

Britain as the author of a very popular "Laboratory Handbook of Bacteriology", translated and published in 1907. In Germany, other text-books from the same pen served as practical guides to bacteriology and hygiene and ran into numerous editions.

Abel received the honorary title of *Geheimer Medizinalrat* in 1906 and was appointed to the chair of hygiene at Jena in 1915.

Lord Hirst

LORD HIRST's death on January 23 at the age of seventy-nine has caused poignant regret in many circles, for he was one who touched British social life at many different points. But his outstanding contribution to national life is in the industrial field. That he founded, and built up, the General Electric Company is well known. That he set a new standard in staff relationships in industry, which gave that Company a unique character, is less well known, and is a tribute to the unerring instinct he had for singling out the essentials in all matters which he handled. In this he showed a true scientific spirit by realizing that industry is run by human beings, and broadly its organizations must be made to suit human instincts and aspirations, and not the other way round.

As soon as Lord Hirst felt his Company was large enough to support a big research laboratory, he was

able to fulfil a long-standing aspiration and established the Research Laboratories of the General Electric Company at Wembley. His instinct for essentials is again to be noted. His chief objective in founding these laboratories was not the expectation of startling the world with new inventions, welcome as such have been to him when they came. His first object was to provide a scientific general staff for his Company, complete with the facilities which a large laboratory could give them.

The services of this scientific staff were not to be forced on the factory managements. They were to operate at the intermediate levels of the Company, by working on factory problems with the engineering and process staffs in the works. Most of those who are experienced in industry will concur with Lord Hirst in emphasizing this essential place in manufacturing industry, where science should have its beginning and its primary focus.

As soon as it was clear, in 1939, that war was coming, Lord Hirst gave instructions that the research laboratories of his Company, with all their staff and facilities, should be put at the disposal of the Government without regard to commercial considerations. This offer was accepted in the letter and the spirit. The scientific assistance which his laboratories were thus enabled to bring to the war effort was a chief source of satisfaction to Lord Hirst in the closing years of a great life.

C. C. PATERSON.

NEWS and VIEWS

The Physical Society: Charles Chree and Duddell Medallists

THE Council of the Physical Society has awarded the Charles Chree Medal and Prize for 1943 to Prof. (now Colonel) B. F. J. Schonland and the Duddell Medal for 1942 to Dr. C. R. Burch. Col. Schonland, formerly professor of physics at Cape Town and afterwards director of the Bernard Price Institute of Geophysics at Johannesburg, is now in Great Britain doing scientific work in connexion with the War. Dr. Burch, formerly of the Research Department of the Metropolitan-Vickers Electrical Company, has continued his work in the Physics Laboratories of the Imperial College and the University of Bristol.

Prof. Schonland's work on atmospheric electricity has been primarily concerned with thunderstorm phenomena: first his investigations of the 'polarity' of thunderclouds in South Africa, and his measurement of the discharge from a small tree, which clearly established the importance of point discharges in maintaining the earth's negative charge; secondly, his systematic long-period observations on the interrelation of thunderstorms and penetrating radiation in the southern hemisphere; and thirdly, his use of a rotating-lens camera of the Boys type in a spectacularly successful series of systematic experiments which elucidated the rather complicated succession of discharges forming what is known as a 'stroke' of lightning.

As may be seen in some of the work of the two previous Duddell medallists—Lawrence's cyclotron and Coolidge's multi-sectional high-voltage X-ray tubes—one of the outstanding characteristics of modern physics is the large-scale application of

vacuum technique. It is, primarily, in recognition of Dr. Burch's valuable contributions to the advancement of such technique that the present award of the Medal is made. His invention of the oil-diffusion pump, his still for the production of vacuum oils, greases and waxes, and his development of demountable vacuum-tight joints have made possible the attainment of high vacua on an engineering scale and thus greatly increased the range of experimental investigation. It was Burch's work on the production of flat surfaces for vacuum work that aroused his own interest in the grinding of optical surfaces and the possibilities of new developments in optical technique, on which he is now engaged. His remarkable versatility is seen also in his pioneer work in the invention (with Davis) of the induction furnace. In Dr. Burch we see a very rare combination: considerable mathematical ability, exceptional experimental skill, and ability not only to design his instruments but also to construct them in the workshop; in him Duddell would have recognized a kindred spirit.

The Nuffield Foundation

LORD NUFFIELD, to whom the world is already indebted for numerous benefactions, large and small, for the benefit of research particularly in social studies, has handed over his holdings in the Nuffield organization to the value of £10,000,000 as a capital fund which will be known as the Nuffield Trust. The fund will be administered by trustees, not exceeding seven in number, and the income will be devoted to (1) medical research and teaching; (2) organization and development of medical and health services;