

in aeronautics for selected students to fit them for leadership in industry and civil aviation, in the Services and in education and research. The College has a governing body of its own, representative of all the interests concerned. Nevertheless, the principal and his staff must bear the responsibility for setting the standards and establishing tradition, especially in the early days. Mr. Relf served an apprenticeship for five years in Portsmouth Royal Dockyard. In 1909 he was awarded an open Royal Exhibition tenable at the Royal College of Science, where he won the Tyndall Prize for physics in 1910 and obtained the diploma of the College in 1912. He was appointed to the staff of the National Physical Laboratory in 1912, and thirteen years later was made superintendent of the Aerodynamics Department.

During his early years at the National Physical Laboratory, Mr. Relf was engaged on aerodynamic researches and, under Stanton, Bairstow and Southwell, made a noteworthy contribution to the establishment of the international reputation of the Department. One of his outstanding achievements at that time was the design of the balances and controls for the compressed-air wind tunnel, a very powerful research equipment which enables air-flow problems to be studied over a very wide range of Reynolds numbers. Owing to the high pressure in the tunnel (up to twenty-five atmospheres) direct operation of the balances is not possible: they must either be automatic or operated from outside the tunnel. After a great deal of thought, Mr. Relf decided to base the design on the principle of the Kelvin current balance and in such a manner that an observer could measure, at any moment, the forces acting on the model in the tunnel. The successful operation of the balances under the stringent conditions existing in the tunnel is a testimony to his skill and foresight. After his promotion to superintendent, administrative duties and committee work made an ever-increasing demand on his time, but he could always find time to give guidance and sound advice to members of his staff. Mr. Relf is a member of the Aeronautical Research Council and of several committees of the Ministry of Aircraft Production. He has always been keenly alive to the value of a close contact between research and industry, and he has taken every opportunity to get first-hand information on the problems of aircraft firms. The best wishes of his many friends will be with him in the tasks that await him at the College of Aeronautics.

Chair of Pharmacology, College of the Pharmaceutical Society

DR. G. A. H. BUTTLE has been appointed to the chair of pharmacology at the College of the Pharmaceutical Society, in succession to Prof. J. H. Gaddum, who now holds the chair of pharmacology at the University of Edinburgh. Prof. Buttles returns from a long and varied experience in the Army, in which he held the rank of lieutenant-colonel, R.A.M.C. He served for six years as officer commanding Base Transfusion Unit and adviser in resuscitation with the Middle East Forces and later with the 21st Army Group. Previous to the War, in conjunction with Henry, Trevan and Stephenson, he published work on chemotherapeutics from the laboratories of the Wellcome Foundation, including much work on the antibacterial action of sulphanilamide and allied substances in streptococcal infections. In conjunction with Colebrook and O'Meara he demonstrated the inhibitory effects that

sulphanilamide compounds had on bacteria outside the body. During the War, in conjunction with Lieut.-Colonel G. Mitchell, he published investigations on the treatment of infected war wounds with powder of sulphanilamide and derivatives of acridine, and several articles on blood transfusion for service purposes. As director of the Pharmacological Laboratories in the College of the Pharmaceutical Society, he will be able to continue the work of Burn and Gaddum on biological assays, and will undoubtedly be a great asset to the team of research workers already engaged on the chemical aspects of chemotherapy.

Agricultural Economics Research Institute, Oxford: Appointment of Prof. A. W. Ashby

PROF. A. W. ASHBY, professor of agricultural economics at the University College of Wales, Aberystwyth, who has recently been appointed director of the Agricultural Economics Research Institute, Oxford, in succession to Dr. C. S. Orwin, was a scholar of Ruskin College, Oxford, and later was the first holder of a research scholarship at the Institute to which he is shortly to become the head. After a period of study at the University of Wisconsin, he was attached to the Food Production Department of the Ministry of Agriculture during the First World War, returning afterwards to the Institute as senior assistant. Appointed to Aberystwyth in 1924, he created the Department of Agricultural Economics there, and began a study of the economic problems of farming in Wales out of which has developed an advisory service, particularly in connexion with the co-operative movement, which has proved of first-rate importance to Welsh farmers.

The chair of agricultural economics at Aberystwyth, to which Prof. Ashby was elected in 1929, was the first in the subject to be created in Great Britain, and his educational work has attracted students from many parts of the world. As a member of several royal commissions and departmental committees, the National Council of Agriculture and the Agricultural Wages Board, his experience and knowledge have been freely drawn upon by the Ministry of Agriculture and by agricultural organizations in England and Wales. Prof. Ashby is entering upon his new duties at a very critical time in the history of agriculture, when the artificial prosperity induced by war conditions will shortly pass, and the industry will have to establish itself upon a peace-time footing. In such conditions, few better fitted than he could be found to direct research into the problems which confront those whose interests and livelihood are in the land, and to play a part in framing the education which university students, both undergraduate and postgraduate, will need.

Adam Hilger Ltd. : Research and Development

GROUP CAPTAIN A. C. MENZIES has been appointed controller of research and development to the firm of Adam Hilger, Ltd., and commenced his duties on November 14, succeeding Mr. F. Twyman in this capacity. Mr. Twyman continues with the firm as managing director and technical adviser. Dr. Menzies saw active service in the War of 1914-18 as a seaplane pilot in the Royal Naval Air Service, and after graduating from Cambridge had appointments in physics at the University of Leeds, University College, Leicester, and University College, Southampton. At Leicester he inaugurated the Physics Department in the newly formed College, and at Southamp-