# SCIENCE IN PARLIAMENT

ON February 27 the Parliamentary Secretary for Science, Mr. D. Freeth, answered a series of 22 questions in the House of Commons dealing with a wide range of scientific matters.

Concerning the 15 research stations and 52 research associations (47 of which have research stations) to which the Department of Scientific and Industrial Research made grants, Mr. Freeth stated that while the siting of co-operative industrial research associations and laboratories was primarily a matter for the industrial members of the associations he would look into the matter of location.

As regards research into the Turner system for constant-flow traffic signals, it was expected that a pilot scheme for this or a similar system would be tested later in the year on the Road Research Laboratory's research tract at Crowthorne.

The distillation of sea-water was an established industrial process, and British-made equipment was among the best in the world. Compared with normal sources of supply in Western Europe, however, distilled water was expensive, and any extensive use for industrial purposes in Britain was unlikely, except in very special circumstances where it would be economic. A considerable amount of research was being undertaken by industrial companies.

To questions regarding the establishment of a social sciences research council, Mr. Freeth said that the Minister for Science was consulting the Research Councils and Government Departments and the University Grants Committee on the views of the Council for Scientific and Industrial Research. Contributions from the latter in one sector of this field had nearly doubled during the past two years, and he did not agree that the establishment of a further research council was the only way to secure a substantial increase in research in the social sciences.

The Minister for Science had asked the Department of Scientific and Industrial Research for its views on the proposals in the Toothill report on research and development contracts for Scottish industry.

About 15 scientists and engineers from the Atomic Energy Authority will participate in the British experimental nuclear test in Nevada, but no decision had yet been taken about holding tests at Christmas Island.

As to the use of operational research and social survey methods in administration, Mr. Freeth said that the Industrial Operations Unit of the Department of Scientific and Industrial Research had recently co-operated with the Ministry of Health, the Royal Mint and the War Department. Social survey methods were mainly used by the Social Survey Division of the Central Office of Information.

As regards the exhaust from Diesel-powered vehicles, Mr. Freeth said that the Warren Spring Laboratory of the Department of Scientific and Industrial Research had not found any suitable means of recovering smoke from such exhausts, but would examine any device for this purpose that came to its notice. Mr. Freeth repeated an earlier statement that the real remedy lay in correct operation and maintenance of the engines. Concerning the future programme of the Economics Section in the headquarters office of the Department of Scientific and Industrial Research, Mr. Freeth stated that this was currently under discussion; 374 students graduated in Scotland with honours degrees in science and 105 with honours degrees in technology in 1959–60.

Research was proceeding at the National Physical Laboratory on noise in industry from motor-vehicles and from aircraft, including jet aircraft; at the Building Research Station, on noise in buildings; and at the National Engineering Laboratory, on noise from machines. Extensive experiments had been made on a subjective assessment of motor-vehicle and aircraft noise, and surveys were in progress on noise in communities and in industry. The report of the Wilson Committee on the problem of noise was expected before the end of the year.

In a written answer on February 27, Mr. Freeth stated that research on the structure, function and metabolism of normal and diseased muscle, which might assist in elucidating the cause of, and the most effective methods of treating, muscular dystrophy, was supported from public funds by the Medical Research Council and by university and hospital departments.

The British Commonwealth Scientific Committee met in the United Kingdom in 1960 and would meet in India during November–December, 1962.

## British Satellite Research

Replying to a question in the House of Commons on February 26, the Minister of Aviation, Mr. P. Thorneycroft, said that the cost of continuing the development of the *Blue Streak* missile as the first stage of a satellite launcher to the end of January 1962 was approximately £6·1 million, and the total cost of the proposed three-stage launcher had been estimated at about £70 million, of which the United Kingdom would pay £26 million. The objects of the project were to develop a heavy launcher capable of putting satellites into orbit for scientific and commercial purposes to disseminate associated technical knowledge, and by pooling scientific and technical resources to permit Europe and Australia to play a full part in the peaceful exploitation of space. On February 27 the Parliamentary Secretary for Science said the space research programmes, for which the Minister for Science was responsible, employed 17 qualified staff early in 1960, 27 in January 1961 and 25 in January 1962, while 20, 32 and 40, respectively, suitably qualified staff in Government departments were engaged in similar experiments or supporting work, or the observation and tracking of satellites.

