

Those events dictated everything. Different people had different reactions to this kind of youth. A great many people were left with an enormous desire for calm and regularity because life had been rough: they were tired of big events. Somehow I reacted differently. I do not particularly like danger. I didn't like the close encounters with danger. But I found that I could bear them. And they brought other advantages. Being raised under such hair-raising conditions can have a strong effect on someone's personality.

How did the war affect your thinking about maths?

Until mid-1942, my education was only a little disrupted. After that, until early 1944, it was very disrupted and life was very dangerous. The winter of 1944 was awful and at the same time one of the high points of my life. During that time, it became clear that I had a peculiar gift of being able to almost instantaneously transform into geometry everything that I could handle in my head.

Has this been your prime motivation?

What motivates me now are ideas I developed 10, 20 or 30 years ago, and the feeling that these ideas may be lost if I don't push them a little bit further. Does that matter? Most ideas in science that are abandoned are picked up by someone else later, but not all. I have reflected on this issue a great deal. Perhaps I would like to finish my ideas for aesthetic reasons – a feeling of closure.

Are there any neglected parts of maths that you think today's mathematicians should revisit?

There are plenty. I think that mathematics is one of the best fields in that respect. Something that is 150 years old in maths is old but not dead and dried to dust. It is so different from physics, where something that is 100 years old but not in textbooks is, for all practical purposes, dead.

In your latest book you take on the world of finance. What is so attractive about the stock market?

When you've chosen the kind of life I have chosen to live, you must not let opportunities pass by. I recently had the chance to work with Richard Hudson,

former managing editor of the European edition of *The Wall Street Journal*, on a book on economics.

The most important thing I have done is to combine something esoteric with a practical issue that affects many people. In this spirit, the stock market is one of the most attractive things imaginable. Stock-market data is abundant so I can check everything. Financial markets are very influential and I want to be part of this field now that it is maturing.

In your book, you challenge Alan Greenspan, chairman of the Federal Reserve, and other financiers to set aside \$20 million for fundamental research into market dynamics. Why do you feel this is necessary?

There is a problem that is specific to financial markets. In most fields of research, when someone makes an important finding, they publish it. In the case of prices, they set up a firm and sell advice about their discovery. If they can make money from it, they will. So the research into market dynamics is a closed field.

Another reason is that the research carried out so far has proved ineffective

because so many fixes and twiddles are added to a theory until it works. That leaves you with a theory that is out of shape. You don't know which is more important – the thing you started with or all the fixes and twiddles. The level of theory in finance has been disappointing.

Do better theories really matter, though?

Financial risks are much underestimated. The effects of wrong business decisions are global. Nobody takes realistic measurements of risk and we should. I think we should take a strongly conservative attitude towards evaluating risks. I have lived all my life skating on thin ice, which does make you conservative. I've met stockbrokers who say that they are perfectly happy that they have judged the financial risks correctly in 95 per cent of their cases. They wonder why they should bother about a few cases that turned out wrong. Well, those are the ones that matter most – such as the Russian market crash of 1998.

I would like scientists, engineers and the whole of society to understand

"All my life, I have enjoyed the reputation of being someone who disrupted prevailing ideas"

