

A culture whose time is past

France's scientific and technological structures have no choice but to undergo a revolution. The government must encourage a climate of competitiveness and risk-taking required to ensure a strong scientific future.

Forgetting the economic disasters that were Concorde and Superphénix, even the most ardent free marketeer must concede that France's model of industrial policy, anchored in a system of meticulous and comprehensive state planning, has borne fruits. But the model has now outlived much of its usefulness. France's *grands programmes technologiques* were well suited to developing space, aeronautics and nuclear power. But the technologies that will drive tomorrow's economy, such as biotechnology and informatics, demand imaginative entrepreneurship, a tough competitive streak and, above all, the flexibility and speed needed to bring the latest research to the marketplace.

This message has once again been reinforced in a damning report to the government (see page 214), which states bluntly that France's industrial and research systems are poorly prepared to take up this challenge, despite a solid basic science base. If the government of Lionel Jospin is to fulfil its pledge to make a technology and innovation policy the centrepiece of its efforts to make France competitive in the twenty-first century, it will have its work cut out. The challenge facing this alliance of socialists, communists and greens is to transform France's industrial culture without the social disruption characteristic of a Thatcherite revolution. Whether it has the stomach for the task is a critical question for the country.

Attacking the many administrative and other obstacles that dog innovation could certainly bring some improvements. But substantial change will require nothing short of abandoning France's traditional technocratic and hierarchical approach to innovation in favour of a 'bottom-up' strategy aimed at empowering the small and medium-sized companies that all agree are the key to tomorrow's economic successes. These have been almost neglected so far, with almost all state industrial research monies, for example, going to a handful of large companies associated with the *grands programmes*.

With defence spending declining, there is now scope for transferring much more state support to small companies in promising sec-

tors. The report's recommendation that an interministerial body be set up to monitor and evaluate a strategy for deciding where public funds for stimulating industrial research are best spent makes good sense. That such a body does not already exist is itself astonishing. As the report aptly questions, might not the FF820 million of public money used to create BioAvenir, a joint research programme between Rhône Poulenc and research agencies, have been better spent, for example, on encouraging the creation of biotechnology start-ups?

The state certainly has a role to play, but only if it provides scientists with the opportunity to explore the commercial viability of new ideas free of the straitjackets of bureaucracy on the one hand and short-term profitability on the other. The last thing the entrepreneurs behind Génopole, France's planned biotechnology valley, want is to be sitting in meetings with ministry bureaucrats deciding how subsidies should be spent while their competitors push ahead.

The report's recommended creation of a halfway house between research laboratories and industry, along the lines of Germany's Fraunhofer Institutes, is a sensible task for the state, and would fill an obvious gap in the country's technology infrastructure. But what is ultimately needed is less state involvement, not more. General Charles De Gaulle is no doubt turning in his grave at the many references in the report holding up the United States and United Kingdom as models of how to encourage innovation. But it is hard to avoid the conclusion that more competitiveness and less job security are necessary, in both research and industrial bases.

Next month, Lionel Jospin will chair an interministerial council aimed at drawing up a strategy and priorities for French research. A firm commitment to eliminating restrictive state interference and bureaucracy wherever possible, and to introducing concrete measures aimed at creating a more competitive but also more productive environment for high-technology companies and their investors, is necessary for France's economic health. The long-term health of France's basic research also depends on it. □

Competitiveness versus conferences?

A small rebellion reflects postdocs' dissatisfaction with meetings of questionable value.

Once upon a time there was a keen young researcher working in a rapidly developing field. After months of hard work he at last had something interesting to tell his peers. He registered for what looked like an excellent conference at which to present his results: international, supported by an international agency, many of the top people attending. Somewhat taken aback when he discovered the costs, nevertheless, eventually, he went. The accommodation was at a comfortable hotel, the meeting facilities excellent. He was appalled. The talks were mainly reviews or results whose publication was imminent anyway. He discovered that the field was too competitive to allow people to discuss their latest findings. All that money, and for what?

That was the experience of at least one postdoc who attended a European Research Conference on programmed cell death (apoptosis) last year. The costs of attendance at the three-day event, not

including travel, amounted to DM1,800 (about \$900), despite financial support for the conference by the European Union.

Given what they perceive to be the poor value of what was delivered, and a more general trend in this direction, a group of postdoctoral researchers has now rebelled and organized a very different meeting at cheap rates in an Italian research institute. Thanks to sponsorship, the fee to those invited will be \$25 — and participants will have to pay only travel expenses.

The topic will again be apoptosis, and the organizers promise to set an example by talking about their latest results (e-mail contact: delaurenz@utovrm.it). These are serious scientists, and the meeting promises to be stimulating.

This initiative represents a statement by a few postdoctoral researchers about the state of conferences in at least one fast-moving area of science. Is it the tip of an iceberg of dissatisfaction? □