## Expanding the Field of Education

In a written answer in the House of Commons on February 27, the Minister of Education, Sir David Eccles, announced that from April 1, 1962, all the colleges of advanced technology would be administered by independent governing bodies and would receive direct grants from the Ministry. The colleges now had nearly 9,000 full-time students and had arrangements in hand to increase this number to 15,000 by the mid-1960's. He was now authorizing the colleges to plan for an expansion to 21,000 places, the date depending on decisions still to be taken regarding the rate of public service capital investment after 1963–64. Capital expenditure on educational build-

ing in 1963–64 would rise to £130 million as against £125 million in 1962–63, including starts of £55 million for major school-building projects, with a special priority for the provision of science accommodation at secondary schools, amounting to £7·5 million during 1963–64. The expansion of teacher training colleges by 24,000 places would proceed as planned, and the further education programme, calling for £17 million in 1963–64, also remained unchanged. The Youth Service was authorized to start £7 million of work in the first three years after the Albemarle Report and the programme for 1963–64 would be £3 million. On March 1, Sir David said that he understood that conversations were about to commence between the principals of the colleges of advanced technology and the Central Council for University Admissions. Of 55,000 full-time overseas students in the United Kingdom, 12,000 were in universities, 13,000 in technical colleges and 1,400 in teacher training institutes.

## Education of Commonwealth Scholars in Britain

In reply to a question in the House of Commons on February 15, the Joint Under-Secretary of State for Commonwealth Relations, Mr. B. Braine, said that the Government was considering various means by which the Commonwealth Scholarship Commission could extend a substantial number of scholarships for a third year without reducing much below the present level the number of new scholarships to be offered annually. Last year, Britain spent £122,000 on the scholarships plan, and it was estimated that this year £330,000 would be spent, and next year £490,000; the Government was unable to increase its total financial contribution to Commonwealth educational co-operation at present. Asked as to progress with the scheme for increased residential accommodation for overseas students, Mr. Braine said that, up to February 12, twenty-six projects, involving 1,113 additional beds, had been approved in principle; but in spite of this response from voluntary organizations, the need for new hostels was still very great, and the British Council would be pleased to advise and help other organizations which contemplated providing them. The approved scheme, designed to supplement the efforts of voluntary bodies, provided for 557 beds in London and 556 beds outside London. A total of 153,000 copies of university text-books and 155,000 copies of other books had been printed to date for distribution through the publishers to Commonwealth and other countries in Asia, and a further 241,500 text-books and 469,500 other books were in production.

## Higher Education in Colleges of Technology in Britain

In a written reply in the House of Commons on February 12, the Minister of Education, Sir David Eccles, gave the number of students enrolled in January 1962 in the 108 courses leading to the Diploma in Technology as 6,201; of these, 1,624 were in electrical and 1,441 in mechanical and production engineering; 798 in chemical technology; 558 in physics; 332 in aeronautical engineering; 304 in civil engineering; 268 in mathematics; and 224 in chemical engineering. Of the 2,360 first-year students, 1,729 qualified for entry by the General Certificate of Education and 561 by the Ordinary National Certificate. On February 14, Sir David gave the number of full-time teachers in technical colleges in 1960–61 as 19,847, with 52,435 part-time teachers; these figures compare with targets of 18,615 and 46,939 in the Willis Jackson Report. As regards action on the White Paper on technical education of January 1961, Sir David stated that the whole pattern of part-time courses in engineering had already been approved and a new general engineering course and an important new engineering technician course started last autumn. Agreement had been reached on the common Ordinary National Certificate and Diploma courses in engineering which would form a basis for later specialization, for example, in mechanical, electrical, chemical or aeronautical engineering, and discussions were proceeding about possible new courses in mining, textiles and applied science.

## Road Safety in Britain

In moving the second reading of the Road Traffic Bill on February 28, the Minister of Transport, Mr. E. Marples, said that the Bill made a small contribution to road safety. During 1960, 6,970 people were killed and 347,551 injured on the roads and the cost to the nation was estimated at £229 million. Mr. Marples referred to an experiment to be tried at three places in London with a light signal of a new design and also to measures in education, especially with adults, which were being discussed with the Road Research Laboratory.

As regards provisions for enforcement, the first part of the Bill dealt with driving offences and with drink, and was intended to reduce the number of accidents which could be attributed to alcohol.

In replying on the debate the Parliamentary Secretary to the Ministry, Mr. John Hay, said it was proposed to tackle the problem of the education of adults in road safety by appointing a special research team, consisting of technical experts, and including some with experience in psychology and related matters. The team would study first the human factors involved in road-user behaviour and accident situations and, secondly, explore the means of influencing this behaviour most effectively. Its task would be to ascertain what causes accidents and to examine the matter from a personal point of view. The details of these proposals were being explored by the Ministry and the Road Research Laboratory.

It was proposed to set up two or three experimental road-safety teams in selected areas to take an overall view of road accidents and propose combinations of road-safety measures in their areas. The teams would familiarize themselves with the accident pattern of their areas and make specific proposals to the authorities concerned. They would not be executive bodies.

Mr. Hay reiterated that the overall objective of the Bill was to try to save lives and to prevent accidents, and he was emphatic that in dealing with dangerous or negligent driving the fact that disqualification for a professional driver involved deprivation of livelihood should not be allowed to affect the penalty imposed.

