

and cobalt bromide, in which an ionic transport method was employed. For his excellent research work he was awarded the D.Sc. degree by the University of Liverpool. Denham then went to continue his researches in Germany, and having arrived in the laboratory of Prof. Bredig at the University of Heidelberg he informed Bredig that he wished to work for the Ph.D. degree of that University but could only spend about a year on the job. Prof. Bredig was astonished, said that such a thing was very difficult if not impossible—but he could have a shot at it if he wished! Little did he realize Denham's tremendous powers of concentration and hard work, not to mention his great insight and skill as an investigator. The result was Denham did so well that he got his Heidelberg Ph.D. in the year. His subject of investigation was a quantitative study of the reversible catalytic reduction of titanous salts by hydrogen gas (in presence of platinum black). It formed one of Bredig's great series of studies in heterogeneous catalysis.

With a record of six published papers and the research degrees of two European universities (a pretty good record for  $3\frac{1}{2}$  years work), Denham returned to New Zealand in 1910 and acted for a time as research student and honorary lecturer at Canterbury College. Then in 1912 he obtained a post as lecturer in chemistry under Prof. B. D. Steele at Brisbane (University of Queensland), where he was appointed head of the Chemistry Department and acting-professor during the absence of Prof. Steele on war-work in England, obtaining the title of assistant-professor at the end of the War.

In 1921 Denham published his useful text-book of inorganic chemistry, and in the same year was appointed professor of inorganic chemistry at the University of Cape Town, remaining there only two years, for in 1923 he was offered and accepted the succession to the chair of chemistry at Canterbury College, Christchurch—a post which he still occupied at the time of his death. From 1941 he held also the high office of rector of the College. During his twenty years as professor, Denham proved himself to be a very active and excellent university teacher and administrator, the much-loved father of his students, and a wise, energetic and forward-looking member of the academic body. He was a member of the Academic Board of the University from its inception in 1927, and a representative of that Board on the University Senate from 1935. Apart from his great work in University and College affairs, Denham was very active in fostering and promoting the advancement and application of science in New Zealand. He was a fellow of the Royal Institute of Chemistry of Great Britain and Ireland, an original fellow of both the Australian Chemical Institute and the New Zealand Institute of Chemistry, and a fellow of the Royal Society of New Zealand and of the New Zealand and Australian Association for the Advancement of Science. Of the latter body he was president of Section B (Chemistry) for the Hobart meeting in 1928, and Liversidge Lecturer for the Canberra meeting in 1939.

Denham took a very active and important part in the promotion and development of scientific control and research in connexion with both primary and secondary industries in New Zealand. Thus he was a member of the New Zealand Council of Scientific and Industrial Research from its establishment in 1926, becoming chairman in 1934. He was active in the foundation of the Wheat Research Institute

in 1927 and chairman of its committee from the start. Denham's interest in the successful promotion of agricultural science and practice can be realized when it is stated that he was a member of the Board of Governors of Canterbury Agricultural College during 1928–41 and its chairman during 1932–38; a member of Council of the New Zealand School of Agriculture from its foundation in 1937 until 1941, and a member of the committees of the Dairy Research Institute and the Wool Manufacturers' Association.

During his stay in Brisbane and Cape Town, Denham published a number of papers on complexes in solutions of copper and cobalt salts and on the existence and preparation of the suboxides and subsalts of lead, cadmium and bismuth. Some doubt has been cast on the existence of certain of these suboxides and subhalides by the later work of Hollens and Spencer (1934), using magnetic susceptibility measurements, and by that of Hodger and Terrey (1936) using X-ray methods. Some of the substances in question were prepared by methods which Denham's work had also shown to be doubtful.

During his busy years as professor at Christchurch, Denham never lost his interest in research, and in collaboration with senior students published a number of papers on salt hydrolysis and on the ternary systems zinc oxide – nitric acid – water and lead oxide – nitrogen pentoxide – water.

The coming of the War brought new and heavy burdens. He threw himself fully into the great war effort of New Zealand, but there seems little doubt that this extra strain was too much for a man who had never spared himself in his devoted services to his students, the University, the community and science. Fortunately, he lived long enough to know of the great honour that was coming to him, namely, honorary membership of the Society of Chemical Industry.

As one of his old teachers, I have always had the highest regard and affection for him, and count it a special piece of good fortune for myself that I was able to help him at an early stage in his career. He was a great son of his native land, and a very fine example of a man who devoted himself wholeheartedly not only to the advancement of science and sound learning but also to the promotion of the health, happiness and prosperity of his fellow countrymen by the means which science can provide.

