

various notes; Catherine Chevalley will have to work hard to collect these things and we will publish them as part of his collected works.

Chevalley was the only one who perceived the connection between Bourbaki and the rest, and that may be why, in the seventies, he was more critical than other people. In the seventies a sensible person could already see the end of a long historical trend, and I think he was very sensitive to this. Mathematics was the most important part of his life, but he did not draw any boundary between his mathematics and the rest of his life. Maybe this was because his father was an ambassador, so he had more contact with various people.

Senechal: *Could you state the main reasons for the decline of Bourbaki?*

Cartier: As I said, in the eighties there was no longer a stated goal, except for the long legal battle. I think it was one of the cases of the century! We hired a famous lawyer who had fought for the heirs of Picasso and Fujita. We survived artificially: we *had* to win this battle. But it was a pyrrhic victory. As usual in legal battles, both parties lost and the lawyer got rich. In fame and in pocket.

In a sense Bourbaki is like a dinosaur, the head too far away from the tail. When Dieudonné was the scribe of Bourbaki, for many many years, every printed word came from his pen. Of course there had been many drafts and preliminary versions, but the printed version was always from the pen of Dieudonné. And with his fantastic memory, he knew every single word. I remember, it was a joke, you could say, “Dieudonné, what is this result about so and so?” and he would go to the shelf and take down the book and open it to the right page. After Dieudonné (and an interlude by Samuel and Dixmier) I was the secretary of Bourbaki, and it was my duty to do most of the proofreading, I think I proofread five to ten thousand pages. I have a good visual memory. I wouldn’t compare myself with Dieudonné, but there was a time when I knew most of the printed material in Bourbaki. But no one after me was able to do this. So Bourbaki lost the

awareness of his own body, the 40 published volumes.

And as I said before, Bourbaki was more or less like a family. The second or third or fourth generation in any family or any social group follows definite sociological patterns. My own family was typical. My grandfather was a self-made man, a very successful businessman. My father and my uncle went into the business, but they were not so devoted to the fight. And people in my generation—well, I suppose I made the right decision not to engage in it. Indeed, people in my generation who did go into our family business did not do so well, because they didn’t have anything to fight for.

But these are the inner workings. Of course the outside world also has an influence. That the outside mathematical world has changed is obvious. We all know that what Stalin could never achieve with his army, to conquer the world, the collapse of the Soviet Union has achieved for mathematics. The Russian mathematicians have brought a different style to the West, a different way of looking at the problems, a new blood.

It’s a different time, with different values. I have no regrets: I think it was worthwhile to live in the twentieth century. But now it’s finished.

Senechal: *How would you describe your journey with Bourbaki?*

Cartier: I have been personally very happy, because when I reached the time of normal retirement from Bourbaki, I had the very fortunate opportunity to be asked to deliver the lecture on behalf of Vladimir Drinfel’d at the International Congress of Mathematicians at Berkeley in 1986 (Drinfel’d was prevented from coming for political reasons). It was a great challenge and a great honor for me; his paper is one of the most important papers in the proceedings. Overnight that changed my mathematical life. I said, “This is what I have to do now.” Of course I knew the basic material but the perspective was new. I cannot claim that within the few hours I had to prepare the lecture I could really master it, but I understood enough to explain to the people, “This is new, it is important.”

When I began in mathematics the

main task of a mathematician was to bring order and make a synthesis of existing material, to create what Thomas Kuhn called *normal science*. Mathematics, in the forties and fifties, was undergoing what Kuhn calls a solidification period. In a given science there are times when you have to take all the existing material and create a unified terminology, unified standards, and train people in a unified style. The purpose of mathematics, in the fifties and sixties, was that, to create a new era of normal science. Now we are again at the beginning of a new revolution. Mathematics is undergoing major changes. We don’t know exactly where it will go. It is not yet time to make a synthesis of all these things—maybe in twenty or thirty years it will be time for a new Bourbaki. I consider myself very fortunate to have had two lives, a life of normal science and a life of scientific revolution.

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Erratum

Due to an error in the computerized typesetting files for *Math Intelligencer* vol. 19, no. 4, some of the characters that were supposed to be superscript or subscript instead appeared as normal type. Instances of this problem occurred in “The Miraculous Universal Distribution,” by Walter Kirchherr, Ming Li, and Paul Vitanyi, p. 10, and “Numerical Distances Among the Spheres in a Loxodromic Sequence,” by H.S.M. Coxeter, pp. 41–47.