academics as a historical anomaly. During the industrialization of the 1930s, young graduates were recruited into industry without having had time to complete their PhD studies, and the degree of Candidate of Sciences was introduced as a half-way house.

Now, the degree of Doctor of Sciences is rarely awarded before the age of 40, and often only shortly before retirement at 60. Recently there has been some pressure by academics to abolish the Candidate's degree, which would almost certainly result in a cut in pay for Doctors of Science.

Some opponents of the present structure have suggested that pay should be job-related only. This, says Lakhtin, would simply mean that certain jobs would become associated with certain qualifications, so stifling the incentive for self-improvement. Moreover, a Candidate might be an excellent researcher but have little talent for administration. If the doctorate were linked to the post of laboratory head, and such a Candidate went on to take a Doctor's degree, he would have to be promoted to a post for which he had no aptitude.

Work in science, says Lakhtin, is a "complex social phenomenon" and its remuneration is a "knot where economic, social and psychological factors are entwined". Accordingly he refrains from proposing a solution. Lakhtin's article is precisely of the type used to present to the public a proposed change of policy. One of the general principles for discussion floated by Lakhtin must nevertheless have struck an apprehensive chord in the Soviet Union's almost one million strong research force. Science, said Lakhtin, must enjoy priority in pay, even if this means cutting back the total of those employed in science. A scientist who proves unable to pull his weight should not have his pay cut but should be moved to another sphere of activity. **Vera Rich**

French university research

Whose strings?

The powerful research and industry minister, M. Jean-Pierre Chevènement, does not control the whole of science in France, it seems. During a recent meeting with French university staff, the ministry of education's director of research, M. Bernard Descomps, let slip that his ministry was considering setting up elected committees that would review university research proposals. Other indications from the ministry suggest that even a national university research council is possible; and none of these bodies would be under M. Chevènement's political control.

A revolution? Not exactly. The committees and the council would assess applications from the universities for research money controlled by the ministry of education, a relatively paltry sum compared with the flood pouring — or promised — from the ministry of research and industry. But for a typical university, support from the ministry of education can still account for a fifth of the research budget (aside from salaries) and this can be turned to unfashionable subjects out of favour at the research and industry ministry.

The structure of the elected assessment committees, however, and the nature of the elections, have yet to be determined. Ministry staff say the committees should be multidisciplinary and regional, each assessing the science policy of a number of universities; and that they should judge the distribution of ministry cash — and jobs — in areas "orthogonal" to the interest of the big government research institutions such as the Centre National de la Recherche Scientifique. (These institutions have most of their laboratories in universities, but are controlled by Chevènement's ministry.)

So far so good, but it is clear that there will be problems with the committees. For one thing, multidisciplinary committees are likely to be large and unwieldy, and the regional political battles very fierce; and it will not always be easy to separate the politics of the ministry of education from that of the research and industry ministry.

Meanwhile, French biologists have not been slow to exploit another source of research money, also emanating from the ministry of education, and which may or may not be controlled by the elected committees. These are sizeable funds devoted to a particular research theme, changed each year. This year's flavour covers some of the less fashionable sides of biology, from taxonomy to ethology, which the ministry would like to see profit from advances in techniques in the faster-moving biological sciences. To this end, the ministry earlier this year announced grants totalling some FF 2–3 million (the sum is not yet fixed). So far it has received around 400 applications, each representing a group of some 3–10 French biologists.

How will these applications be assessed? As usual, says the ministry of education, in close liaison with CNRS and others of Chevènement's institutions.

In the past this would not have seemed so like sleeping with the lion as it does now. Many of the best French experts are associated with these institutions, and — after all — before President Mitterrand came to power CNRS belonged to the ministry of education itself. At that time, liaison between university policy and CNRS policy was close. Even now, many in the ministry of education would like it to remain so (after all, M. Chevènement has most of the money!). But certain university researchers, worried about the effects of the Chevènement technological wave, might take comfort from a different possibility: that the separation of CNRS from the ministry of education should encourage the establishment of an independent science politics at the ministry, and so work ultimately in the universities' favour. **Robert Walgate**

British biotechnology

Public concern

The Porton Laboratory of the Public Health Laboratory Service, once the British government's microbiological defence research establishment, is probably still the most successful publicly supported biotechnology organization in Britain, at least by the criterion of the value of its products sold. Last year, the laboratory sold products worth more than £900,000, and confidently expects to sell more than £1 million worth in the present financial year.

The Porton laboratory seems now to be well through the metamorphosis from sword to ploughshare. Although the British government has traditionally forsworn the use of biological weapons, until five years ago the Porton laboratory was kept occupied on what was described as a

programme of defensive research. By the skin of its teeth, the laboratory survived a period during which closure seemed imminent. Now, people at the laboratory daydream about the possibility that if that crisis had been a little delayed, the laboratory might have become the channel for public investment in biotechnology, now represented principally by the company Celltech, in which the British government has a 40 per cent stake. On the whole, they conclude, they are better off as they are.

Part of the explanation may be that the laboratory is earning something like £2 million towards its total annual cost of £5.2 million, half of that by means of "in–out" contracts with other public organizations. Of the products being sold, the enzyme asparaginase (used with other drugs in the chemotheraphy of leukaemia) is the biggest seller, at about £500,000 a year. Earlier attempts to make Porton a major source of restriction enzymes for recombinant-DNA research have, however, been abandoned. The laboratory's strength is in the large-scale production of bacteria and not, it appears, in marketing products in competitive fields.

The laboratory is also the only source in Britain of human growth hormone from

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