Student Numbers at U.K. Colleges of Advanced Technology

In a written answer in the House of Commons on February 9, the Secretary of State for Education and Science, Mr. A. Crosland, stated that of the 13,811 full-time and sandwich students who had enrolled at the ten colleges of advanced technology in October 1964, 10,192 were in technology, 2,461 in science, 824 in social studies, and 334 in liberal studies. For October 1963 the corresponding figures were: 11,557, 8,925, 1,862, 559, and 211; and for October 1962: 10,089, 8,052, 1,500, 357, and 180. Of the 135,186 full-time university students (undergraduate and postgraduate) enrolled in October 1964, 19,964 were in technology, 35,799 in science and mathematics, 19,794 in medicine, dentistry, veterinary science, agriculture and forestry, and 17,671 in social studies. For October 1963 the corresponding figures were: 124,002, 18,101, 33,212, 19,042, and 15,405; and for October 1962: 116,610, 16,652, 30,791, 19,230, and 13,273. In a further written answer on February 11, Mr. Crosland added that in October 1964 universities in Great Britain, excluding Oxford and Cambridge, planned to admit 5,610 students to study technology, but 420 fewer were admitted.

Transport Planning

In reply to a question in the House of Commons on February 8, the Minister of Transport, Mr. T. Fraser, announced that Lord Hinton was temporarily to join his Ministry as a special adviser on transport planning. He would be responsible for enquiring into the means whereby, and the extent to which, the transport of goods and passengers in Britain could best be co-ordinated and developed in the national interest. The study, which was expected to be completed before the end of the year, would, in particular, examine: (1) the pattern of long-distance transport services likely to be required in the future, with particular reference to the co-ordination of investment policies for highways and railways; (2) the methods of achieving a properly co-ordinated use of the main trunk route transport systems, and especially the right balance between the use of road and rail; (3) how operational co-ordination could be improved between different forms of transport. Mr. Fraser said he was also appointing a small Transport Advisory Council, with himself as chairman, and with Lord Hinton as a member, to assist him on transport policy matters generally. The other members would be: Prof. A. Day, Lord Holford, Prof. E. F. Jackson, Alderman H. Walton, Messrs. J. F. H. Davies, W. J. P. Weber and E. G. Whitaker. In answer to further questions as to the functions of this Council, Mr. Fraser said that it would consider the whole question of the implementation of the Buchanan Report and the very large problems connected with intra-conurbation transport. While admitting that the co-ordination of air services did not come under the Ministry of Transport, he wanted Lord Hinton to advise on the co-ordination of rail, air, road and sea transport so that a complete picture could be obtained for determining the best way to co-ordinate the whole of Britain's internal transport services.

The Atomic Energy Authority: Trading Fund

In a written answer in the House of Commons on February 9, the Minister of Technology, Mr. F. Cousins, announced that from the beginning of the next financial year the commercial operations of the Atomic Energy Authority would be separated from the Authority's other activities, which are financed directly from the Atomic Energy Vote, and organized in a Trading Fund. These production activities had grown substantially in recent years, particularly the manufacture of fuel elements for sale to electricity generating authorities and for export, and sales for the next few years were likely to be: reactor fuel elements, £20 million; electricity, £7 million; radioactive isotopes, £2 million. No change was involved in the organization and responsibilities of the Authority, nor was legislation required. The new arrangements would provide a suitable financial basis for the Authority's fuel element business, based on the Springfields plant, and would also cover the reactors at Calder Hall and Chapelcross, and the Radiochemical Centre at Amersham. The diffusion plant for the production of uranium-235 at Capenhurst and the plutonium separation plant at Windscale would not initially be brought within the Fund, but their inclusion would be considered when appropriate. The former was running at a low level of output pending decisions on the production of uranium-235 for such purposes, and trading activities at Windscale were relatively small.

The operations of the Fund would be subject to examination and audit by the Comptroller and Auditor General, and its establishment would have no effect on Defence costs. A target surplus had been agreed for the Fund, after meeting interest on capital, depreciation and other normal charges, including research and development costs, which envisaged earnings over five years to yield a surplus of £3·9 million. The Fund would retain depreciation provisions and trading surplus and would be enabled to build up its own reserves to meet contingencies and normal capital investment requirements. Its initial capital would suffice to cover the book values of both the fixed and working capital of the plants concerned, at present estimated at about £37 million, and the Exchequer would receive from the Fund interest on the initial capital and also a contribution in lieu of income tax where tax would be payable under the normal scales. Introduction of the Trading Fund would increase the existing net Atomic Energy Vote by eliminating receipts from trading operations, but this increase would be partly offset by an increase in the Exchequer Extra Receipts of interest, and the Exchequer would not in future have to provide for the Authority's capital needs that amount which could be met from reserves.

Atomic Energy Board in South Africa

The 3-MeV Van de Graaff particle accelerator is now fully operational at Pelindaba, the National Nuclear Research Centre. Costing R175,000, the accelerator is housed in its own building on the Pelindaba site, and since its commissioning in the past few weeks it has begun to play a significant part in the Atomic Energy Board's research activities. Its completion has preceded that of the Board's research reactor, *Safari I*, which will 'go critical' later this year. While there are two more powerful accelerators already operating in South Africa—the 16-MeV cyclotron at the Council for Scientific and Industrial Research and the 5·5-MeV Van de Graaff accelerator at the Southern Universities' Nuclear Institute—the Pelindaba machine possesses certain advantages for the specific research on which it will be used. First, it provides a more stable particle beam than the cyclotron, and secondly, it has a higher beam intensity than its counterpart at the Southern Universities' Nuclear Institute. It is also a pulsed accelerator enabling it to produce neutrons in short bursts and so permit time-of-flight experiments which are especially useful in fast neutron physics studies. The Pelindaba equipment will be available to universities for pure fundamental physics research.

Photonuclear Reactions Series

No. 10 in the *Bibliographical Series* of publications of the International Atomic Energy Agency deals with photonuclear reactions—the interactions of electromagnetic waves with nuclei. The most important aspects of theoretical and experimental investigations of the photodisintegration of light are covered, as well as intermediate and heavy nuclei, photofission, electrodisintegration, and the absorption and scattering of protons. A special chapter is devoted to the photoproduction of elementary