

members of the Association. Mr. Lane is an associate of the Institution of Metallurgists, and an associate member of the Institute of Welding. He has published many papers on both the metallurgical and engineering aspects of welded fabrications and also on the techniques of experimental stress analysis.

The Mellon Institute : Research Directors

Drs. A. A. Bothner-By, Thomas G. Fox and Harold P. Klug have been appointed research directors in the Mellon Institute, Pittsburgh. Dr. Bothner-By joined the Institute in 1958 as a Staff Fellow and has been an assistant director of research since 1959. He is recognized as an authority on the use of nuclear magnetic resonance in organic chemistry, and has developed a centre of research in the latter field at the Institute. Dr. Fox joined the Mellon Institute in 1957 as an assistant director of research and has headed a large part of the Institute's extensive polymer research programme. He is known for his work in the chemistry and physics of rubber and other polymers. Dr. Klug joined the Institute in 1945 as an Administrative Fellow after eighteen years as a professor of chemistry in various universities. He became an assistant director of research in 1959. A specialist in structural physical chemistry, Dr. Klug is the author of two books and numerous papers.

Cultural Contacts in the British Commonwealth

REPLYING to questions in the House of Commons on March 2, Mr. D. Sandys, Secretary of State for Commonwealth Relations, said that the Government wishes to encourage the development of closer links between young people in the Commonwealth, and, besides initiating a programme for providing 5,000 additional places for overseas students in hostels where they will live and mix with British students, it proposes also to provide a number of new or enlarged social and cultural centres to be run by the British Council. The Government is prepared to meet the capital expenditure involved up to a maximum of £3 million, and will, as at present, consider applications for financial assistance to voluntary bodies concerned with Commonwealth youth. It is hoped, however, that private support will also be forthcoming for such projects and that the voluntary organizations active in this field would bear some share of the cost. Mr. Sandys expressed the Government's appreciation of the work of Field Marshal Sir Gerald Templer's Committee on this question. He said that the Government would welcome any reciprocal action in this sense among Commonwealth countries, and that the British Council had been authorized to consult voluntary organizations, the universities and other educational authorities and institutions about the whole programme. He undertook to see that the nature of the scheme was made widely known throughout the Commonwealth.

The Dounreay Fast Reactor

IN written replies to questions in the House of Commons on February 28 about the Dounreay fast reactor, the Parliamentary Secretary for Science, Mr. D. Freeth, said that the work at Dounreay, though widely diversified, is concerned mainly with developing the fast reactor system. Construction of the fast reactor was completed during 1959 and a series of low-power tests have been completed; tests in the megawatt range will shortly begin. The

reactor will then be gradually worked up to full power. The reactor first went critical in November 1959, and the main problems encountered since have not been concerned with the nuclear side of the experiment. No major change in the level of work at Dounreay is contemplated. Mr. Freeth also said that he hoped to make a statement shortly about a low-power nuclear reactor for the universities and colleges of technology.

Scientific and Technical Personnel in American Industry

A SURVEY of the employment of scientific and technical personnel in private industry in the United States in January 1959 was conducted for the National Science Foundation by the Bureau of Labour Statistics of the Department of Labour as part of a comprehensive programme of studies of scientific and technical personnel in all sectors of the economy (Pp. vi+66. Washington, D.C.: Government Printing Office, 1960. 45 cents). Estimates showed that of 800,000 scientists and engineers employed in American industry in January 1959, 764,000 were employed by the 47,500 firms covered by the survey. Engineers numbered 615,000 or 80 per cent, and the 149,000 scientists included 72,000 chemists, 18,000 biologists, 15,000 physicists and 15,000 geo-scientists. Aircraft, electrical equipment, chemicals and machinery accounted for 45 per cent of the scientists and engineers covered by the survey; but in the industries covered scientists and engineers represented only about 3 per cent of the employees, varying from 11 per cent in aircraft manufacturing to 0.3 per cent in textiles and apparel. In manufacturing industries, firms with 5,000 or more employees accounted for nearly two-thirds of the scientists and engineers, but only two-fifths of the total labour force. Of the 277,000 scientists and engineers employed in research and development, about 5 per cent were employed in administration; 235,000 were employed full-time in research and development, the remaining 40,000 being engaged also to a significant extent in other activities. Only in production and operational work were more scientists and engineers employed than in research and development, inspection quality control, or other production and operational work accounting for 39 per cent of the total. Almost 550,000 technicians, or about 72 for every hundred scientists and engineers, were also employed, and of these about 250,000 were classified as engineering and physical science technicians, more than 195,000 as draughtsmen, and 16,000 as medical, agricultural and biological technicians. In research and development about 156,000 technicians were employed, or 56 per 100 scientists or engineers. A comparison with previous surveys indicates that the employment of scientists and engineers grew much less in the years immediately prior to 1959 than in 1954-57, and even in research and development the rate of increase decreased from 13 per cent per annum between 1954 and 1957 to 7 per cent between 1957 and 1959; the increase being largest with mathematicians (17 per cent) and smallest for chemists (3 per cent).

Research in Biochemistry and Allied Sciences in Great Britain

AT the Cardiff meeting of the British Association for the Advancement of Science in September 1960, a discussion was held, under the joint auspices