

He graduated M.R.C.V.S. in July 1899, gaining first-class honours in the final examination, and he obtained the fellowship of the College in December 1905.

Wooldridge's undergraduate career was one of exceptional merit. He was medallist in biology, chemistry, anatomy, surgery and medicine, and he also won the coveted Coleman Prize and Centenary Medal. After graduation he served for a year as tutor at the Royal Veterinary College. In 1900 he went to the Royal Agricultural College at Cirencester as professor of veterinary science and bacteriology. In 1903 he was appointed professor of veterinary medicine in the Royal Veterinary College of Ireland. He returned to Camden Town in 1908, becoming professor of materia medica and therapeutics in the Royal Veterinary College and with charge of the out-patients department. In 1912 he was translated to the senior post in the Department of Medicine and continued in that chair until his retirement in 1943. He became vice-principal of the College in 1936, and on his retirement he was honoured by being elected *omniritus* professor of veterinary medicine.

His professional life was in the academic sphere, but he took a great and active interest in all matters appertaining to veterinary science. He served as president of the Central Veterinary Society, the National Veterinary Medical Association (now called the British Veterinary Association), the Royal College of Veterinary Surgeons and the Comparative Medicine Section of the Royal Society of Medicine. He was a vice-president of the Research Defence Society. He served on the council of the Royal Sanitary Institute, where his interest in the hygienic production of food products of animal origin had full scope. He was also honorary veterinary surgeon to the Zoological Society of London for many years. He acted as examiner in medicine, hygiene and meat inspection for several academic and professional bodies. He was joint editor of the *Veterinary Journal* during 1906-14 and he contributed many papers to veterinary literature. In this manner his magnum opus was the two-volume "Encyclopædia of Veterinary Medicine". Many sections of this work came from his own pen.

Wooldridge enjoyed teaching and his contact with students. He entered vigorously into every sphere of college life—sporting, social and academic. He was honoured by his profession on many occasions. The Royal College of Veterinary Surgeons gave him the greatest honour within its power, the Steele Memorial Medal, and the Central Veterinary Society did likewise by the award of its Victory Medal and honorary fellowship. One of the greatest interests of his life and also of Mrs. Wooldridge, his helpmate for fifty years, was their work for the Victoria Veterinary Benevolent Fund. Many who have fallen on bad times have had cause to thank this kindly man and his gentle wife.

J. McCUNN

#### Mr. Leo Bagrow

LEO BAGROW, who died at The Hague on August 9 at the age of seventy-six, was a commanding figure among students of the history of cartography. A scholar with fire in his belly, he possessed outstanding qualities of enthusiasm, determination and thoroughness. These enabled him to pursue his chosen subject continuously for more than half a century and in spite of interruptions caused by the two major

political convulsions of our time, in which he was unwillingly involved.

After completing his education in St. Petersburg, Bagrow served, before and during the First World War, in the Russian Imperial Navy, mainly as a hydrographer. Surveys in the Caspian Sea and Gulf of Finland were followed by expeditions to various parts of Siberia and to Kamchatka and by visits to Japan. He was already an ardent collector of early maps, particularly of Asiatic Russia and the Far East, and his first studies were published between 1912 and 1917.

After the Revolution, Bagrow and his wife emigrated in November 1918 to Berlin. Between the wars, missions for commercial firms gave him ample opportunities to continue his search for early maps; he travelled throughout Europe and in Asia, Africa and North America. An extensive knowledge of European libraries is revealed in his invaluable bio-bibliographical studies of sixteenth-century cartographers ("A. Ortelii catalogus cartographorum", 1928-30). In 1935 he founded "Imago Mundi: a Review of Early Cartography"; this annual, of which Nos. 1-3 had appeared by 1939, has provided a vehicle for much of the best work in this field by Bagrow and others. At the same time he initiated a series of facsimiles of early maps entitled "Anecdota Cartographica".

In 1945 a Swedish aircraft carried Bagrow, his wife and their tame sparrow from Berlin to Stockholm, where with stubborn courage he resumed his scientific activity in spite of increasing deafness and the loss of his records and part of his collections. The publication of "Imago Mundi" was recommenced, and ten issues (4-13, 1947-56) were produced with the help of subsidies from Swedish cultural foundations. Other notable post-war works by Bagrow include his essay, "The Origin of Ptolemy's Geographia" (Stockholm, 1945); his "Geschichte der Kartographie" (Berlin, 1951); and three parts of "Anecdota Cartographica" (1948-53). At his death he had completed, and was preparing for publication in English, several important works, including a history of Russian cartography. Bagrow's valuable collection of early maps of Russia was acquired in 1956 by the Houghton Library of Harvard College.

Those who worked long with Leo Bagrow learnt that behind a peremptory temper and formidable obstinacy lay warm human sympathies and a strong and genial humour.

R. A. SKELTON

#### Mr. James Kendall

ALL Jim Kendall's acquaintances, colleagues and friends must have been shocked to hear of his sudden and untimely death on August 24. It is true that he worked hard and played hard, but one would have said he was at the full height of his powers and in a position in the engineering industry for which he was well suited and where he would increasingly extend his influence.

