

European collaboration

How, where?

European collaboration in science is a little like the bringing up of children: everybody agrees that it should be done well, but few agree on how. This seems to be the general impression left on those attending the symposium on European science organized last Thursday (8 July) in Bonn by the Max-Planck-Gesellschaft and the European Science Foundation. The symposium was intended as a mark of respect for Dr Friedrich Schneider, for much of his life the general secretary of the Max-Planck-Society, who then served as secretary general of the science foundation until 1980. Schneider died last year.

Lord Flowers, rector of Imperial College London and president of the European Science Foundation for six years until 1980, seems to have left the symposium with the most vivid impression with a forceful argument that universities are not ivory towers but, rather, are embedded in society. So, he said, they should be prepared to shoulder their part of the burden of industrial research — and should also welcome present privations as a means of putting right the excesses of the 1960s.

On mechanisms for supporting research, Flowers argued for a clearer division of responsibility between scientists, governments and politicians (parliamentarians). Scientists, his argument went, should give advice on how funds should be distributed within some chosen field, but governments inevitably have a decisive influence in determining which fields should be cultivated. Because in democratic states only "parliamentarians" can hold the ring, "we must educate our politicians". He commended the British Parliamentary and Scientific Committee as one way of doing this.

Professor Herbert Curien, chairman of the Centre National des Etudes Spatiales in Paris and also president of the European Science Foundation, pointed to the benefits but also the disadvantages of international collaboration built on large projects. The European synchrotron radiation project, he said, would be a valuable project for collaboration, but the danger (exemplified by European research centres such as the Community's laboratory at Ispra in Italy) is that "when you have a facility, you need to find a programme".

Professor Reimer Lüst, president of the Max-Planck-Gesellschaft and chairman of the Schneider symposium, argued, however, that every opportunity for collaboration should be seized, citing as an example the successful collaboration between his organization and the Centre National de la Recherche Scientifique in the high-field magnetic laboratory at Grenoble, on which each organization could have embarked successfully on its own but where the collaborative laboratory was better than either would have been.

Schneider's own work until his death was devoted largely to persuading European governments to collaborate on the synchrotron radiation project, with little success. Schneider, a man with an exceedingly dry wit who was also a famous gourmet, would not have been surprised that Vicomte Etienne Davignon, the commissioner for research at the European Commission, did not arrive to deliver his promised contribution at the symposium. "He's always doing this", said one of the organizers.

Foot and mouth disease

Race to vaccine

The race to produce a synthetic foot and mouth vaccine to replace the use of inactivated virus is still wide open. The United States company Genentech, like other biotechnology companies, is putting its money on genetically engineered virus polypeptide VP1. The Wellcome Foundation in Britain, one of the principal manufacturers of inactivated virus vaccine, is, however, backing both VP1 and the synthetic peptide portion of it now known to be immunologically effective (see *Nature* 1 July, p.30).

The United States Department of Agriculture last year raised hopes that genetically engineered VP1, the main antigenic determinant of the virus, would be the answer. But the department's announcement has been criticized as premature. For while it seems that genetically engineered *E.coli* can be a prolific source of VP1, the intact polypeptide is not as immunologically effective as expected. The synthetic peptides, corresponding to amino acids 141-160 within the VP1 polypeptide, seemed more promising when described earlier this month.

Genentech, working under an agreement with the Plum Island Laboratory of the US Department of Agriculture, is not convinced that peptides are the only feasible route to a synthetic vaccine. The company now claims that it has achieved similar protection with VP1 polypeptide in small mammals by an improved method of extraction and purification. Dr Dennis Kleid, head of the project at Genentech, says that the new technique does not denature the VP1 polypeptide.

Genentech and Plum Island have apparently refined their recombinant DNA technique to produce 2×10^6 VP1 molecules per bacterium. Genentech says that it is growing genetically engineered *E.coli* in a 10-litre fermenter and purifying enough VP1 for trials in cattle at Plum Island. Dr Kleid hopes that scale-up will be quick, and that field trials can be mounted in South America, one of the largest markets for foot and mouth vaccine, late this year or early next. A commercial vaccine, says Kleid, could be ready some time in the mid-1980s. Genentech is

working on the problems of scale-up with the International Minerals and Chemical Corporation of Indiana, which has already been licensed for commercial production.

