

COMMENTARY /

FREEDOM HAS ITS PRICE

by Bernard Dixon

A few months ago, I was talking to a former Soviet dissident scientist who had left the U.S.S.R. before the era of *glasnost* to settle in Israel. We discussed Mr. Gorbachev, human rights, religious freedom, and the demise of the Cold War. Then I enquired what had been the major difficulty he had experienced in adjusting to laboratory life in his adopted country. He thought for a while, and then mentioned the special joy of seeing *Nature* shortly after publication each week, rather than months later—and after trekking to a sister institute on the other side of town. He had also been delighted to update his analytical techniques and equipment in the field of tumor virology, and had much appreciated opportunities to travel freely to congresses in other countries.

But none of these changes rated as the most profound contrast between his past and present daily life as a scientist. "What really took the greatest effort of adjustment," he said, "was learning how to describe research *before* getting the money to do the work, rather than afterwards." Formerly, as a middle-ranking Soviet biologist, he had enjoyed a reasonable level of financial support. Things could have been better, of course, but the rubles came in fairly predictably, without haggling with a central research council, and were spent according to priorities agreed with his institute's director. Then, when a particular project was complete, he would write the results up for publication.

"The whole process now comes the other way around," he continued. "I have to work out what I want to prove, and then write up the ideas in considerable detail—long before I receive the cash to obtain equipment and technical assistance and get on with the work. Even now, five years after arriving in Israel, I haven't really become accustomed to devising grant applications. It's not only a time-consuming chore, but something I regard as marginally unethical. In just this one respect, I preferred the system in which I worked before."

My conversation with the former dissident came to mind recently during a pre-Christmas visit to Berlin—West and East. Already, within a few days of the appointment of Manfred Gerlach as East Germany's first non-communist head of state, it was becoming clear that science was set to change as radically as everything else in the German Democratic Republic. Equally clearly, the positive and invigorating effects of change could mean losses for some.

The trio of difficulties plaguing East European science are those of information, bureaucracy, and hard currency. Two experiences during my visit symbolized the scale and urgency of the information problem, with its deeply damaging effects on current research awareness. One was the daily flood of researchers through the new checkpoints in the Berlin Wall—matching the flow of citizens seeking the sights of commercialized Christmas, but intent instead on the libraries of West Berlin's institutes and

hospitals. The other experience was a conversation with a research director who told me of the "special privilege" he enjoyed in taking home at weekends the single copies of *Nature* and *Science* which otherwise he had to share with over 300 colleagues in his institute.

Even in East Germany (one of the more successful economies in the Warsaw Pact) the reason for this information famine is, of course, a severe shortage of hard currency. The same problem is responsible for the inadequate though variable availability of laboratory equipment. Importation from the West is severely restricted, and although the G.D.R. does produce some high-caliber instruments, most of them go into the export channel to earn dollars, yen, and West German marks (now worth 14 times the other sort). One highly placed biotechnologist told me that he had been trying for years to obtain a Carl Zeiss microscope, made in Jena, but without success.

Then there is the stifling bureaucracy. I heard, for example, of a biotechnology group that had developed a much-improved process for making yogurt. Everyone agreed that this was more efficient than the existing process and gave a vastly superior product. But such was the inertia in the present machinery for manufacturing, distributing, and selling yogurt that the innovators had found it impossible to get their new technology adopted. Likewise, scientists wanting to sell their skills on contract to industry have not only received no encouragement or practical assistance, they have also encountered a bureaucracy that has contrived, consciously or otherwise, to thwart such entrepreneurial efforts.

Now, even before the free elections scheduled for May, much of this is changing. Scientists are beginning to forge contract research links, and many are keen to work with companies outside of East Germany. The Academy of Sciences is being reconstructed to encourage diversity in research. The West German Volkswagen Foundation is creating a DM10 million (\$5.6 million) fund to provide grants for research in the G.D.R. And scientists and librarians to whom I spoke were confident that the supply of scientific journals—crucial ingredients in vitalizing East German science—will be given high priority as the government works to bring in Western capital.

No doubt these changes will be highly beneficial. But the experience recounted by my Israeli contact also points to one possible demerit if the opening-up and democratization go too far. Despite its rigidity, and the abuses that can stem from assured support, the old system certainly reflected a political-societal view that science should be supported for its own sake. Researchers did not have to justify themselves in advance and, as in the U.K. these days, focus solely on practical utility. It would be a paradoxical outcome, in East Germany and elsewhere, if a new era of challenges, grantsmanship, market forces, and decentralization were to leave some high-caliber researchers yearning for the greater "freedom" of the old days.