

THE NUFFIELD FOUNDATION

REPORT FOR 1954-55

THE tenth report of the Nuffield Foundation, covering the year ended March 31, 1955*, the first year of its third quinquennium, has been published, and records that allocations from income totalled £681,397 during the year, a figure only exceeded when, in 1952-53, the Foundation made its second large five-year allocation to the National Corporation for the Care of Old People. Expenditure for research and experiment within the United Kingdom was maintained undiminished at £445,079, in the year 1954-55 more than a quarter of the expenditure on grants was spent on helping research workers and students overseas. While during 1943-49 this expenditure averaged about £53,000 a year, during 1949-54 the average was £120,000; the report notes that the Foundation's contribution to date of just over £1 million to travelling and research grants and other projects in the British Commonwealth overseas may be the largest private contribution from Britain to the finance of organized academic and professional relations within the Commonwealth, and it also expresses the Foundation's hope that other private resources may be available to enter a field where the opportunities are so great and so rewarding.

Grants within the United Kingdom during the same twelve years have included £875,000 for medical research (including £295,000 for rheumatism); £586,000 for biological research; £614,000 for research in the physical sciences; £684,000 for projects in the social sciences; £37,000 for architectural studies; and £32,000 for agricultural research. Grants for the care of the elderly and research on problems of ageing have totalled £970,000; for fellowships and scholarships for residents of the United Kingdom, £292,000; and for miscellaneous projects, £277,000.

For the year under review, the projects overseas have taken the largest single share (£133,732) of the year's grants, including the creation of a new unit at the University College of East Africa, Kampala, for research into education in Africa; the building of new halls of residence for students at the Imperial College of Tropical Agriculture, Trinidad; £20,940 over four years for Prof. L. C. Beadle's programme of research on tropical swamps; research in Africa which necessitates the participation of trained non-European research workers; marine biological studies in South Africa; and assistance to the newly formed *Journal of the Anatomical Society of India*. The second largest share (£112,541) went to biological studies in the United Kingdom, and more than half of these grants were renewals or additions to earlier ones. Grants to medical research in the United Kingdom totalled £106,560, nearly half of this, including £22,060 from the Oliver Bird Fund, being for research into rheumatism, while fellowships, scholarships and similar awards accounted for £102,566, nearly two-thirds being for residents overseas in the Commonwealth.

A feature of this report is the evidence that the projects which the Foundation has fostered are coming to fruition, and this is to be found in the tribute paid to the important scientific results which

have now come from two earlier grants through the University of Oxford. In August 1955 Dr. Dorothy Crowfoot Hodgkin, as a result of the detailed X-ray analysis of crystals of complex compounds that are of interest in biology and medicine, conducted by her small research team, was able to announce the solution of the crystal structure of a degradation product of vitamin B₁₂, and with it the structure of almost the whole of the chemically unknown part of the molecule. The second result is the discovery, made by Dr. R. G. Macfarlane and associated workers as part of a long-term programme on blood-diseases, of a method of extracting highly concentrated anti-haemophilic globulin from ox and pig blood for the treatment of haemophilia, injection of which into haemophilic patients undergoing surgery, skin-grafting and dental extraction invariably completely prevented abnormal bleeding.

Of the seventeen grants for biological research made during the year, about half the total was for new grants, more than half of which were for research in departments of botany. New grants include £16,000 over five years to the University of Liverpool for studies on the chemistry and microbiology of the polyphenolic types in the soil; £15,000 over three years to the University of Oxford for research under Dr. Honor Smith into certain immunological reactions of the central nervous system; and £6,000 over three years to University College, London, for electron-microscopical studies of the central nervous system. A grant of up to £3,000 over three years has been made to the University of Oxford to assist Prof. C. D. Darlington's work on chromosomes and £2,500 over three years to the University of Southampton to enable Prof. W. T. Williams to engage two additional research workers for his study of etiolation in plants. Additional grants include a further £5,005 over the remaining two years of the university quinquennium in support of Prof. J. F. Danielli's investigations at King's College, London, into the nature of differentiation and the factors controlling it, particularly the relative importance of nucleus and cytoplasm; a further £22,500 for four years to the Nuffield Institute for Medical Research, Oxford, to support Mr. H. B. Parry's research on pregnancy toxæmia of sheep; and a further £1,550 a year for the two years 1955-57 and £235 for equipment to the University of St. Andrews for Prof. H. G. Callan's work on comparative endocrinology.

On the recommendation of the Department of Scientific and Industrial Research, the Foundation has decided to spend up to £35,000 to finance a pilot aeromagnetic survey to ascertain whether the extensive use of such surveys in Great Britain would be justified on economic and technical grounds. A grant of £7,200 over three years has been made to Birkbeck College, London, to support Dr. A. D. Booth's work on mechanical translation, and the Foundation is also providing a sum of up to £7,000 over three years to the University of Oxford to meet the running cost of the Archæological Research Laboratory, after which, it is understood, the University is prepared to take over the whole recurrent cost. A progress report from the Foundation's Division for Architectural Studies records that

* The Nuffield Foundation. Report for the Year ended 31 March, 1955. Pp. 125. (Tenth Report.) (London: Nuffield Foundation, 1955.)

during 1954 a pilot study on the use of space, services and equipment in research laboratories was made in two of the major establishments of the Agricultural Research Council and that the first appointments have been made to the two postgraduate fellowships in architecture, tenable within the Division.

