

that time was devoted to immunochemical work in the laboratories of M. Heidelberger at Columbia University; the remainder was at the California Institute of Technology, where he studied problems of bacterial genetics with G. W. Beadle. During 1957-58 he returned to America as visiting professor of microbiology at Stanford University. Dr. Rowley's investigations in the field of microbiology began with work on the mode of action of penicillin, with special attention to the binding of penicillin to bacterial cell walls. Later he became interested in the non-specific effects on resistance to infection caused by injections into animals of bacterial lipopolysaccharides. This has led over the past few years to an intensive study on the general problem of natural resistance to infection with particular reference to the roles of such factors as complement, properdin, phagocytosis and so-called natural antibodies.

#### University Research in the United States

"SCIENTIFIC Research and Development in Colleges and Universities: Expenditure and Manpower—1953-54" (pp. iii + 173. Washington, D.C.: Government Printing Office, 1959. 1 dollar) is the final part of the National Science Foundation's survey of the overall research and development effort of the United States in that period. The expenditure of American colleges and universities proper is estimated at 277.7 million dollars (of which 142 million dollars were from the Federal Government), with another 74.2 million dollars at the agricultural experimental stations and 130 million dollars at Federal research centres. Of the first figure, 205.5 million dollars are budgeted separately for research and development, 20.9 million dollars represented indirect costs of such work borne by colleges and universities and 51.3 million dollars departmental research. Of the total 481.9 million dollars, 229 million dollars were devoted to basic research. Colleges and universities, including agricultural experimental stations, employed 62,251 in science faculties, and of these 31,455 were engaged in research and development, while Federal research centres employed 5,000 research personnel. Of the science faculties, 8,300 were engaged full-time in research and development and 42,700 full-time staff were engaged in teaching, research and community service, while 11,300 part-time staff were engaged primarily in teaching. The physical sciences claimed 41 per cent of the total financial provision and 33 per cent of man-power, the biological sciences (including agriculture) 48 per cent of the expenditure and 52 per cent of man-power. Of the total science faculties, 37 per cent were employed in the physical and 40 per cent in the biological sciences. In the 190 large colleges and universities, known to conduct sponsored research projects and granting most of the advanced degrees in science, the physical sciences accounted for 60 per cent of the expenditure and 40 per cent of the man-power, the corresponding figures for the biological sciences being 33 per cent and 47 per cent.

#### Association of Universities of the British Commonwealth

THE report of the Executive Council of the Association of Universities of the British Commonwealth for the year ended July 31, 1958 (pp. 25. London: Association of Universities of the British Commonwealth, 1959), records that in 1957-58 the Association was asked to act in connexion with 651 appointments

in member universities outside the United Kingdom, compared with 408 in 1956-57, and that the office handled 4,149 inquiries regarding advertised appointments. Advisory committees were set up for 51 appointments and reports on 94 candidates were forwarded to the universities concerned. The report refers to the work of the Association, its Council, or Secretary in connexion with Commonwealth University Interchange, Marshall Scholarships, the Frank Knox Memorial Fellowship, British Memorial Fellowships established by public subscription in Victoria, Australia, and Imperial Relations Trust Fellowships, and subjects discussed at the eleven meetings during the year of the Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom are indicated in an appendix.

#### The Ciba Foundation

THE report for 1958 of the Ciba Foundation for the Promotion of International Co-operation in Medical and Chemical Research (pp. 25. London, 1959) records that during the year 835 visitors from thirty-six countries were provided with accommodation for short periods. Twelve evening discussion meetings were held, covering bioenergetics; mammo-genic and lactogenic activities of the placenta; selective toxicity; prediabetes; gateway to the cerebral circulation; leukaemia, viruses and radiation; hormonal genesis of mammary cancer; theories of antibody production; the arterial pressure pulse; aspects of climatic physiology; maintenance of hereditary defects and diseases in human populations; and chemical protectors against ionizing radiation. A new series of evening film sessions dealing with the film as a scientific teaching and research instrument was arranged. Besides a guest symposium on the definition and classification of pulmonary emphysema, several international conferences were arranged dealing with water and electrolyte mechanism in relation to age and sex; amino-acids and peptides with antimetabolic and cytotoxic properties; the recent contribution of medical biology to ethnology, with special reference to the origin of the Etruscans; the biosynthesis of terpenes and sterols; carcinogenesis; mechanisms of action; and the regulation of cell metabolism. Nine awards were made for research relevant to the problems of ageing and six British and four French candidates were awarded short-term Anglo-French exchange bursaries. Six volumes of conference proceedings were published, and besides details of the Foundation's research forums the report includes a list of publications.

#### Soviet Physics—Solid State

AN important new U.S.S.R. Academy of Sciences journal made its initial appearance last January, *Fizika Tverdogo Tela*. Offering results of theoretical and experimental investigations in the physics of semiconductors, dielectrics, and on applied physics associated with these problems, this periodical publishes papers on electronic processes taking place in the interior and on the surface of solids. The American Institute of Physics has added this monthly publication to the list of Russian physics periodicals now available in cover-to-cover translation. The English language version is called *Soviet Physics—Solid State*. Further information can be obtained from the American Institute of Physics, 335 East 45 Street, New York, 17.