F. G. DONNAN.

#### Sir Michael Sadler, K.C.S.I., C.B.

THE death of Sir Michael Sadler removes from the world of education an elder statesman universally honoured for his achievement and almost as widely trusted for his wisdom. He was never, as too many of our educationists are apt to be, merely the brilliant amateur in the field, or the politician in disguise. Both these parts he could have played to perfection, if he had so chosen, for he had the gift of persuasive eloquence and great personal charm. At Oxford he became president of the Union in his second year, but made no mistake about his first classes in the Schools. Then in 1895 he settled down to the Oxford University Extension work, shaping in a very short time the main lines which it has since followed. He passed on almost at once to spend eight years as director of special inquiries and reports at the Board of Education, and used the opportunity to conduct a thorough study of what was being done outside Great Britain, particularly in Prussia and generally

in Germany. It was a period in which he not only extended his own knowledge far and deep, but also produced a series of vitalizing documents which gave confidence and purpose to the educational movement which began in 1902. In that year it can be safely asserted that no Englishman knew more about education at all its stages in all the countries that mattered than Sadler, and certainly there was no one more capable of expressing what he knew. It was natural that his knowledge and powers should be freely used. On one hand he became for a brief period professor of the history and administration of education at Manchester, and then vice-chancellor of Leeds; on the other, he found time to plan the secondary and higher education of Sheffield, Liverpool, Birkenhead, Huddersfield, Exeter, Newcastle-upon-Tyne, Derbyshire and Hampshire. This series of signal public services culminated in his presidency of the Calcutta University Commission and his monumental report on Indian education. His long apprenticeship had borne abundant fruit, and all of it came to maturity. Later, he returned to his old University as master of University College, continuing to be until his retirement and after it a source of inspiration and life in the many causes to which he laid his hand: in the University and in the City, of which he became a freeman; in the Oxford Preservation Society; and in all movements for the encouragement and better understanding of modern art and promising artists.

He could deliver a formal oration of perfect classical form, and equally could speak with eloquence and fire on the spur of the moment in a company large or small. He had the gift of throwing his entire self into whatever engaged his interest, and partly because of this he won the devotion and admiration of many young people. He radiated friendliness, and it was not for nothing that Leeds during his vice-chancellorship was spoken of as "the friendliest in the country". He attracted youth also because he was little interested in what was already established and conventional, but was ever looking for promise and the movement of the future. It is significant of this quality in him that at Headington his fine Gains-

boroughs were not given pride of place, but were kept in the shade by his remarkable collection of modern examples, which much resembled the wheat and the tares alike growing together for the harvest; and it must be confessed that he liked to shock convention to the extent of advancing paradoxes in which he did not entirely believe himself. It has been said that the Greeks were always children, and Sadler in the same way kept something of the eternal boy. He told a select gathering of heads of houses at Oxford that in a generation Oxford and Cambridge would be moss-grown relics of the past, and the intellectual life of the country would have passed to Leeds, Manchester and Birmingham. He blandly advocated a by-pass to bisect Christ Church meadows, partly because he liked by-passes as being strong, broad and direct, like himself, and partly he wanted to observe the shock with which Oxford would react to this assault on one of its most treasured beauties.

He had a happier life than is given to most: he has left us the record of a great and lovable man.

CYRIL NORWOOD.

WE regret to announce the following deaths:

Prof. Leon Asher, emeritus professor of physiology in the University of Berne, on August 8, aged seventy-eight years.

Prof. H. L. Lebesgue, For.Mem.R.S., professor of mathematics in the Collège de France, during 1941, aged sixty-eight.

Prof. Einar Lönnberg, the well-known Swedish zoologist, on October 21.

Mr. Cecil Rowntree, the distinguished surgeon and authority on cancer treatment, on October 14, aged sixty-three.

Sir Aurel Stein, K.C.I.E., F.B.A., the authority on Central Asian antiquities, on October 26, aged eighty.

Mr. W. P. Westell, formerly curator of the Letchworth Museum and well-known lecturer and writer on natural history, on November 1, aged sixty-eight.

## NEWS and VIEWS

### Woodwardian Chair at Cambridge:

Lieut.-Colonel W. B. R. King, O.B.E., M.C.

LIEUT.-COLONEL W. B. R. KING has been appointed Woodwardian professor of geology in the University of Cambridge. He has the unique distinction of having been the chief representative of British geology directly employed as a geologist in both world wars. He won two awards on the Western Front: an O.B.E. for geological services in the War of 1914-18, and an M.C. for non-geological actions connected with the evacuation of the British Army from France in 1940. In peace, Colonel King was a member of the Geological Survey of Great Britain from 1912 until his appointment as Prof. Marr's assistant at Cambridge in 1920. Eleven years later he was elected to the Yates-Goldsmid chair of geology at University College, London.

Colonel King's publications are an index to his wide interests. Among them we find contributions to Palaeozoic palaeontology and stratigraphy, largely drawn from the north of England and Wales, but including also descriptions of fossils from the Middle

East and India; gleanings from his war experience of the Mesozoic and Tertiary formations of the Continent; interpretations of North of England scenery; and a co-operative excursion into the marches of geology and archaeology, so well represented in the Pleistocene of the Thames Valley. Colonel King's past experience on the Geological Survey has given a special character to his open-air teaching of his subject. In another direction, he will be remembered as a popular secretary of the Geological Society.

### New Master of Birkbeck College:

Prof. H. Gordon Jackson

WITH the appointment to the mastership of Birkbeck College, London, of Prof. H. Gordon Jackson, who has been head of the Zoology Department there since 1921 and professor since 1928, the Governors seem to have followed a similar course as towards the end of the War of 1914-18, when the late Dr. Senter was appointed to that position. Thus during the important period of reconstruction which the College looks forward to after the War, there will