

Hirst, who was born in 1898, was educated at the Northgate School, Ipswich, and Madras College, St. Andrews. After graduating M.A. in Latin, Greek and logic at the University of St. Andrews, Hirst proceeded there to the degrees of B.Sc. and Ph.D. in chemistry under Prof. (later Sir) J. C. Irvine. While at St. Andrews he made notable contributions to the chemistry of cellulose and the structure of simple sugars. He was an assistant in chemistry at St. Andrews during the brief professoriate of (Sir) Robert Robinson, and moved with him to Manchester. In 1924 Hirst was appointed lecturer in Armstrong College, University of Durham, where Prof. (now Sir) Norman Haworth, with whom he had worked in St. Andrews, had established a school of carbohydrate chemistry. Haworth was appointed to Birmingham in 1925, and in the following year Hirst followed him; Hirst was appointed reader in the chemistry of natural products in 1935. This period marked a tremendous advance in carbohydrate chemistry, when the ring forms of sugar and glycosides were given precise definition, the constitution of all the important disaccharides was established, and great advances in the chemistry of starch, glycogen and cellulose were made. Hirst's most spectacular work at this time was the determination of the constitution of ascorbic acid (vitamin C) and its synthesis (in association with Haworth), representing the first laboratory synthesis of a vitamin.

In 1936, Prof. Hirst was elected Alfred Capper Pass professor of chemistry in the University of Bristol; here he continued and extended his studies on carbohydrates to such highly complex bodies as pectins, plant gums and mucilages, and threw further light on the constitution of starch. This work was interrupted during the recent War, when all academic research at Bristol was discontinued. Hirst was appointed head of the Bristol Outstation Armament Research Department. He served on the Scientific Advisory Committee of Research and Development of the Ministry of Supply, and was chairman of the Explosives Committee (Chemistry) and of various panels during the period of hostilities. Since Prof. Hirst's appointment to the Manchester chair in 1944, his work has been mainly concerned with the development of new methods for end-group determinations for use in dealing with the problems of the structure of complex polysaccharides. Hirst served as an independent member of the Working Party for the Cotton Industry, and was chairman of its research sub-committee.

Dr. K. Mellanby, O.B.E.

DR. K. MELLANBY, who has been announced as principal designate of the new University College which it is proposed to establish in Nigeria, has had a varied career. Trained at Cambridge as a zoologist, he devoted himself in the years before the War to the study of insect physiology. First, at the London School of Hygiene and Tropical Medicine and in Uganda he did illuminating work on the water relations of insects. As Sorby Research Fellow of the Royal Society he transferred to Sheffield and studied particularly the adaptation of insects to cold, both in the laboratory and in the field—in arctic Finland. At the outbreak of the War, Dr. Mellanby's organising ability became apparent. A survey of the incidence of head-lice among children in fever hospitals throughout the country gave the first accurate picture of the distribution of pediculosis in Britain. Dr. Mellanby then turned to the scabies

problem. Enlisting the co-operation of a team of 'conscientious objectors' to serve as experimental subjects, he was able to carry out a fine scientific and practical study of scabies which placed our knowledge of the incidence and spread of the itch mite and the efficacy of the various treatments on a really sound basis. The well-known film of this work was a valuable piece of propaganda.

After a period as scientific liaison officer in North Africa, Dr. Mellanby joined the team organised by the Medical Research Council to investigate the spread of scrub typhus. His particular province was the ecology of the mites which carry the disease; but he again put great energy into the propaganda side of the work, including the preparation of an instructional film. Extensive travel in America, Australia and the Pacific area provided more valuable experience. In 1945 he was appointed reader in entomology at the London School of Hygiene and Tropical Medicine. Dr. Mellanby's wide knowledge of the world, his organising ability and a gift for getting on well with all sorts of people promise success to this new venture.

Government Estimates for Scientific and Industrial Research

THE Civil Estimates for the year ending March 31, 1948, now published (Class VI) show a gross estimate of £3,449,375 for the Department of Scientific and Industrial Research, against which appropriations in aid amount to £331,086, the net increase on 1946-47 being £727,355. Grants for investigation and research are estimated at £1,182,000, an increase of £254,400 on 1946-47, of which £842,000 is represented by annual grants to research associations and bodies engaged in industrial research, and £240,000 by grants to students and other persons or bodies engaged in scientific research. Headquarters expenditure is estimated at £175,780 as against £129,604 in 1946-47, and the estimate for the National Physical Laboratory shows an increase from £423,180 to £489,459, with an increase in staff from 611 to 731. The estimate for the Chemical Research Laboratory is increased from £42,158 in 1946-47 to £57,753, with an increase in staff from 58 to 102. Expenditure on the Building Research Station is estimated at £192,390 as against £151,380, with an increase in staff from 255 to 374; on food investigation at £88,803 as against £78,365, with an increase from 111 to 136 in staff; on the Forest Products Research Laboratory at £69,929 as against £61,913, with an increase in staff from 77 to 112; on fuel research at £164,676, as against £137,340, with an increase in staff from 174 to 232; on the Pest Infestation Laboratory at £22,444 as against £19,386, with an increase in staff from 43 to 52; on the Road Research Laboratory at £152,929 as against £97,850, with an increase in staff from 147 to 233; and on the Water Pollution Research Laboratory at £29,754 as against £22,058, with an increase in staff from 51 to 74. The total staff is estimated at 2,129 as against 1,538 in 1946-47. For the Geological Survey and Museum of Practical Geology, expenditure is estimated at £187,704 as against £106,941.

This net total of £3,118,289 represents only a part of the Treasury contribution to research for the current year. In addition to the vote of £12,000,000 to the universities, part of which at least will be expenditure on research, the Civil Estimates include appropriations of £698,000 for the Medical Research Council, £400,000 for the Agricultural Research