

Can science be made to work?

Most governments are at their wits' end to wring more economic benefit from their investment in research, but only a few seem to be facing up to what needs most urgently to be done.

WHAT does Mr Mikhail Gorbachev have in common with most other political leaders, in both the East and West? The common denominator of politicians' discontent has become the conviction that the economies they run are being deprived of the economic benefits to which a generous regard for the importance of research would normally entitle them. In the pages which follow this week, there are accounts not just of Mr Gorbachev's exhortation to the Party Congress in Moscow, but about the Japanese prime minister's regrets about the quality of university education in Japan and of the French decision, going against the grain, that French companies might usefully participate in the US programme to build a defence against nuclear missiles, not so much for the sake of what is planned but for the technological benefits that might flow from collaboration. In more or less any other week, there would have been a similar chorus of regretful complaint, but the leaders would have been from the United States, from West Germany or, almost certainly, from Britain.

For a common problem, it is natural to look for a common solution. What, in the supposed under-exploitation of science, could this be? The most obvious difficulty is that the common problem has a diversity of causes. The Soviet Union, for example, has a splendid system of secondary education, in stark contrast with that of the United States (to judge from what the US government was saying two years ago, when this cause was briefly fashionable). But Mr Gorbachev is probably right when he now says that the trouble in the Soviet Union is that the machinery of planning, which ostensibly exists to ensure the rational exploitation of resources, is not a help but a hindrance to the creative economic use of research. In the United States, by contrast, where the market is forever sending unmistakable signals to the productive enterprises, it is ever more apparent (in contrast with Japan) that the part of the great American dream that the transition from rags to riches could be accomplished in mere decades by people of sufficient enterprise and quality (not always endearing) has become an excuse for the toleration of amateur bravado in too many parts of the economic machine. Western Europe, not nearly as homogenous as the name suggests, is in a different case again: the trouble is not so much tradition as the prevalent chauvinistic disregard for economic logic, embodied in the belief that even institutions such as the European Community are places in which the participants play a zero-sum game.

Magic

Chauvinism is complicated by impatience. The common theme in what the statesmen are forever saying about the unwon economic benefits of science is that a suitable waving of the right magic wand would put things to rights in a twinkling. In the United States, the hope still lingers that it will be possible to do something about industrial competitiveness in time to affect next year's balance of payments. Mr Gorbachev has the next five years in his sights. What now appears in Western Europe as disappointment with the fruits of science will be bitter anguish ten years from now. Yet, on present form, the message will then be much what it is now. For the truth is that the structural

weaknesses underlying the present weakness of the industrial economies (taking Japan as the yardstick) will not be put right as quickly as people have taken to hoping. Perhaps only China has the timescale right, with its hope of being a modern state by 2025 or thereabouts.

The timescale is important because it determines the choice of policies, among a bewildering variety, that governments should follow. In Britain, there has recently been a great fuss about the sale, to a consortium of US and Italian companies, of a minority stake in Westland helicopters. The argument is that helicopter manufacture is a crucial part of an industrial economy's strategic capability. But nobody would suggest that twenty years from now, Britain will need still to remain self-sufficient in this exotic craft, especially when there are at least three other European companies already busy in the field, and apparently more successful than Westland. (The case of the proposed sale of the Land Rover company, now in public ownership, is different, for that is a successful company in spite of having been badly managed.) The snag, not just in Britain but in the rest of Western Europe, is that the will to make science useful is more often translated into rows over issues such as these than into the building of the institutions from which success might ultimately spring. It is only fair, even to the politicians, to acknowledge that their impatience accurately reflects that of their constituents who, after the title of Mr Kingsley Amis's novel, "want it now".

Solutions

They (that is, we) will have to wait. All of the complaints now being made have their origins in problems that will need decades for solutions. The US high-school system will have to be made good before it can serve what are called societal needs, but it is an unpopular cause to which politicians pay only passing attention. The Soviet Union will either have to become much better at planning or will have to follow China in allowing a simulation of a market economy. In most of Western Europe, the secondary education system is better than that of the United States but less flexible, and thus less likely to throw up young people with a sense of being able to change the world. Britain (in contrast with much of the rest of Europe) will probably be found, some decades from now, to have taken a step backwards by damaging the research enterprise at this crucial time. Japan, curiously enough, may be in the same trouble unless Mr Nakasone's colleagues listen to what he is saying about the temper of academic science.

Europe is best placed quickly to remedy its deficiencies, if only because the framework of the Treaty of Rome allows for the virtually instant creation of a common market. But although Denmark, in last week's referendum, has not run that ship aground by declining to accept the latest community reforms, and despite the moderate success of attempts to stimulate commercial collaboration in technology, the prospects of radical change are as slim as ever. Much the same is true elsewhere. Even Mr Gorbachev's long speech last week may not be remembered for very long. Yet the cultivation of a proper perspective of the hard problems of technology is the only place from which to start. Impatience is the enemy. □