THE CARNEGIE UNITED KINGDOM TRUST

THE forty-seventh annual report of the Carnegie United Kingdom Trust covers the year 1960, but also includes a review of the quinquennium 1956–60, in which grants-in-aid of £525,881 brought the total expenditure of the Trust since it was founded in 1913 to more than £6 million*.

Apart from grants which are virtually subscriptions to national bodies and which in 1961–65 will comprise only the National Councils of Social Service in England, Scotland, Wales and Northern Ireland, and Foras Eireann in the Republic of Ireland, the Trust's grants fall into two main categories: those used to finance special inquiries and experiments, and those which provide a wide range of equipment and services. The first category gives the Trust scope to support innovation and pioneering in the arts, in social services and in education, but during the past quinquennium the largest proportion of grant-aid has gone to beneficiaries in the second category, particularly for the re-equipment of village halls and for museums. During the quinquennium, grants for the arts accounted for 11·72 per cent, for community services for 56·58 per cent, physical and mental welfare for 6·99 per cent, education for 15·5 per cent, youth services for 0·62 per cent, and nature reserves and parks for 8·59 per cent, the last including a grant for the David Marshall Lodge, Aberfoyle, opened in 1960, in the Queen Elizabeth Forest Park, and a sum of £50,000 has been allocated for the provision of other suitable amenities in such special areas during the 1961–65 quinquennium, out of a total allocation of £416,500. Other allocations for 1961–65 include £45,000 for museums, £100,000 for new communities, £100,000 for youth service and £10,000 for field studies, which will cover grants for projects approved and recommended by the Council for British Archæology and by the Council for Nature, both for field work in natural history and for Conservation Corps projects.

During 1960 the Trust continued its policy of assisting the development of museums and their associated art galleries, and 16 museums were offered grants for modernizing their displays; but the Trust does not consider that the museum service generally receives the support it deserves, though it is watching with interest certain developments which promise to deal with the situation. During the quinquennium, grants amounting to £49,930 brought the total aid from the Trust during 30 years to nearly £150,000, not including £16,695 promised to 38 museums towards expenditure on reorganizing displayed collections and a special grant of £1,000 to the Royal Burgh of Culross for work on an attractive old building, "The Study", which the National Trust for Scotland has restored for use partly for residential purposes, partly as a small museum and partly as an information centre, and another of £10,000 towards the capital cost of a Shetland Museum and Art Gallery at Lerwick. For the next quinquennium, the Trust's grants for museums will continue to be devoted largely to encouraging modernization of displays.

Although the last quinquennial report recorded the completion of the Trust's policy of grant-aid for the building or adaptation of village halls in the United Kingdom, an inquiry in 1956 convinced the Trustees that there were needs not being met from public funds, and they decided to return to this field with an allocation of £100,000 for grants for refurnishing and re-equipping pre-war halls in villages of not more than 1,000 people. By the end of 1960 some 1,636 applications had been received and the allocation increased to £200,000. During 1960 promises numbering 216 brought the total to 1,267 and the commitment to £171,031. Two more schemes for film projectors in the Highlands were approved on the recommendation of the Highlands and Islands Film Guild and a set of equipment is being presented to the people living on the Skerries, off the coast of Shetland. The social problems of new communities have received special attention during the quinquennium, and a report by Dr. J. H. Nicholson on his study of four types of new community is being published this year under the title "New Communities in Britain: Achievements and Problems". The £100,000 allocated for grants in this field will be available for projects that are truly pioneer, and likely to serve as prototypes, if successful; a grant of £12,000 has already been promised for the building of the Family Welfare Centre of the Kirkby Council of Social Service, and a tapering grant of £3,000 over 5 years to Hartcliffe Community House, Bristol, for provision of a warden and a qualified social worker.

A grant of £1,000 was made to Gates Youth Club, Crawley, to assist in building a permanent youth club and one of £8,000 to Edinburgh University Settlement for the erection of a multi-purpose building to serve primarily as a youth centre and also as a training ground for youth leaders. The Trust has also promised half the total cost of £13,000 required to establish the Northern Ireland Association for Mental Health for its first five years, and a supplementary grant of £3,500 was offered to the National Association for the Paralysed, for connecting to mains drainage several buildings at Dorincourt for work among the young chronic sick. £5,000 on a £1 for £1 basis after the first £10,000 was assured was offered to the Edinburgh Cripple Aid Society for a scheme to cost £20,000 for establishing an up-to-date centre for all physically handicapped persons who require assistance, and a grant of £2,250 was promised to the Y.W.C.A. for the salary and expenses of a part-time research assistant, to work for three years under supervision from the head of the Social Science Department, London School of Economics, for an experiment in social work among adolescents based on a coffee bar in the Paddington area of London.

