

lines, a small majority for recording research carried out under P2 containment conditions and above, and a larger majority for keeping a record merely of all research in P3 and P4 containment conditions, the two strictest categories.

Reflecting their general belief that recombinant DNA research no longer represents a greater hazard than ordinary research with microorganisms, many committee members were sceptical about the value of a broad study of the effectiveness of IBCs which NIH is now preparing.

If the committees had any value, it was felt, it had been in calming public fears about the health implications of such research. Mr Ray Thornton, for example, recently appointed chairman of the advisory committee, said that the careful supervision of experiments had been largely responsible for the general development of public confidence.

Other speakers suggested that, even if no extra hazards had been identified, the public discussion raised by initial fears had helped to generate a consciousness about the need to watch for biohazards in general. **David Dickson**

## Yugoslavia now

### Supek's worry

Yugoslavia could shortly face economic collapse if the planners fail to make proper use of the country's scientific personnel. This is the opinion of Dr Ivan Supek, the Yugoslav physicist and philosopher, in London this week for a Pugwash meeting.

Yugoslav scientific and academic life, says Dr Supek, has almost completely lost the impetus of 20 years ago. The financing of basic research is hampered by a bureaucratic system which allegedly subordinates research to consumer control. But reliance on foreign licences (usually purchased when already obsolescent) means that the technological base required by Yugoslav industry and agriculture is either inappropriate or altogether absent.

The chief factor in the decline, according to Dr Supek, is excessive party and state control over science. After the hardliners' coup of 1971, the universities lost much of their autonomy, including the right to elect their own deputies to parliament. (Dr Dupek himself was a non-party deputy from 1963 to 1967.)

At the same time, the university structure was decentralized. The University of Croatia, for example, was divided into four separate universities (Zagreb, Split, Rijeka and Osijek) and the individual faculties, rather than the university as a whole, became the basis of planning and financing. Frequently, said Dr Supek, decision-making fell into the hands of party members with no particular academic background.

Under these arrangements, "censorship by budget" was made easier. Among the

victims of this process was the *Encyclopedia Moderna*, a philosophy of science journal edited by Dr Supek himself.

Dr Supek stresses that it is not the "self-management" process — Yugoslavia's special contribution to socialism — which is at fault. If the current trend towards bureaucratic centralism could be reversed, he said, and "self-management" restored to scientists, both basic and applied research would benefit. At present, however, self-management is simply a slogan.

Such official duplicity, said Dr Supek, is nothing new in Yugoslav science. In 1956, when Yugoslavia began a nuclear research programme, Dr Supek, as director of the prestigious Rudjer Boskovic Physics Research Institute, found himself *ex officio* on the country's atomic energy commission. Although the programme had, officially, a purely scientific and peaceful orientation, its members included the Minister of Defence Ivan Gosrjak and



Supek (right) and defence minister, 1956

Minister of Internal Affairs Alexander Rankovic. Their presence made Dr Supek extremely sceptical of the true aim of the programme, and made him a fervent opponent not only of nuclear weapons but of all applications of nuclear energy.

The duplicity, which, in Dr Supek's words, is allowing self-management to be killed in the name of self-management, will be a major obstacle to any move by the scientists to regain their pre-1971 position. The recent ban of the proposed cultural and sociological journal *Javnost* was justified by the Belgrade authorities on the grounds that the journal was meant to be a front for a would-be cultural elite. Dr Supek, however, is strongly opposed to elitism, and would claim for science only that right of self-government which is constitutionally guaranteed to all Yugoslav workers. The Party hardliners, however, are not prepared to yield without a struggle. Recently agronomists working on the forthcoming five year plan proposed that, for modern farming methods to be introduced, the maximum peasant holding should be increased from 10 to 50 hectares. But in spite of the deteriorating state of Yugoslav agriculture, the proposal was rejected as liable to cause class conflict.

**Vera Rich**

## Agricultural research

### Ministry at top

An impending change in the relationship between the Agricultural Research Council and the Ministry of Agriculture, Fisheries and Food (MAFF) now seems likely. Most probably, the council will in future be more directly subject to the ministry. In this respect, it is likely to be worse off than the Medical Research Council, which in October reached an arrangement with its chief sponsoring department of government, the Department of Health and Social Security, that some £12 million of "Rothschild money" should be transferred back to its own annual budget.

Change has been in the air since the publication of a report of the Public Accounts Committee in July 1979 which suggested that the government should consider transferring a further slice of the ARC budget to the agriculture ministry. The underlying principle is that put forward in 1971 by Lord Rothschild, who advocated giving control of research budgets to the chief users of the results of research — the ministerial "customers". At present, some 40 per cent of the research council's spending derives from the ministry, and the Public Accounts Committee was asking why the balance should not be shifted further.

For the past year, a committee under the chairmanship of Sir Brian Hayes, permanent secretary at the ministry, has been trying to decide what should be done. The alternative to a further transfer of funds is a more direct influence by the ministry on the policy of the council. Although a decision has not yet been reached, the second course is the more likely. Either way, the council is unlikely to be overjoyed.

Like many government-supported institutions, the council (ARC) has been hard-pressed to operate within its cash limits during the financial year 1979-80. Nevertheless, by the end of that year, says its annual report published last week, it had managed to plan a reasonable research programme for 1980 and beyond by concentrating its efforts on high priority research.

The council's choice of priorities was effectively made by MAFF which has cut the amount of research it is prepared to buy in some of the ARC's research institutes while increasing it in others. MAFF currently pays for about half of the work conducted in ARC institutes under the Rothschild customer-contractor principle.

