

and on a variety of fossil reptiles. After the War of 1914-18, he became professor of palaeontology and historical geology in Munich and director of the Bavarian State Palaeontological Museum; in this capacity he added very greatly to the collections, which became the most important in Continental Europe. Broili then worked on Pterodaelyls and other reptiles from the Soehnhofen Slate, until, as his collection increased, he published many papers on the fauna of the Devonian Slates of Gemünden. Later, in association with Schroeder, he wrote a long series of admirable papers on the vertebrates of the Karroo system of South Africa.

Broili thus produced a very great amount of most valuable work on invertebrates as well as on all the lower classes of vertebrates. All of it is clearly written, well illustrated, and contains important discussions of relationships and other general matters. In addition he produced new editions of the famous text-book, Zittel's "Gründzuge der Paläontologie", which are still of great practical use.

Broili was most generous in his reviews of the work of younger men, and in lending to other workers the materials of which he had charge; and he enjoyed the respect and friendship of palaeontologists throughout the world.

D. M. S. WATSON

Mr. J. A. Gardner

It was in the spring of 1911 that the Biochemical Society was founded by John Addyman Gardner, in association with other biochemists of that time. The recent announcement of his death will have been received with regret, but with feelings of admiration for a life well spent.

An energetic native of Bradford, Gardner had a distinguished career at Oxford, obtaining first-class honours in the School of Natural Science in company with quite an array of distinguished Oxford chemists of his day. From Oxford he was appointed chemist to St. George's Hospital, London, a position he held until quite recently. He was for some time reader in physiological chemistry in the University of London and lecturer in organic chemistry at the London School of Medicine for Women. Always a keen research worker, his activities were for the most part conducted as biochemist at the Waller Physiological Laboratory. In this laboratory, which was at that time in the Imperial Institute at South Kensington, Gardner gathered round him a number of enthusiastic co-workers in the then rapidly spreading field of biochemistry.

Gardner was not alone in his desire to further the study of this subject, nor was he the only chemist to recognize the danger in those days of not keeping abreast of the knowledge of the medical aspects of chemical science. Prof. R. H. A. Plimmer, at that time reader in physiological chemistry at University College, was closely associated with Gardner in those activities, and jointly they called together a meeting which led to the foundation of the present Biochemical Society, which now has a membership roll of more than a thousand. Another pioneer was the late Prof. B. Moore, of the University of Liverpool, who with great foresight handed over to the new society the *Biochemical Journal*, which he was at the time publishing. The late Sir Arthur Harden and the late Prof. W. M. Bayliss gave their willing services as editors of the *Journal*.

Gardner was treasurer to the Society for more than twenty-two years. With great skill he nursed it through the difficult days of the First World War. He lived to see the Society with a world-wide membership including many eminent men of science, and a journal containing many important contributions to medical chemistry, and much of the development of our present-day knowledge of such substances as the vitamins and the sterols. It was to the last-mentioned field of study that much of Gardner's own work was directed.

The researches in which Gardner was concerned covered a wide field. He will be remembered with deep gratitude and affection by a number of co-workers for his kindly help and encouragement in their work. His researches on "The Origin and Destiny of Cholesterol in the Animal Organism", carried out in collaboration with a number of post-graduate workers, are among his best known. He clearly showed that cholesterol was widely distributed in living tissues, that it was strictly conserved and in the growing animal was not synthesized, but probably entirely derived from the phytosterol content of foods. This constant but small occurrence is perhaps explained as a source of the many essential sterols which since Gardner's earlier work have been brought to light; for we now recognize as chemically related to cholesterol a great variety of significant biochemical substances such as the cholic acids, the D vitamins, the sex and other hormones. With the late Prof. G. Buckmaster, Gardner published a number of observations on chloroform anaesthesia. The earliest work was on the chemical constitution of some of the terpenes carried out in conjunction with the late Dr. J. E. Marsh. Gardner's more recent work was on a variety of subjects of biochemical interest.

Gardner's contribution to science, whether it be his extensive research work, his help and encouragement to so many of his co-workers in biochemistry, or whether it be his share in the establishment of an important scientific society, constitutes a magnitude of endeavour which is given to few to accomplish.

G. W. ELLIS

Dr. H. E. Wood

HARRY EDWIN WOOD was born in Manchester on February 21, 1881, and died on February 27, 1946, at Mortimer, Cape Province, a few days after a heart attack. He studied physics at Manchester, Sir Arthur Eddington being one of his fellow students, and became an assistant to Sir Arthur Schuster. Before going to South Africa in 1906 to take up his duties as chief assistant at the former Transvaal Meteorological Observatory (now the Union Observatory) under R. T. A. Innes, he prepared himself by a period of work at the British Meteorological Office.

Soon after Wood's arrival, the Transvaal Observatory entered the astronomical field, Innes working with the 9-in. visual refractor, Wood concentrating mostly on the famous Franklin Adams star camera. This remained his principal instrument until the day of his retirement in 1941. Meanwhile he had succeeded Innes as Union Astronomer on January 1, 1928.

