from a bygone era, when such things still existed...) - that seems to me to completely defeat the whole purpose. I am sure that the people of Chambon who were involved must be the first to oppose this inappropriate publicity and are embarrassed by it.

The question broached in the last lines - the “right” attitude of posterity about the events in Le Chambon - was of great concern to Grothendieck later on. More will be said on this subject in Volume 4.

⁵ Daniel Trocmé, a nephew of André Trocmé, paid for his involvement in helping Jewish refugees with his life. He was one of the few victims of the Nazis in Le Chambon. (See Volume 1 of this biography.)