enthusiasm for the immediate project. His work mainly led him to Africa, where he made surveys in Nigeria, Liberia, Kenya and Tanganyika; but for a time he was chief of the Geological Survey of Trinidad and of that of Venezuela. He also travelled for geological reasons to India, Burma, Ceylon and Canada.

During this time his work was mainly concerned with the development of mineral resources, including petroleum, although he did valuable work in connexion with water supply.

In the First World War he was engaged in an extensive survey for water supplies in East Africa and on the borders of Abyssinia. Later, for two years, 1928-29, he was leader of a British Museum expedition and turned from the economic demands of the present to the search for dinosaurian relics of the past at Tendaguru. It is significant of his range of interests and abilities that on the voyage home after this expedition he wrote the manuscript of a substantial and very readable book, "The Dinosaur in East Africa". There was no hardship for him in this task, for all his life he was intensely attracted to authorship and he found time, despite his duties and his constant travels, to write two novels. His contributions to the literature of geology were nearly fifty papers, mainly on petrology and field geology. His scientific and other abilities had long been recognized: the Geological Society awarded him the Lyell Fund in 1915, and he took his Sc.D. in 1923.

It was characteristic that, when the Second World War broke out, and he was nearly seventy years of age, he should be teaching geology in Kenya. This was no evacuation task, and he soon returned to Britain to work for the Ministry of Economic Warfare. Here, however, ill-health grew upon him and he had to retire in 1942. He died at his London home on July 19, aged seventy-five years. There are many at home and abroad who will miss him, whether in the field or at the Athenæum, for he was a good companion, knowledgeable, and with an enthusiasm that would have well become many half his age.

W. E. SWINTON

Dr. H. L. Clark

DR. HUBERT LYMAN CLARK, formerly curator of echinoderms, more recently curator of marine invertebrates and associate professor of zoology, at the Museum of Comparative Zoology, Cambridge, Massachusetts, died on July 31, at the age of seventy-seven. In more than one hundred papers he has left a vast contribution to the knowledge of the group he loved, echinoderms. His first publication was in 1896; his latest, half a century later, in 1946. He started near home with papers on the echinoderms of the Bermudas, the West Indies and the east coast of North America. But he was to range far afield, to write of the echinoderms of most parts of the world and to make those of a distant land, Australia, his peculiar province.

The first of his bigger works, "The Apodous Holothurians. A Monograph of the Synaptidae and Molpadidae", came in 1907. In the same year he published "The Cidaridae", a complete revision of that echinoid family; and the first of six parts of the fine and comprehensive "Hawaiian and other Pacific Echini" in collaboration with Alexander Agassiz. Of the remaining five parts, published between 1908

and 1917, the last three were by Clark alone. With his "North Pacific Ophiurans" in 1911 and his "Catalogue of Recent Ophiurans" in 1915, he made major contributions to the knowledge of that difficult class of echinoderms. The latter is a completely annotated list of all the living species known at that time, 1,412 in all, and is an invaluable work.

His earliest paper on Australian echinoderms, the first of a great series, was in 1909. The outcome of his first visit to the country, in 1913, was the exceedingly valuable "Echinoderm Fauna of the Torres Strait", 1921, with coloured plates which he described many years afterwards, with good reason, as having never been equalled; those of crinoids are of great beauty. Further visits to Australia in 1929 and 1932 resulted in a work of even larger scope, "Echinoderms from Australia", reviewed in *Nature* of September 24, 1938. A climax to these and his smaller Australian papers was what is perhaps his greatest work, "The Echinoderm Fauna of Australia", 1946, in which he brought together all that is known of that fauna, recent and fossil, so much of it contributed by himself. For this he received, on his deathbed, the award of the Australian Clarke Medal.

Most of his papers must go unmentioned. His immense knowledge of recent echinoderms is shown by the fact that his "Catalogue of Sea-urchins in the British Museum" was published in 1925 as the outcome of less than two months work in London in 1924; the collection contained about eight thousand specimens belonging to nearly four hundred species. He maintained his enthusiasm to the last and believed that echinoderms kept him young. In a war-time letter he proposed post-war visits to Zanzibar, to Albany, W.A., and a "really serious attack on the echinoderms of the Fiji Islands"; after which he would consent to retire, if he must. In fact, he spent the last year of his life at the Allan Hancock Foundation, Los Angeles, on a monograph of the echinoids of the eastern tropical Pacific, which he had nearly completed.

He wrote also on pterylography in birds, on variation in snakes, and on flowers.

To one who knew him only as a correspondent he was most helpful and generous to a beginner in a field where he was a master; showed himself as intensely religious and, in the first months of the Second World War, as ardently wishing that his country should throw in her lot with Britain.

D. DILWYN JOHN

Dr. K. Heller

DR. KURT HELLER, a physical chemist and *privat-docent* of the former German University of Prague, died in Bern, Switzerland, on July 28 at the age of forty-nine.

Heller, a Sudeten German born at Chomutov in north-west Bohemia and an anti-Nazi, left Czechoslovakia in 1938 and eventually obtained an appointment as lecturer in chemistry at Aberystwyth. He had worked on certain aspects of radioactivity and had published papers on this subject and on the isotopes of potassium, mostly in Continental journals. He had also carried out some researches in inorganic chemistry, particularly in connexion with hypochlorites. He was a careful experimenter, and had many friends in Britain, the United States, Czechoslovakia and Switzerland. He leaves a widow and a young son.

J. G. F. DRUCE