## Control of Toxic Chemicals

In a written answer in the House of Commons on March 8, the Parliamentary Secretary for Science, Mr. D. Freeth, stated that the Research Councils were concerned in general with those recommendations of the Research Study Group on toxic chemicals in agriculture which related to fundamental research: those relating to surveys and inquiries would mostly

be the concern of the Agricultural Departments. The Research Councils proposed to continue their already substantial research in the fields mentioned in the report and to extend it, so far as resources permitted, where fruitful results appeared likely. The various tasks were shared between them in accordance with their normal interests. Research into problems bearing on the toxicity of agricultural chemicals to human beings fell to the Medical Research Council while the Agricultural Research Council was responsible for basic research on chemical hazards concerning farm crops, animals and soil, and the Nature Conservancy was responsible for research relating to the effects of agricultural chemicals on wild life and the natural environment. Research into improved methods of determining residues of toxic chemicals in foodstuffs and animal tissues was the responsibility of the Government Chemist in the Department of Scientific and Industrial Research. Certain problems were of concern to two or more research councils, and the Agricultural Research Council was setting up a scientific committee with Prof. A. C. Frazer as chairman to keep all relevant research under review and report progress.

### Civil Science by Government Agencies

In answer to a question in the House of Lords on March 7, the Minister for Science, Lord Hailsham, said that the Government had decided to review the existing organization for the promotion of civil science by Government agencies. This review, which would be concerned mainly with issues of administrative organization and the machinery of Government, would take full account of the views expressed by the Advisory Council on Scientific Policy, and advice would also be sought from scientists both inside and outside the public service. Lord Hailsham undertook to inquire into the consultation of representatives of industry also.

# THE COLOMBO PLAN

## TENTH ANNUAL REPORT

THE tenth annual report of the Consultative Committee on the Colombo Plan for Co-operative Economic Development in South and South-East Asia* includes a short chapter on technical co-operation, which has been an integral part of Colombo Plan operations since 1950 and provides a framework for exchanging technical assistance between participating countries. Excluding some 6,840 who went to the United States in 1950–58 before the United States became a formal participant, technical co-operation under the Plan enabled 19,533 men and women of the region to visit other countries to acquire specialized knowledge, aptitudes and experience enabling them to increase their contribution to the development of their own countries and has filled gaps in the technical knowledge in the region by providing experts whose influence extends far beyond the technological field. Despite the achievements of the past ten years, however, the importance of technical co-operation in overcoming the shortage of trained manpower has in no way diminished. The needs of countries in the area for trained men and women remain very great and frequently the progress of development has brought new requirements for the expansion of technical skill.

Total expenditure on technical assistance by all members of the Plan in 1960–61 exceeded £20 million, that on the provision of training places substantially increasing while that on equipment almost doubled, to reach £5·6 million. New training awards increased from 4,268 to 4,417, and the number of new experts provided from 535 to 786. Training capacity is now much greater than it was in 1950, particularly at the higher professional levels, and thirteen of the twenty-one member countries are now among those who in the past ten years have provided 1,852 training places within the area. A survey during the year revealed a serious gap in trained manpower between professional technologists and skilled craftsmen but also indicated that facilities for many specialized types of training at the latter level are not fully utilized, and the need for constant endeavour to find improved methods and procedures of rendering technical assistance.

Even in this chapter of the report reference is made to the urgency which the growth of population in the area over the past decade has brought to the area, and this is one of the dominant notes of the review of economic progress during the past ten years and of the task ahead which are probably the two chapters of most outstanding interest in the report. Since the Colombo Plan commenced, the population of South and South-East Asia has increased by 150 million, and by 1980 it is expected to approach 1,000 million as against the 720 million expected for 1970 in 1950—a figure which was reached in 1960. The central fact of this situation is a sharp rise in the rate of natural increase, partly due to the very success of the Colombo Plan in such fields as health and medicine. The difficulties faced by these countries exceed any experienced in this field by the industrially advanced countries, and against this background the growing pressures of the peoples of the region for higher living standards and the extent of the progress which can be achieved can affect political stability.

It is not surprising, therefore, that the report singles as the dominant achievement of the past ten years under the Colombo Plan the awareness growing throughout the area and among the countries outside of the urgent need for more rapid development and for efforts to be directed towards that end. National income has indeed grown almost continuously, particularly since 1953, and most countries have recorded substantial gains in overall output as well as in important sectors, but frequently the rapid increases in population diminished the measurement of gains on a *per capita* basis. Invariably, the area-wide attack on poverty and low living standards through economic development has been pressed, and the forward movement of the economics of the area is clearly evident.

Agricultural production—the mainstay of the area's economy—has significantly increased both in terms of total production and in terms of yield per

* The Colombo Plan for Co-operative Economic Development in South and South-East Asia. Tenth Annual Report of the Consultative Committee, Kuala Lumpur, October–November 1961. (Cmnd. 1600.) Pp. 233. (London: H.M.S.O., 1962.) 13*s*. net.