During 1960, 120 students from 75 local scientific societies received bursaries to attend residential courses in botany, zoology, geology, ecology, archæology and related subjects at a cost of £360, and 17 grants, totalling £1,091, were made for field work in archæology. Nine courses for instruction of

* The Carnegie United Kingdom Trust. 47th Annual Report, 1960. Pp. viii+98. (Dunfermline, Fife: The Carnegie United Kingdom Trust, 1961.)

amateurs in meteorology were arranged, five of which were vacation courses at the Field Study Centres of Malham Tarn, Preston Montfort and Dale Fort, and three week-end courses at Lasham, Longmynd and Dunstable. Grants for youth service in the new quinquennium will be substantially for refurbishing and improving existing youth clubs. A grant of £12,750 payable over 5 years from the beginning of 1960 has been promised to the Central Council for the Care of Cripples to establish and develop the Homecrafts Advisory Association for the Disabled.

THE REGIONAL RESEARCH LABORATORY, HYDERABAD

THE annual report for 1959–60* of the Regional Research Laboratory, Hyderabad, is a substantial attractively produced volume printed on hand-made paper manufactured by the Laboratory. It includes lists of research staff, auxiliary technical staff and administrators' staff and of publications and patents, and gives fairly full details of research projects in progress. Most of the projects relate to some industrial process or product, but increasing emphasis is laid on the fundamental aspects of applied problems. A Specialists' Committee, under the chairmanship of Prof. M. S. Thacker, has been appointed to examine the research programmes and make recommendations broadly on the future scope of the research programmes undertaken by the Laboratory.

The work of the Laboratory continues to range over a wide field. In oils and fats, the keeping quality of castor oil and cottonseed oil claimed much attention, as well as the preparation of derivatives. A series of programmes on surface coatings dealt with dehydrated castor oil, its isomerization and styrenation, and the preparation of varnishes from dehydrated castor oil, as well as the preparation of alkyds, emulsion paints, the weathering of paints and the use of cashewnut shell liquid. Syntheses in the quinoline, isoquinoline and thieno-pyrimidine series were directed to the preparation of compounds of potential pharmacological interest, while a process for the manufacture of phenylacetic acid was re-examined, and 8-hydroxyquinoline and 5-chloro-7-iodo-8-hydroxyquinoline synthesized for treatment of amœbic dysentery. Schemes relating to essential oils and aromatic chemicals deal with palmarosa oil, Indian cinnamon leaf oil and the utilization of Indian turpentine. In addition to entomological work on insecticides, investigations have been carried out on the effect of X-rays on the biological and biochemical characteristics of the spermatozoa of insects.

In biochemistry, the microbiological production of calcium and ferrous gluconate and of citric acid, the effect of cell concentration on the biological properties of individual cells in cell suspensions, and the biosynthesis and metabolism of proteins and nucleic acids have been examined. Programmes dealing with fuel cover the low-temperature carbonization of non-caking Indian coals and the utilization of products of the low-temperature carbonization of coal. Activated carbons and bleaching earths continue to receive attention, and there are programmes dealing with titanium pigments, the manufacture of white cement from felspar and the preparation of catalysts for the low-pressure hydrogenation of tar. Physico-chemical investigations dealt with the mineralogical composition of the bleaching earths, spectro-photometric work on tar acids from low-temperature carbonization, the surface properties and heat of wetting of absorbents and catalysts.

Under chemical engineering is included work on the vapour–liquid equilibrium of fatty acids and tar acids; the fluidized activation of carbon; pilot plant production of lævulinic acid and lounginin (a synthetic flavouring agent); and pilot-plant investigations in the milling of cotton seed and castor seed.

* Regional Research Laboratory, Hyderabad. Annual Report, 1959–60. Pp. xiv + 217. (Hyderabad: Regional Research Laboratory, 1961.)

BIORHEOLOGY AND MICROCIRCULATION

FOLLOWING a reception at the Hadassah Visitors' Club, a seminar on biorheology and microcirculation was opened on April 24 at the Medical School, Jerusalem, by Dr. K. J. Mann, the general director of Hadassah, and delegates were also welcomed by Prof. M. Rachmilewitz, dean of the medical school, Hebrew University.

Dr. E. Davis (Jerusalem) introduced the symposium with a paper on the general nature and problems of microcirculation as studied by optical and electron microscopy. A main problem is how the capillaries change in diameter—whether passively in response to changes in blood content, or actively in response to nervous or chemical stimuli. How red cells pass through the apparently intact capillary is also still a mystery, nor are the spontaneous changes in calibre and rate of flow of blood in the small vessels understood.

Introducing the biorheological aspect, Dr. G. W. Scott Blair (Reading, England) outlined briefly the history of the application of rheology, "the study of the deformation and flow of matter", to biological systems. Poiseuille, a pioneer of rheology, and Bingham, who named this branch of physics and organized the first society of rheologists, both worked on problems of blood-flow. Biorheologists now study many other systems, such as muscle, protoplasm, cervical mucus, synovial fluids, bronchial mucus, intraocular and cerebrospinal fluids, strength of bones, etc.

Dr. H. Harders (Hamburg, Germany) stressed the technical difficulties involved in direct microscopic observations of microcirculation *in vivo*. But the