The Wellcome Foundation, however, does not share Genentech's optimism about VP1 polypeptide. Although the foundation will keep an interest in VP1, it plans to spread its risks by exploring the possibilities of a commercial peptide vaccine. But the economics of a synthetic vaccine, of whatever type, may not appear the same to the Wellcome Foundation as to Genentech and the International Minerals and Chemical Corporation.

Wellcome already manufactures foot and mouth vaccine on a large scale by inactivating virus grown in cell culture. Individual doses cost just a few cents. A synthetic vaccine will have to be markedly cheaper to persuade the company to convert its existing manufacturing processes, according to Thomas Pay, scientific coordinator of the foundation's foot and mouth disease technical division. Pay is also sceptical of arguments that synthetic vaccines would be safer than those based on inactivated virus. He says that inactivation has been improved by avoiding the use of formaldehyde.

In the meantime, neither Wellcome nor Genentech believes that the prospect of a synthetic vaccine should hold up foot and mouth eradication programmes. That view is shared by the Food and Agriculture Organization of the United Nations, which says that the chief practical effect of a synthetic vaccine will be to do away with the need to refrigerate vaccine stocks — hardly a requirement to delay eradication programmes.

Judy Redfearn

Developing countries

European split

Brussels

The European Parliament has given the European Commission's research and development programme on behalf of the developing countries a hostile reception. The Parliament last month ridiculed the programme on the grounds that it was too small, for its choice of priorities and because the chief beneficiaries would be research institutions in the Community and not scientists in developing countries.

The Commission's proposal is to spend 40 million units of account (£70 million). The debate took place against the background of heated arguments over the Community's new world hunger strategy and the attempts by the development commissioner, Edgard Pisani, to redirect development aid from large construction projects to grass-roots stimulation of the poorest economies.

The Commission admits that the funds available will not make a substantial contribution in the areas regarded as most important for the developing countries — nutrition, health, energy and natural

resources. It therefore selected narrower objectives, including transmissible tropical diseases, mother and child care, genetics, environmental hygiene and nutrition and tropical agriculture.

The European Parliament last month lambasted the Commission for the lack of consultation with the countries intended to benefit and the failure to coordinate plans with those of the World Health Organization (in tropical medicine) and the Consultative Group for International Agricultural Research.

The Parliament's view is that the programme takes too little account of the need for training in research, and of the need to develop career structures for scientists. The Parliament is especially critical of the way in which the Commission plans to spread its meagre resources thinly over too many projects.

The Parliament's criticisms are embodied in a report by one of its West German members, Renate Rabbethye. To the extent that the report advocates that Community spending on development assistance should not become a hidden subsidy for European institutes, the Parliament has made common cause with Mr Pisani. What will eventually happen to the Community's development research programme will depend also on the reaction of the commissioner for research, Vicomte Etienne Davignon, who is also said to favour a more generous programme.

Jasper Becker

Pharmaceuticals in Bangladesh

Use less drugs

The government of Bangladesh, in a move that has delighted voluntary agencies but upset many of the pharmaceutical companies operating there, has banned 1,742 drugs described as "harmful" or "unnecessary" as part of a wide-ranging new drug policy. On 12 June the Ministry of Health published a new Drug Ordinance, replacing the Drug Act of 1940, which prohibits the sale of 237 "harmful" drugs with immediate effect and of 1,505 other "unnecessary" products which are to be withdrawn or reformulated within six months.

The new ordinance follows the advice of an Expert Committee on Drugs and Drugs Policy which met earlier this year under the chairmanship of Professor Nurul Islam. The committee's report was accepted by a council of advisers in May. The objective of the new drugs policy, according to the committee's report, is "to ensure the quality and availability of essential drugs which are of relevance to the health needs of the majority of the population". The report refers to the need for companies to concentrate on a limited list of 150 essential drugs as recommended by the World Health Organization. Limitations on national resources and the shortage of foreign exchange are given as reasons for

the removal of "all unnecessary, useless drugs and drugs of doubtful efficacy".

