

19 March 1981

US versus science education

The first Reagan budget, well advertised in advance as a device for getting the government off the taxpayer's back and the taxman out of his pocket, has more than lived up to expectations in its mean view of science education, at least as administered by the National Science Foundation. Ever since the heady post-sputnik days, when Washington was thronged with committees giving the Eisenhower Administration advice on how best to meet this unexpected challenge to American technology, the National Science Foundation has been spending a sizeable part of its budget (but still a modest annual sum) on the support of curriculum development in schools and colleges. It can boast of having done more good than foolish works. Zacharias's organization, the Physical Sciences Study Committee, may not have produced the ideal physics curriculum for the average high school, but it was a cheerful demonstration that distinguished academics were willing and able to help with the problems of teaching in the schools. And many young people (not only in the United States) learned a great deal of physics from the textbooks, readers and experiments that the committee devised. In retrospect, however, it may have been even more telling that the experiment proved infectious. Quite soon, in the early 1960s, an army of high-school teachers and a battalion of academics were caught up in the network of committees dedicated to the improvement of science teaching.

Inevitably, there have been excesses and mistakes. If the foundation was less confident in the development of curricula in the social sciences and the humanities than in the physical or biological sciences, it should not shoulder all the blame. Mere money is not sufficient to design a good curriculum. The essential is that good teachers and perceptive academics should be willing, and that school systems should help with administration and facilities. In any case, what matters is not that such and such a set of books should be written as an integrated package (and then, with luck, adopted in the Californian schools) but that teachers should have learned that continual change is necessary but also

possible. The \$13 million the foundation spent on these modest efforts last year will not go far to help the US Treasury to balance its books (or, rather, to live with a deficit of \$41,000 million). Cutting back on this part of the foundation's programme when the high schools are painfully aware of the need for new kinds of teaching seems either unwise or spiteful. Or is the Administration calculating that with Mr Walter Cronkite's new science programme advertised on CBS for the summer, the National Science Foundation can fade gracefully from the scene?

The budget request will also cut the foundation's modest support for students of science and engineering, mostly at the graduate level. The timing is entirely misplaced. Only a few months ago, the Carter Administration was agonizing about the problems of recruiting good people into engineering and especially engineering education. The problem cannot have disappeared since Inauguration Day. And in spite of the largely self-sustained character of American students — the envy of British university administrators (see below) — the United States government is probably still getting value for money from its spending on this good cause. Any Presidential Science Advisor would vouch for that, which may be one of the reasons why President Reagan appears reluctant to appoint such a person.

One of the temptations that afflict incoming administrations everywhere is that of abolishing at least some pre-existing institutions. The National Science Foundation's education programme is a natural candidate for this treatment. What it has been doing is what the market might otherwise have to do. It is also an administrative inconvenience that there should be an organization concerned with education entirely separate from the Department of Education. And for all their clubbiness, people interested in such things as curriculum development do not constitute a constituency of any importance. So why not abolish the institution? The irony, which other administrations have found to their cost, is how often it is necessary to recreate a substitute of some kind.

. . . . and UK versus universities

British universities, after too many months of somnolence, have taken fright. Last week, Sir Alec Merrison, Vice-Chancellor of the University of Bristol but speaking in his capacity as chairman of the Committee of Vice-Chancellors and Principals, accused the government of "a kind of madness". He and a posse of fellow vice-chancellors seem privately to have told the Secretary of State for Education and Science, Mr Mark Carlisle, much the same; by Merrison's account, they made no impression with their complaints that the British government is "profoundly misguided" in its intention to cut state support for the university system by 8.5 per cent in the next three years. Together with the switch to full economic fees for overseas students now under way, state support for the British university system will have fallen by at least 11 per cent, and perhaps by 15 per cent, by the academic year beginning in 1983. Either way, structural changes of some kind will be forced on the system. It is no wonder that people have taken to strong language.

Universities themselves must, however, shoulder some of the responsibility for what is now in prospect. At least since the summer of 1978 (under a different government), it has been clear that structural change was unavoidable. Even the now forgotten promise of "level funding" would not have allowed universities

to keep on recruiting young people to academic posts at a sufficient rate to stay intellectually alive, also competitive. The age distribution of people in tenured posts, skewed by the rapid recruitment in the 1960s of then young academics, ensures that in the 1980s the rate of retirement among British academics (now one per cent a year) will be less than a third of that needed to permit recruitment at a rate corresponding to a steady state. British universities have talked at length about the problem; none has found a solution. The government's decision, two years ago, that universities must collect larger tuition fees from overseas than from home students, whose first effects are becoming apparent only in this academic year, has had the effect of distributing penury at random. Again, most universities have put on hair shirts to wait for whatever the fates might bring. The outstanding exception is the London School of Economics, which has actually increased the number of its new overseas customers by the simple expedient of telling prospective students (and their governments) about its own virtues. The new cut goes deeper. The government intends simply to take cash out of the system, and there is no alternative source in sight. The damage that will be done would have been more easily contained if the university system had responded much more imaginatively to the previous