MAFF is particularly keen to encourage food research, interest which has proved lucky for the ARC's Meat Research Institute whose grant of £370,000 from the Meat and Livestock Commission was cut last September. MAFF has stepped in to make up some of the loss. It has also increased its contribution to the budget of the Food Research Institute in Norwich,

the extra support going mainly to research on biopolymers, nutrition and biotechnology. This new emphasis coincides with a reorganization of the Food Research Institute and the setting up of a joint ARC-Medical Research Council working party on food research policy.

Irrespective of MAFF, ARC has been increasing support for research in priority areas, in particular by introducing a new scheme for supporting work in universities outside the normal research grant system. ARC research groups in photosynthesis have been set up at the universities of Leeds and Sheffield and at Imperial College, London; and at the University of Bristol a group has been established in the neurobiology of animal behaviour and reproduction. The ARC's plans for the forthcoming year include the establishment with the Medical Research Council of a new unit at Edinburgh on neuropathogenesis.

Judy Redfearn

### British dentists

## Broader, better

The proposal that dentists newly qualified from British dental schools should not be allowed to practise without first spending a year in supervised practice is the chief recommendation of an inquiry into dental education, commissioned by the Nuffield Foundation and published earlier this week. The inquiry was directed by Sir Gordon Wolstenholme and supervised by a steering committee under Professor T. C. Thomas, previously vice-chancellor of the University of Liverpool.

British dentistry, long saddled with an international reputation not very different from that of the British motor car industry, is offered a cheerful future in the report (to be had from the Nuffield Foundation at £4.50). The incidence of caries among children is decreasing, dramatically so in cities such as Birmingham where there has been fluoridation of water supplies for some time. In the ten years from 1968, the proportion of the British population entirely without teeth (described in the report as "the edontulous state") decreased from 36 per cent to 29 per cent.

Part of the stimulus for the inquiry was the recognition that dentists now being trained would still be in practice when the state of British dental health has been further transformed, so that the pattern of practice will have changed, and when novel dental technology will be available.

The theme of the inquiry's report is that dentists should be trained for flexibility. The dental schools are told that their present output of professionals is likely to be sufficient for the future, but that British dentists should rely more than is their present habit on ancillaries, especially hygienists and therapists, all of whom are in need of more explicit training and career structures.

On the curriculum of the dental schools,

the report argues for greater attention to basic science and the early introduction of students to clinical work. Present dental courses are too narrowly vocational, and should be broadened but not lengthened (at present training lasts four or five years). Instead, the argument goes, there should be a pre-registration year.

But where? Newly qualified physicians spend their pre-registration years in hospitals, but dentists have no comparable places of supervised work. The committee suggests a system of supervision in practice organized by the dental schools and based on the Community Dental Service or on the dental services provided for the forces. It also wants to see a period of vocational training in the first two years of a dentist's regular practice and more opportunities for in-service training than there are at present.

The committee of inquiry also asks that steps should be taken to increase the present scale of dental research in Britain, including the setting up of a national research centre. One obvious present difficulty is that most dental research is at present undertaken on short-term research grants.

The committee neatly skirts around the most contentious problems in British dentistry — how should dentists be paid? It echoes the general discontent (shared by some dentists and most National Health Service patients) that the present system of piecework payments is unsatisfactory, but judiciously recommends that professional organizations "should seek a system of payment . . . other than that existing at present".

### Israeli science

## Crisis at Weizmann

Financial crisis threatens the "very existence" of the Weizmann Institute of Science, Israel's private and principal research institution — or at least that is what Weizmann president, Professor Michael Sela, told the governing body recently. But according to the Weizmann Institute Foundation in London, which helps to raise money in the United Kingdom for the institute in Israel, the Weizmann finances have never been better.

Somewhere between these two statements lies the true position — that the Israeli government, which provides 45 per cent of the institute's running costs, has announced government spending cuts which will reduce its contribution to the Weizmann Institute by 7½ per cent (in real terms) compared with last year; and that Professor Sela was painting a grim picture to drum up support from the Weizmann's foreign friends, who are strongly represented on the governing body.

Foreign endowments and bequests from Europe as well as the United States contribute around 20 per cent of the Weizmann's funds. While these contri-

butions have been increasing, they have not kept up with inflation outside Israel — except for the United Kingdom, whose donation has increased by two-thirds in the past two years. This is due to the encouragement of Lord Sieff, chairman of the major British chain store Marks and Spencer, and also chairman of the Weizmann Institute board of governors.

The net result is that the Weizmann budget will be static this year (October 1980 to September 1981) in dollar terms at about \$30 million, whereas institute officials would have liked to see a small growth to take into account inflation abroad (where scientific equipment, for example, must mostly be bought).

Nevertheless, in 1980 funds were sufficient to establish, on a scientific staff of 300, five new "career development



*Sela, crying wolf!?*

chairs", as an exercise to introduce new talent to the campus, and 10 professorial chairs. Money for these came mostly from the United States, but also from France and South Africa. Two new research centres were also established within the institute: the K. B. Weissman Institute of Physical Sciences and the Melvyn A. Dobrin Centre of Plant Research. Moreover, the Yeda Research and Development Company, which acts as a link between the institute and industry, increased its turnover to \$4.5 million in 1980, compared with \$1 million three years ago. (One recent venture, Inter-Yeda, manufactures human fibroblast interferon for use in clinical trials.) The government cuts must therefore be seen in the context of a recent very healthy spending pattern at the Weizmann.

Nevertheless, 70 per cent of the institute's budget is spent on salaries; so the effect of a cut in total budget is magnified when compared with the 30 per cent the institute has to spend on books, equipment and fuel. Bequests on the whole do not provide these items; so cuts are, in the end, having to be made in these financially marginal but scientifically significant areas. Because a potential donor is not likely to want his name on a batch of test tubes or even a spectrophotometer, the Weizmann may find it more difficult to raise this kind of small change abroad.

Robert Walgate