

The address by Prof. G. H. Rivière, keeper of the Musée National des Arts et Traditions Populaires in Paris, on war-time research in the ethnography of France, should be well pondered, not without mortification, in Great Britain, where, but for the pioneer work of Dr. Peate in Wales, we have little indeed to set beside French achievements of recent years. A determined effort is being made by the French museums service, now under the control of the Ministry of Education, to record systematically the fast disappearing 'popular arts' of the country: the principal investigations undertaken during the War covered domestic furniture, rural architecture (for the purposes of reconstruction) and artisan techniques (including pottery, metallurgy, weaving, wood-working and basketry). Specimen files shown by Prof. Rivière for each of these researches gave a striking impression of the thoroughness, completeness and systematic efficiency without which such nationwide investigations could scarcely be successfully undertaken. Lesser researches related to marionette theatres, folk-songs of Brittany, folk-tales, and to preparations for an ethnographical atlas of France and ethnographical monographs on particular French communities studied from all aspects. In 1945, the 557 provincial museums concerned with French ethnography were reorganised under a master plan providing for the division of their collections into carefully selected and well-spaced temporary exhibitions and larger reserve collections for scientific study. It may be hoped that full accounts of these developments will soon be available in Britain, for, without necessarily accepting so high a degree of centralization, we may gain much inspiration from French experience.

Prof. Sergio Sergi, of Rome, gave a short report, illustrated with photographs and diagrams, on the very important discoveries of human remains of Palæolithic age which he made at Saccopastore and Monte Circeo during the War, together with comparisons of the crania with those of other known specimens of Palæolithic man.

In physical anthropology, as in domestic ethnography, Great Britain lags at present far behind, and Prof. Tamagnini's talk on April 18, outlining remarkable progress made in Portugal, was fresh and salutary proof of this. After a short sketch of the history of anthropological studies in Portugal (with their emphasis from the beginning on the physical side), he summarized current research activities at Lisbon (under Heleno, de Vilhena and Barbosa Sueiro), Porto (Mendes Corrêa and Pires de Lima) and Coimbra (the speaker himself and Serra). Finally, he described his own Institute's very large and important statistical undertaking, in which the genealogical method is being applied to the study of blood groups and other characters among great numbers of families in the Department of Coimbra.

Prof. Valšík of Prague gave a very brief statement of the effect of German occupation upon Czechoslovak anthropology. All organised research in science had stopped, in default of any subservience to the Germans, and no publication had been possible. Physical anthropologists, such as himself, had mostly been engaged on the applications of science to health.

Lastly, Prof. Shevket Aziz Kansu's short but informative review of recent progress in Turkey showed that he and his colleagues were extremely active during the War, and that all branches of the science were being very successfully developed there.

On April 30, Prof. A. L. Kroeber, the United States delegate, delivered the Huxley Memorial Lecture for 1945 on "The Ancient Oikoumenê as an Historic Culture Aggregate", a memorable development of some aspects of his interpretation of cultural diffusion through the Eurasian land mass from the earliest times to the present.

W. B. FAGG

OBITUARIES

Prof. G. N. Lewis, For. Mem. R.S.

By the death of Gilbert Newton Lewis in his seventy-first year the world has lost one of the greatest of its physical chemists. Since 1898, when he published his first paper with T. W. Richards on "Some Electrochemical and Thermochemical Relations of Zinc and Cadmium", until his last paper on "Paramagnetism of the Phosphorescent State" in 1945, he wrote some hundred and sixty-five papers on many branches of physical chemistry.

There are few branches of our science which 'G. N.' did not illumine by contributing something new and something fundamental to them. He was appreciated most widely abroad, not only for his concept of the static atom and the clear views on valency, notably the electron pair which that gave rise to, but also for his contributions to the thermodynamics and free energies of chemical substances and solutions, which introduced conceptions such as thermodynamic activity and fugacity now universally adopted. Many of the free-energy relationships were determined by means of electrode potentials—a field to which he devoted much attention. Lewis was the first (1933) to isolate deuterium, the heavy hydrogen isotope, to show its possibilities in the study of isotopic reactions, and to determine the physical properties of liquid and solid deuterium. His papers on acids and bases, on ultimate rational units and dimensional theory, give some indication of the wide interests of a gifted mind. During the last five years of his life he became deeply concerned with the problem of fluorescence, contributing some fifteen papers on this subject. His last papers, on phosphorescence and paramagnetism, were published last year.

The small volume printed in Berkeley to commemorate his seventieth birthday reveals how much America in its universities and industries is indebted to the school of which G. N. Lewis was the active and stimulating head. Among his many honours he received the Davy Medal of the Royal Society and was an honorary fellow of the Royal Institution. Some of us at Cambridge remember the summer when he paid us a visit, memorable for the enthusiasm which he imparted to all, and to the endless source of wonder and interest to his children which the differences in the countryside of California and Cambridge provided.

ERIC K. RIDEAL

Prof. F. Broili

Ferdinand Broili, professor of palæontology and historical geology in the University of Munich, died on April 30, aged seventy-two. He was a student of v. Zittel and Rothpletz in Munich, visited the Permian of Texas in 1898 and there collected materials on which, during the next ten years, he published a series of important papers on reptiles and amphibia. He then wrote on the Permian Brachiopods of Timor

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 Pterodactyls 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 20, 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