Chemical Industry and in 1918 the research medal of the Worshipful Company of Dyers. He was elected president of the Society of Dyers and Colourists in 1918, and received the Perkin Medal in 1923. SIDNEY S. NAPPER.

COLONEL W. G. KING, C.I.E.

COLONEL WALTER GAWEN KING, late of the Indian Medical Service, died at his home at Hendon on April 4 at the age of eighty-three years. He graduated M.B. and C.M. in 1873 at the University of Aberdeen, where he also took the D.P.H. in 1888. Soon after qualifying, and before his twenty-third birthday, he entered the Indian Medical Service, in which he passed the next thirty-six years of his life.

On reaching India in 1874, King was posted to the Madras Presidency and, after two years military service with an Indian regiment, was transferred to civil employment, in which he quickly distinguished himself for his active work in the great famine of 1876–77 and the terribly severe cholera epidemic which accompanied it. This experience made him decide to devote his life to preventive medicine, and it is chiefly for the remarkable work which he did in this sphere during a succession of appointments as inspector of vaccination, deputy sanitary commissioner and sanitary commissioner of the Madras Presidency and later as inspector general of civil hospitals and sanitary commissioner of Burma, that his name will go down to posterity as the leading pioneer of public health in southern India.

King's great merit was that at a time when smallpox, cholera and malaria were the three chief scourges of India, and when the scientific world knew nothing of the causes of cholera or malaria, and, therefore, knew nothing of their prevention, he set to work to organise scientific investigations for the benefit of public health and did not pause in the task until the goal he aimed at was attained. At that time, bacteriology was in its youth and the modern sciences of tropical protozoology, helminthology and medical entomology were in their earliest infancy or were as yet unborn. The malaria parasite was not discovered until 1881, and the fact that it is spread by mosquitoes not until 1897. The cholera vibrio was not discovered until 1883. Smallpox, however, could be controlled because a prophylactic was already available and the only problem to be solved was how best it could be applied. In Madras, vaccination with animal lymph instead of with human lymph was successfully established in 1880–81, but more than ten years were to elapse before a satisfactory method of preserving the lymph under tropical conditions was devised. King's well-planned and carefully controlled laboratory experiments conducted in 1890 to ascertain the relative merits of lanoline and vaseline as a preserving medium may be cited as a good example of the immediate utilitarian researches to which he devoted what time he could spare from his many other duties.

Later when, at his repeated request, the Government of Madras established a central animal vaccine lymph depot for the Presidency, King quickly extended its work to include bacteriological diagnosis and other expert assistance to civil surgeons and medical practitioners, and finally made arrangements for the preparation of prophylactic and curative sera and vaccines and for the prosecution of original protozoological and entomological research of direct importance to tropical medicine. In 1903, when the main buildings of the bacteriological section were completed, the Institute became the provincial laboratory for the Madras Presidency and was named, in recognition of King's services to public health and the efforts he had made to bring it into existence, "The King Institute of Preventive Medicine". In the general scheme for laboratories which had been submitted to the Government of India by the late Surgeon-General Harvey in 1899 it was the third to be established, being preceded only by the Haffkine Institute at Parel, Bombay (1896–99), and the Pasteur Institute of India at Kasauli (1900).

After his retirement, Colonel King served in the War from 1916 as A.D.M.S. Western Command and later was consultant at the Tropical Diseases Clinic, Ministry of Pensions, and lecturer in applied hygiene in the tropics at King's College, London. He had the satisfaction, too, of seeing the institute in India which he founded grow gradually until its activities covered a wider field in the practical application of scientific knowledge to routine medical and public health needs than those of any other laboratory in India. S. P. J.

PROF. R. CARR BOSANQUET

WE regret to record the death of Prof. R. Carr Bosanquet, formerly professor of classical archæology in the University of Liverpool, which took place on April 21 in a nursing home at Newcastle at the age of sixty-three years.

Robert Carr Bosanquet was the son of Mr. Charles Bertie Pulleine Bosanquet, and was born at Rock Hall, near Alnwick, on June 7, 1871. He was educated at Eton, where he was Newcastle Scholar in 1890 and edited the *Eton College Chronicle*, and at Trinity College, Cambridge, of which foundation he was a scholar. He took firsts in both parts of the Classical Tripos, and was elected to a Craven travelling studentship, which he held from 1895 until 1897.

Bosanquet's interest in archæology was first aroused by the antiquities of Roman Britain which lay within striking distance of his home. In 1897 he excavated Housesteads (Borcovicium) on the Roman Wall. In the following year he was appointed assistant director of the British School of Archæology in Athens, later succeeding to the office of director. In 1906 he was elected to the chair of classical archæology in the University of Liverpool, which he occupied until 1920, when he retired in order to devote himself to the management of the estate which he had inherited from his father, giving such time as this allowed him to further research in the archæology of Roman Britain. He was a member of the Royal Commission on Ancient Monuments in Wales, a position for which his extensive knowledge

of Welsh antiquities peculiarly fitted him, and of the advisory board on Ancient Monuments in England.