Prominent on the banned list are tonics, cough linctuses and antibiotic tetracycline syrups such as Glaxo's Clinmycin syrup and Pfizer's Vibramycin syrup, stated to be harmful to the bony growth of children — although tetracycline in capsule form may still be sold for adult use. Hoechst's Polytamin, a combination vitamin tonic which includes vitamin B₁₂ and alcohol, is described as "one of the most abused drugs on the market"; and Squibb's Verdivoton Elixir is said to be "a highly misused, dangerous, habit-forming drug".

Also listed are anti-diarrhoeal drugs already either banned or withdrawn from the market in the United States and European countries, such as Ciba-Geigy's Enterovioform and Mexaform tablets.

The government's initiative has been welcomed by voluntary health organizations in Bangladesh which have for several years drawn attention to the dangers of inappropriate drugs circulating in Bangladesh without doctor's prescriptions and at high cost. One organization, Gonoshasthaya Kendra (the People's Health Centre), which provides health services to a population of 100,000 at Savar, near Dacca, has even been manufacturing its own low-cost "essential" drugs as alternatives to the products of large companies. This venture is supported by Dutch and British voluntary agencies, including Oxfam and Christian Aid, which recently made a further grant of £25,000 towards its operating costs.

The more immediate impact of the new ordinance will be on the profitability of the 166 licensed manufacturing companies. About 75 per cent of the pharmaceutical market in Bangladesh is controlled by eight foreign-based companies, of which four are in Britain: Fisons, Glaxo, ICI and May & Baker. According to the Consumer Association of Bangladesh, these four companies had a turnover in 1981 of 420 million taka (about £10 million). Twenty-five local companies supplied a further 15 per cent of the market.

The new drug policy will not easily be implemented. The smaller producers and exporters, as well as the medium-sized companies, are seriously threatened. At an emergency meeting in Dacca in June of the Bangladesh Aushad Shilpa Samity, an association of 33 pharmaceutical companies including six multinationals, it was claimed that local production of medicines would drop by 80 per cent if the new policy were implemented and that thousands of jobs would be sacrificed.

In a carefully-worded appeal to the Martial Law Authority published in Bangladesh newspapers, the Samity gave its "full support" to the review of drugs and medicines as part of the health-care system but went on to say that national rather than multinational companies could be hardest hit.

John Montagu

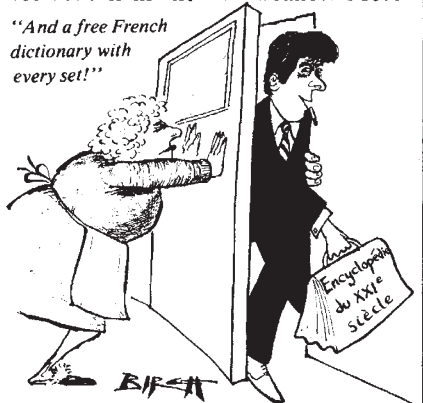
Diderot's mantle for Chevènement?

A "tremendous project" to launch an "encyclopaedia for the 21st century" is under way at the French ministry of research and industry. It springs from the enthusiasm of the minister, Jean-Pierre Chevènement, for bolstering French as a language of science.

So far, no details have been fixed, but other ministers have warmly approved a confidential report on the subject. In the National Assembly recently, Chevènement described the project as "a great cultural enterprise inspired by the encyclopaedia of Diderot and d'Alembert". He reckons that the new encyclopaedia could be completed by 1989 — too late for the next presidential election.

Diderot and d'Alembert's encyclopaedia played an important role in the "Enlightenment", the period of unbounded faith in science and reason that Chevènement would dearly like to see reborn in the new France. More-

"And a free French dictionary with every set!"



over, today an encyclopaedia need not appear only in print: "books, pamphlets, pictures, films, videotapes, videodisks, all the means of modern technology would be used to place at the disposition of France and all those who speak French . . . the knowledge of humanity", the minister told the French deputies.

Although the encyclopaedia would be likely to concentrate on science, technology and the arts of manufacture, it would have a very open structure — where anyone who wanted to contribute could do so (subject to a degree of vetting by a committee of specialists). The objective, according to a spokesman for the ministerial information agency, MIDIST, which will coordinate the project, is to create a "living" encyclopaedia that would reflect many shades of opinion.

Questions of cost, manpower and other such practical matters have yet, however, to be answered. "All we have is the proposal and a political will to go forward" said the MIDIST spokesman.

Robert Walgate