

its research does not also generate a sheaf of patentable inventions? Does the British government, and the host of reluctant industrial partners it is forever wishing on the universities, appreciate that industrial development projects tend to cost ten times as much as the basic research from which they spring? Where will that money come from? And may not the implication that the research enterprise has failed British industry be a mirror-image of the longstanding truth that British industry has been uncommonly unenterprising for at least four decades? If the government's animus against the research enterprise blinds it to these questions, especially in its choice of people to run the new arrangements, it will fail, as will the research enterprise itself. Persuading the government of the crucial character of the task it has set itself is the most urgent need.

Otherwise, there are detailed arguments to make about a host of issues which, at ordinary times, would individually be occasions for major public rows. How will contracts for the provision of "higher educational services" be written, and by whom? If tenure is to be abolished, what alternative arrangements will there be to tempt young people into a profession dependent on short-term contracts? Will the government back its apparent acceptance of the view that British secondary education is too specialized for the health of science (and of education generally) with the funds (especially for longer university courses) needed to strike a better balance? What will be done to enable successful institutions, research institutes as well as universities and polytechnics, to flourish? Will the titular autonomy of research institutions, from universities to research councils, be blessed with an understanding that they can be in charge of their own financial affairs? The months ahead will no doubt be noisy with the reverberations of these and other arguments.

The question of morale remains. The greatest damage done to the British research enterprise during the past ten years is that it has been infected with despondency. It would be too much now to complain that people should have been more stoical. How could they have been after a long period of attrition when funds to support good research have been inadequate, when good people have been forced (or tempted) out of their jobs and when opportunities for recruiting able younger colleagues have been too few to give a sense of change? The government's open suspicion that academics in particular and researchers in general are over-tolerant of intellectual layabouts has not helped, nor has its frequently empty rhetoric about the need to foster links with industry. (Is palaeontology the less important now that oil production from the North Sea is at its peak in the spirit in which, three years ago, agricultural research was cut back because of over-production on Europe's farms?) The failure of the natural leadership of the research establishment to protest (in public, at least) at the follies of the past seven years has been more than contributory to this state of affairs.

Nature's position now is simply that the government's decision at last to do something positive is better than a continuation of the long process of attrition that has brought British science to its present state. The recipe for change that has been outlined is full of obvious dangers. Each person's list will be different, but the best strategy for the turbulent months ahead will be to persuade the British government that the way in which it carries through its announced plans must take account of the true nature of higher education and research, which seems only imperfectly to be understood. If the leaders of the research profession can bring themselves to say publicly what they claim they say in the committees to which they belong, that will help enormously to lift the depression at the bench. A large part of the trouble over several years is the willingness of British bigwigs to believe that their influence as members of government committees is undermined if they also say what they think in public, which is the opposite of the truth. But to attempt to persuade the government at this stage to travel to a different goal would merely reinstate the incoherent dialogue of the past few years. □

Professional fraud

The US Congress, making heavy weather of rules to outlaw insider trading, can learn from science.

SINCE the spectacular decision last year of Mr Ivan Boesky, the Wall Street trader, to cooperate with the US Securities and Exchange Commission (SEC) in an investigation of the unfair use of private information to line one's own pockets, financial communities worldwide have been on tenterhooks. Both in London and New York, eminent professional people have been charged with the crime of cheating and found guilty. Some have even been sent to gaol. The sentence in Mr Boesky's case of an agreed plea of guilty to a lesser offence has, however, been postponed. There must be many who ask themselves whether, even now, this accomplished trader is tendering more information for the opportunity to lighten his own burden.

What better time for the US Congress to be asking how the crime of insider trading should be defined? The matter is also made urgent by the hearing by the Supreme Court of the case against a *Wall Street Journal* writer already convicted of improper dealing (advising friends to buy shares whose purchase he was about to recommend); his case before the court will be that he may have broken his newspaper's rules for proper conduct, but that that by itself is not unlawful. (He will probably get off.) Curiously, the Congress which has often investigated fraud in science with much of the zeal it is not devoting to insider trading, has not yet tumbled to the fact that the cases have much in common.

The most evident common attribute is the difficulty of the definition of what amounts to fraud. In science, there are a few obvious reference-points — plagiarism and the fabrication of data — which, if recognized as such, are also recognized to be inconsistent with professional seamliness. It is much the same on Wall Street, or in London, when a partner in a merchant (investment) bank buys up shares in a company on which a professional client of his (or hers) has designs. Everybody knows that cases of that sort are indefensible. The interesting question, though, is where to draw the line between them, the others and honest dealing.

In science, as on Wall Street, there is a natural tendency to cast the net of misdemeanour more widely. Earlier this year, two researchers at the US National Institutes of Health made a convincing case for believing that scientists should not earn credit (in many ways the equivalent of traders' money profits) by appearing only nominally among the list of authors of a scientific publication. Morally, it is wrong, but latterly, the risks have become too high. Better, the moral is, that the person who has done the work should take the responsibility on his own shoulders, but be careful in the course of writing about his supposed achievements to give thanks to those who have helped him professionally.

The principle translates directly into the language in which the US Congress is trying to find a formula for legislation. People who are personally involved in arranging deals between one company and another know they are forbidden to profit from their secret knowledge. So, too, should be those who are professional colleagues in the sense that they give help and advice or provide a working environment. Equally, those who glean information at professional gatherings (in science, meetings) should be forbidden from profiting personally, easily done by declaring an interest at the beginning and implicitly undertaking not to change it. This argues for a definition of insider-trading less extensive in the immediate future than that for which SEC has been canvassing the Congress, but which will ultimately require that even traders should behave professionally. The essence of that condition is that people will have to be able to set personal gain aside for the pursuit of a duty to their clients. Does even Wall Street have the resources to pay for such detachment? Science does not. □