As an archæologist, Bosanquet had a high reputation among the expert, but neither his achievement nor its qualities was such as to lend itself to building up wide popular recognition. He was one of the group who, following closely in the footsteps of Sir Arthur Evans, at the turn of the century and in the years immediately following placed British archæology in the field in a commanding position in international scholarship; and Bosanquet was one of those who helped to extend that meticulous care in excavation, characteristic of field work in the Mediterranean, to the study of Romano-British sites. As director of the British School at Athens he worked in Crete, where he was responsible for the excavation of the archæologically valuable site of Palækastro, at Phylakopi and in Laconia, where he initiated the important excavation of the temple of Artemis Orthia. He was the author of "Borcovicium" (1904) and part author of "Phylakopi" (1904), but the principal part of his contribution to archæological literature appears in the *Annual* of the British School, the *Journal of Hellenic Studies* and other periodicals. His work was accurate and precise, and informed with wide knowledge. It showed all the polished definition to be expected of a finished scholar.

Prof. E. Poulsson

With the death on March 19, at the age of seventy-seven years, of Prof. E. Poulsson, Norway has lost one of her foremost scientific workers. He was chiefly known on account of his work in connexion with the fat-soluble vitamins as they are found in cod liver oil. In innumerable papers he has shown that the female organism in the sexually mature years has a greater vitamin reserve than the male. Similarly, he has proved that the chondropteryginous fishes—in contradistinction to the osseous—are only endowed with negligible quantities of vitamin D, a substance which they manifestly do not require as their framework is only to a very limited extent composed of lime compounds.

Prof. Poulsson was deeply interested in the importance of cod liver vitamins to the growing organism. He showed in several papers the part played by these vitamins in relation to the unborn individual and in habitual abortion, and he did much to extend our knowledge of the medicinal importance of cod liver oil. One of the most important of Prof. Poulsson's contributions to the cause of vitamin research is undoubtedly his well-known method for the quantitative determination of vitamin D. By this method vitamin D was determined in Oslo-units and these were in use in many countries until the international units were introduced. As Norway's representative, Prof. Poulsson was a member of the League of Nations Vitamin Standardisation Committee.

In the sphere of pharmacology Prof. Poulsson was particularly well known. His textbook on this subject is used in many parts of the world in English, Spanish and German translations, and ten editions have been published. The book successfully combines theoretical thoroughness with practical insight. Written in an easy style, it is an invaluable aid for the ordinary practitioner.

Prof. Poulsson was born in 1858. He became a doctor of medicine in 1892, studied chemistry under Fresenius at Wiesbaden and pharmacology under Schmiedeberg at Strasbourg. He was professor of pharmacology at the University of Oslo in 1895–1928. As professor emeritus from 1928 until his death, he was director of the State Vitamin Institute. His charm and directness of manner gained him many friends both at home and abroad.

Ottar Rygh.

The death of the eminent American medical historian Lieut.-Colonel Fielding Hudson Garrison at the age of seventy-four years took place on April 18 in the Johns Hopkins Hospital. He was the author of an introduction to the "History of Medicine" (fourth edition, 1929) and numerous articles on the history of medicine, as well as co-editor for some years of the *Index Medicus*, *Quarterly Cumulative Index*, and *Annals of Medical History*, consulting librarian to the New York Academy of Medicine and librarian to the Welch Medical Library at Johns Hopkins University.

We regret to announce the death on April 9 of Dr. Edouard Antoine Jeanselme at the age of seventy-four years; he was formerly professor of diseases of the skin and syphilis in the Paris faculty of medicine, author of an authoritative work on leprosy (1934) and editor of a treatise on syphilis in several volumes in course of publication.

We regret to announce the following deaths:

Prof. J. E. Guthrie, professor of zoology in Iowa State College, on April 16, aged sixty-three years.

Prof. T. C. Hopkins, formerly professor of geology in Syracuse University, known for his work on building stones, clays and iron ores, on April 3, aged seventy-three years.

Prof. George E. Johnson, professor of zoology in the Kansas State College, an authority on the physiology of hibernation, on March 18, aged forty-five years.

Prof. Wilhelm Kolle, director of the State Institute for Experimental Therapy and of the Georg-Speyer-Haus Chemo-Therapeutical Institute, Frankfurt, on May 10, aged sixty-four years.

Prof. J. L. R. Morgan, professor of physical chemistry in Columbia University, on April 12, aged sixty-two years.

Prof. E. B. Skinner, emeritus professor of mathematics in the University of Wisconsin, on April 3, aged seventy-one years.

Dr. H. H. Thomas, F.R.S., petrographer to H.M. Geological Survey, on May 12, aged fifty-nine years.

Sir James Walker, F.R.S., emeritus professor of chemistry in the University of Edinburgh, on May 6, aged seventy-two years.