Wood was a diligent and careful observer, who used the instrument in his charge for those types of astronomical observation for which it was eminently suitable by virtue of its short focal-length, large field

of good definition and powerful light-grasp : discovery and measurement of minor planets, comets, variable stars and the preparation of star charts for the southern sky. For many years the responsibility for observing the minor planets which came to opposition in southern declinations rested almost entirely on his shoulders. He discovered several of these elusive objects and computed the first orbits for many of them, as he did in the case of comets. A few days before his retirement he computed the first orbit for the bright comet discovered by Mr. de Kock, using three of his own observations obtained with the Franklin Adams camera on three successive nights. Notwithstanding this short time interval, his orbit proved to be a remarkably close approximation, thus demonstrating his powers as a careful observer and computer.

Though mainly a photographic observer, Wood also took a regular share in visual observing of occultations of stars by the moon, phenomena of Jupiter's satellites, micrometer observations of comets, etc. He was also in charge of the Wiechert seismograph at the Union Observatory over a period of many years, and made a careful study of the earth

tremors caused by mining operations on the Witwatersrand.

Wood was a gifted, clear and interesting lecturer ; for some time he gave the lectures on astronomy at the University of the Witwatersrand, which in 1937 conferred the honorary degree of doctor of science on him. After his retirement he prepared a series of radio talks on astronomy for the schools.

During the War of 1914-18 he served with the Union Defence Force and took part in the campaign in East Africa. There he contracted malaria, with serious results to his health in later life. Wood married a former Manchester fellow student. His widow survives him ; they had no children.

W. H. VAN DEN BOS

WE regret to announce the following deaths :

Prof. B. H. Bentley, emeritus professor of botany in the University of Sheffield, on June 24, aged seventy-three.

Sir George Julius, chairman of the Commonwealth Council for Scientific and Industrial Research, Australia, aged seventy-three.

NEWS and VIEWS

Canadian Honours List

THE following names of scientific workers and others associated with scientific affairs appear in the honours list issued on the occasion of Dominion Day, July 1, in Canada :

C.M.G. : Dr. Alexander T. Cameron, chairman of the Fisheries Research Board, Winnipeg ; Dr. D. B. Finn, deputy minister of fisheries, Ottawa.

C.B.E. : Dr. E. S. Archibald, director of the Experimental Farm Service, Department of Agriculture, Ottawa ; Prof. C. W. Argue, professor of biology, University of New Brunswick ; Prof. H. C. Bazett, of the Banting and Best Institute, Toronto ; Dr. J. G. Bouchard, assistant deputy minister, Department of Agriculture, Ottawa ; Dr. R. D. Defries, director of the Connaught Laboratories, Toronto ; Mr. A. Hunter, chairman of the Standing Committee on Nutrition, Department of National Defence, Toronto ; Dr. Otto Maass, of the National Research Council, Ottawa ; Mr. J. H. Parkin, of the National Research Council, Ottawa ; Dr. J. M. Swaine, formerly director of Science Service, Department of Agriculture, for services as a member of the Agricultural Supplies Board, Ottawa ; Mr. W. B. Timm, director of the Mines and Geology Branch, Department of Mines and Resources, Ottawa ; Mr. J. M. Wardle, director of the Surveys and Engineering Branch, Department of Mines and Resources, Rockcliffe, Ontario.

Royal Society of Edinburgh

THE following have been elected honorary fellows of the Royal Society of Edinburgh :

Foreign honorary members : Prof. H. G. Backlund, emeritus professor of geology, University of Uppsala ; Prof. J. Hadamard, formerly professor of mathematics, Collège de France, and l'École Polytechnique, Paris ; Prof. J. H. Hildebrand, professor of chemistry, University of California, Berkeley ; Prof. S. A. S.

Krogh, professor of animal physiology, Zoophysiological Laboratory, Copenhagen ; Prof. E. O. Lawrence, professor of physics, University of California, Berkeley ; Prof. E. D. Merrill, professor of botany, Harvard University ; Prof. J. H. F. Umbgrove, professor of geology, Technische Hoogeschool, Delft.

British honorary members : Prof. E. D. Adrian, professor of physiology, University of Cambridge ; Prof. F. T. Brooks, professor of botany, University of Cambridge ; Sir James Chadwick, professor of physics, University of Liverpool ; Prof. P. A. M. Dirac, Lucasian professor of mathematics, University of Cambridge ; Prof. G. H. Hardy, emeritus professor of pure mathematics, University of Cambridge ; Sir George Simpson, formerly director of the Meteorological Office, London.

The Keith Prize (1943-45) was presented at the meeting on July 1 to Dr. W. L. Edge, University of Edinburgh, for his work in geometry, particularly for his papers published in the *Proceedings* of the Society within the period of the award ; and the Neill Prize (1943-45) jointly to J. G. Carr, Institute of Animal Genetics, University of Edinburgh, for his contributions to our knowledge of tumour viruses in animals ; and to Dr. Ethel D. Currie for her paper on "Growth Stages in some Jurassic Ammonites", published in the *Transactions* of the Society within the period

Romano-British Silver Hoard in Suffolk

A REMARKABLE find of Roman silver plate of a highly elaborate character at Mildenhall, Suffolk, has recently been reported in the Press. The discovery was made by Mr. Sidney Ford, of West Row, Mildenhall, who, while ploughing recently, turned up a circular silver dish which is more than two and a half feet in diameter and weighs some 224 ounces. Further exploration of the ground with a spade brought to light thirty-three more pieces of plate, all of silver and most of them elaborately embossed and ornamented. These include a second large circular dish,