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Questioning the quinquennium

THE practice whereby British universities are financed on a quinquennial basis is the root of many of their present problems. In fact, the question now seems to be not so much if, but when, that system will be done away with or modified out of all recognition. The problem is that the arrangements for correcting (for higher-than-expected inflation rates) a particular year's expenditure—planned at the beginning of the five-year period—is cumbersome and drawn out. One of the universities' most immediate complaints, for example, is that their grant for the next academic year, 1976–77, is not yet fixed even though they are already admitting students for courses starting next October and have therefore had to make some fairly detailed plans. One suspects that even the government's much-touted but tentative ideas for introducing cash limits on public expenditure, with no *post facto* corrections for 'extra' inflation, would be welcome, relatively speaking, because at least the universities would then know where they stood.

An added complication, of course, is that the whole business of salaries for university academics is in disarray. Figures put out recently by the Department of Education and Science show how they have altered, at 1970 prices, over the past five years. The lecturer scale has just about kept up with inflation, and the recent Board of Arbitration settlement means that lecturers' salaries as of October 1974 (which is as far as the negotiations have got!) are some 20% ahead of 1970 in real terms. But senior lecturers and professors, who can hardly be said to earn astronomical salaries, had until the recent settlement fallen seriously behind.

The average professorial salary in 1970 was £5,610, whereas by 1974 it had shrunk a startling 12% to £4,920 at 1970 prices. The level for that year was effectively increased to £5,905 (1970 prices) by the recent settlement. This only put professors about 5% ahead in real terms, and that has been more than eroded in the past year.

Planning anything is difficult for everyone, including the Department of Education and Science. Bearing in mind that academic salaries account for some 50% of university non-capital expenditure, planning is even more difficult when it comes to universities. But is it an excuse for inaction?

Where have all the teachers gone?

THE shortage of science teachers in British schools seems likely to intensify, with a consequent loss of potential scientists and engineers. This gloomy prognostication emerged recently when educationalists from varied backgrounds gathered at the Royal Society in London to consider problems in the teaching of science and mathematics. The meeting also demonstrated the apparent gap between the aims of many school teachers and the knowledge and attitudes required of first-year students at colleges and universities.

The shortage of scientists and mathematicians in schools, which exists in spite of the overall national sufficiency of teachers, will be exacerbated by the cuts in the numbers and sizes of teacher training colleges, recently necessitated by instructions from the Department of Education and Science. Where small departments within colleges have to be closed down they may well include those concerned with science, so that even fewer primary and secondary school teachers will be available with the backgrond necessary to teach science effectively. Another disturbing factor will be the loss of flexibility in training colleges which are amalgamated with polytechnics and adopt courses leading to the BEd degree of the Council for National Academic Awards. These courses will require students to choose their main subject from the outset, rather than specialising only after a broad, basic course including mathematics and science. During a wide ranging basic course students can be persuaded, by imaginative teaching methods, that science is not necessarily boring, rigid and too difficult, as they may have thought at school. In these circumstances students might opt to specialise in science or mathematics after the first few terms, but when the choice has to be made at the beginning of the first year the chances are that prejudices acquired at school will have an undue influence.

School teachers who are trying hard to arouse enthusiasm for science and mathematics among their pupils, through the use of new methods and curricula, are apparently coming into conflict to some extent with the needs of colleges and universities. The contributions of academics to the meeting at the Royal Society suggested that students who have learned about theories and concepts at an early age do not all have sufficient factual knowledge when they embark on higher scientific education. It is more important, the academics say, to understand the meaning of *p*H than to be familiar with molecular orbital theory. But the school teachers counter that they have to interest their pupils in science, and this is not necessarily done by constant learning of facts. The teachers ask whether they are supposed to be preparing pupils to enter higher education or to become effective citizens. This is a question that will have to be considered carefully in future deliberations about the structure and content of British education.