His contribution to the development of nuclear energy in Britain has been considerable, but is not well known. He was responsible for the design and construction of the BEPO pile at Harwell, and for the first production piles at Windscale. These were built at a time when development facilities were limited and naturally are solid, conservative conceptions. How different they are from Kendall's last work with the Atomic Energy Authority, which was

concerned with the design and construction of the Dounreay fast breeder reactor. This is certainly one of the most difficult engineering projects undertaken by the Authority, and one which required day-to-day contact with the large development teams that have had to be brought together for this work. At an earlier period, he was made responsible for the engineering laboratory concerned with the development of components for the gaseous diffusion plant at Capenhurst, and perhaps this contributed to an understanding of the outlook of scientists and to the profitable atmosphere of mutual respect between scientists and engineers working on the Dounreay project.

The fact that Kendall's contribution to the development of atomic energy was not better known was in the main due to personal idiosyncrasies. He joined Sir Christopher Hinton and Sir Leonard Owen in the early days at Risley, after serving with them

in the Ministry of Supply through the war-time years. This long association may explain to some extent the success he had in branches of engineering where solid academic backing is usually regarded as advantageous. He had no academic qualifications, and no diplomas or membership of professional institutions—indeed, he positively avoided the possibility. He would not have welcomed public honours or awards no matter where they came from, and if he could avoid signing a written document he would do so; but these strange characteristics did not reduce the regard, and often affection, in which he was held by those who knew him.

In his family life similarly he liked to pretend to be an almost Victorian master in his own house; but this only concealed to a degree how fortunate he had been in his choice of a wife. All our sympathies will be extended to her and his daughter.

L. ROTHERHAM

## NEWS and VIEWS

### Long Ashton Research Station, Bristol:

Dr. H. G. H. Kearns, O.B.E.

DR. H. G. H. KEARNS, who succeeds Prof. T. Wallace as director at Long Ashton (see *Nature*, 180, 267; 1957), received his scientific training at Wye College and the School of Agriculture, University of Cambridge. After a period of service in the Zoology Department of the University of Bristol, he was appointed to the staff of the Long Ashton Station in 1931 as an adviser in entomology, but later transferred to the post of research entomologist, which he still occupies. From his appointment until the outbreak of war in 1939 his researches were mainly concerned with the biology of pests of horticultural crops, including fruit and market garden and glasshouse crops, and of basket willows. In his work on fruit crops he made outstanding contributions on the control of serious pests of fruits, notably on capsid bugs, apple and plum sawfly, codling moth and raspberry and strawberry pests, and did valuable work on the formulation of sprays, particularly those containing tar and petroleum oils. His investigations played an important part in the development of comprehensive spray programmes for fruit crops, particularly those suitable for the West Midlands fruit areas.

From 1939 onwards he has specialized on the development of spraying machinery and equipment, and during the War he played an important part in designing and developing machines for county agricultural executive committees to carry out contract spraying in orchards. Largely as the result of his efforts, the committees were able to spray 20,000 acres of orchards annually throughout the war period. After the War he turned his attention to problems of automatic spraying machines and equipment, and he designed and built a number of machines for use both in Britain and in the Colonial Territories. Parallel with these investigations, Dr. Kearns has carried out intensive studies of the physical properties of spray fluids and dusts, which have done much to improve the efficiency and economic usage of these materials. During recent years, in conjunction with the Colonial Office, he has worked on the control of pests and diseases of a number of crops in Jamaica and East Africa, including

banana, coconut, coffee and cotton, and one of his machines has also been adopted for ground spraying in locust control campaigns. The outstanding services of Dr. Kearns to entomology and agriculture were recognized by the University of Bristol by his appointment to a readership in entomology in 1950, and by the Government by the award of the O.B.E. in 1954. His appointment as director should ensure the continued development of the work of the Station in accordance with the pattern and high standards set by his predecessors.

### Human Physiology and Pharmacology at Adelaide: Prof. R. F. Whelan

DR. R. F. WHELAN, who has been appointed at the age of thirty-four to the chair of human physiology and pharmacology in the University of Adelaide, graduated in medicine in The Queen's University of Belfast in 1946. During 1948-51 he was an assistant lecturer in physiology at The Queen's University, and after working for a year with Prof. Henry Barcroft as a research fellow in the Sherrington School of Physiology, he returned in 1952 to the lectureship he now holds at Belfast. His research interests are mainly in the physiology and pharmacology of the human peripheral circulation. At various times he has collaborated with Prof. A. D. M. Greenfield, Dr. J. T. Shepherd, Dr. I. C. Roddie and others in investigating the effects of cold, adrenaline, nor-adrenaline, intra-arterial injections of gases and the action of the sympathetic nervous system on the blood vessels of the limbs. He has made a special study of the action of histamine, and has developed the use of antihistamines as a tool for investigating the role of histamine in human vascular reactions. At present he is investigating the effects of 5-hydroxytryptamine and its antagonists. He is the author of more than forty papers and holds the degrees of M.D. with high commendation and Ph.D. Dr. Whelan has played an important part in developing the scheme whereby students reading for the honours B.Sc. in physiology at The Queen's University are required to undertake a research project and prepare a paper for publication. He has made short visits to Canada and to several countries in Europe, and will