The major part of the year's grants for medical research went for further fundamental research in the chronic rheumatic diseases, and the Oliver Bird building, which houses the clinical and laboratory research of the Rheumatic Unit, Northern General Hospital, Edinburgh, was completed and opened during the year. New grants for medical research included £17,500 (including £1,250 for capital expenditure) to the Frenchay Hospital, Bristol, to finance current expenditure over five years on Dr. R. M. Norman's research into the causes of certain types of mental deficiency; and £5,000 to the University of Durham for a survey of Tyneside industry by the Nuffield Department of Industrial Health. A further grant of £5,000 over three years was made to University College Hospital Medical School, London, for the continuation and development of Dr. N. Smyth's work on the application of electrical techniques in medicine, in particular for the study of the womb in childbirth, which has already made a contribution to the safety of mother and infant; and an additional £4,000 was offered to the Oxford Regional Hospital Board to enable the project on the relation between physique and behaviour, with special reference to psychiatric disorders, at the Warneford and Park Hospitals, to continue for another year.

Most of the allocation for social research and experiment was to complete the grant of £100,000 additional to the permanent endowment of Nuffield College, Oxford. New grants include £2,500 a year for three years for a bibliographical programme in the social sciences, aimed at the production of good bibliographical tools by elaborating a series of consistent schemes or recipes which will facilitate the provision of abstracts or bibliographies in the social sciences. It will include a survey in London of the adequacy of existing library and research facilities for social scientists. Another new grant of £3,300 a year for three years was made to the University of Oxford in support of Lady Hall's empirical research into the distributive trades; £2,600 a year for five years has been given to the Shoreditch Project Committee for launching an experiment in preventive social work, and a research scholarship of £1,250 a year for three years to Dr. V. L. Allen for his proposed study at the London School of Economics and Political Science of the role of trade unions in Britain during the past thirty-five years. A final grant of £3,000 has been made to the Institute of Statistics, University of Oxford, for completion of the national survey of incomes and savings.

A grant of £8,000 over four years was made to St. Bartholomew's Hospital Medical College, London, to support Prof. K. J. Franklin's research into the physiology of ageing, and one of £5,000 over two to two-and-a-half years to Lord Beveridge to enable him to carry further his history of prices and wages in England. A miscellaneous project of some wide interest is the inquiry into the best means of assisting the learned periodicals. A sum of £43,750 over five years has been allocated for this purpose; in the meantime the British Academy and the Royal Society have been informed that a sum of £8,000 a year will be available over the next five years to

be spent on the support of primary journals in primary subjects, and that up to a further £750 a year will be available for the payment of any necessary professional advisory fees on such questions as printing economy, publication and distribution. The distribution of the grant will be entrusted to two special committees, one for periodicals in the humanities, and one for scientific periodicals. With the taking over by the Kent County Council of the Mersham reception centre for deprived children, established with the help of the Caldecott Community, the balance of the Foundation's grant has been allocated to establish an experimental remedial education centre.

Of the eighteen new projects in the Commonwealth overseas, besides those already noted may be mentioned: £5,200 to the University of Adelaide for studies, by electrophoresis diffusion, of substances and systems of biological interest; £6,800 to the Australian National University, Canberra, towards the first three years cost of a five-year research project on post-war immigration into Australia; £3,200 to the University of Sydney in support of a small medical and anthropological expedition to the high country of New Guinea; £3,700 over three years to the Cawthron Institute, Nelson, for research on symbiotic association in New Zealand plants, with special reference to their nutrition and growth on soils poor in certain nutrients; and £3,000 a year for three years to the University of Otago for a combined investigation there and at Canterbury Agricultural College, Lincoln, into endocrine problems of lactation.

During the year twenty-two awards were made to residents of the United Kingdom and forty-three to residents of the Commonwealth overseas (including the first five Canadian study-grants for short-term research in the United Kingdom). Eleven awards were made under the scheme of visiting lectureships and special grants, open to residents of the whole Commonwealth, and fifteen appointments were made in 1954 under the Royal Society and Nuffield Foundation Commonwealth bursaries scheme.

SCIENCE AND TECHNOLOGY IN WESTERN GERMANY

THE brief review of the scientific recovery of Western Germany, compiled by Mr. K. H. Lauder, scientific attaché to the British Embassy in the Federal Republic and issued by the Department of Scientific and Industrial Research*, is of great interest both to the scientist and technologist. It outlines in the first place, very briefly, the action taken by the United Kingdom authorities from 1946 onwards to assist the rehabilitation of academic science in Western Germany—action with which the Department of Scientific and Industrial Research has been associated from the start, primarily by financing the preparation of reports by German scientists; nearly thirty such reports, which are listed in an appendix to this review, were later issued in Britain as "Sponsored Research (Germany) Reports". To this work a generous tribute is paid in a letter from Prof. Otto Hahn, president of the Max-Planck-Gesellschaft zur Förderung der Wissenschaften, Göt-

* Department of Scientific and Industrial Research. A Brief Review of Science and Technology in Western Germany. Pp. viii+103. (London: H.M.S.O., 1955.) 4s. net.