international body and elected a Council of eleven nations, of which the United Kingdom is one.

The first meeting of the Council of the International Organisation for Standardisation was held in Zurich in June, 1947, under the chairmanship of its president, Mr. Howard Coonley, of the United States.

At that meeting accommodation in Geneva for the central office was approved, and Mr. Henri St. Leger, an American citizen, born in France, was appointed general secretary. A programme of work was also agreed upon for consideration by all the member bodies.

The following are among the subjects the United Kingdom has agreed to investigate from the point of view of securing international agreement:

(1) Terms, definitions and methods of test for iron and steel, rubber, coal and coke, laboratory glassware, refractories and fuel-using equipment.

(2) To consider the possibility of the unification of standards for compressed gas cylinders, with particular reference to colouring and marking systems; dimensions of valve outlets (interchangeability of connexions); filling ratios, from the safety aspect and conformity with national statutory regulations.

The United Kingdom has also agreed to act as secretariat in connexion with (*a*) the international adoption of the phon, the reference-level proposed being 2×10^{-4} dyne per cm.^{2} or 10^{-16} watts per cm.^{2}, the listening being done with both ears; (*b*) coordination of the various national specifications for objective noise meters; (*c*) measurement of values by subjective comparison; (*d*) measurement of sound-absorption coefficient; (*e*) confirmation of the proposed international concert pitch of 440 cycles.

While the constitution of the International Organisation for Standardisation provides for the issue of international standards, it was felt that progress would be quicker if the maximum possible unification of national standards is aimed at.

Immediately prior to the meeting of the International Organisation for Standardisation in Zurich, the Council of the International Electrotechnical Commission met to discuss affiliation of the latter with the former; as a result of which it was agreed that the International Electrotechnical Commission should become the Electrical Division of the International Organisation for Standardisation, at the same time retaining its name and technical procedure.

The Council of the International Electrotechnical Commission reviewed the work of the various advisory committees, and authorized meetings to be held as soon as practicable on the following subjects: lamp caps and holders; radio communication; measurement of radio interference; electrical accessories; extra-high voltages.

OBITUARIES

Mr. A. P. Trotter

By the death on July 23 of Alexander Pelham Trotter, at the advanced age of ninety-one, science and engineering lose another great figure linked with researches which have become classic. In his early years Mr. Trotter was concerned with dynamo manufacture, afterwards becoming editor of *The Electrician* until 1896, when he accepted a position as Government electrical engineer at the Cape of Good Hope. On return to Britain three years later he became electrical adviser to the Board of Trade, which position he held until reaching the age of retirement in 1917.

Throughout his professional career Trotter had wide interests, but he will be remembered especially for his pioneering work in the fields of illumination and photometry. His paper entitled "The Distribution of and Measurement of Illumination", read before the Institution of Civil Engineers in 1892, was remarkable, not only for the grasp of principles of street lighting which it displayed, but also for its description of the illumination photometer designed for these experiments—certainly the first instrument of this type applied to outdoor measurements in Britain. His researches on the application of dioptric glass to the distribution of artificial light, recorded some ten years earlier and illustrated by an exhibit at the Crystal Palace in 1882, were likewise much in advance of the times, and he was responsible for other work on the electric arc.

Mr. Trotter was a member of a number of leading societies and institutions, including the Institution of Electrical Engineers, before which he delivered the Faraday Lecture (again taking illumination as his subject) in 1926. But his memory will be preserved with special affection by members of the Illuminating Engineering Society, of which he was an original member and of which he served as president during 1917–20. He took a keen and active interest in the development of illuminating engineering and was associated particularly with the study of street lighting and the ultimate preparation, by a joint committee, of the first standard specification on this subject. During the First World War he presided over the Illuminating Engineering Society's committees concerned with tests of parachute flares and related problems, and he advised personally on principles of war-time street lighting, making observation trips by balloon for this purpose. He was largely responsible for the formation of a committee on illumination research, which operated afterwards for a number of years under the Department of Scientific and Industrial Research.

Mr. Trotter combined great scientific knowledge with literary facility. His two books on "Illumination, its Distribution and Measurement" and "The Elements of Illuminating Engineering" were models of lucid exposition. In presiding over meetings or contributing to discussions, his charm of manner, natural courtesy and genial humour never failed to capture the affection of his audience. J. S. Dow

Dr. John Parkinson

John Parkinson was born in London in 1872 and studied for a time at University College. During 1897 to 1898, he worked at the Marine Biological Station at Naples on Mollusca and published a paper on the development of certain genera in the Report of the British Association in 1899. His attention turned, however, from zoology to geology, and during 1902–3 he was lecturing on that subject at Harrow School. Meanwhile, he was an undergraduate at St. John's, Cambridge, and, as an advanced student, he graduated B.A. by dissertation in 1903.

From then onwards the lines of his career became orientated, but not in the world of teaching; for the next forty years he was constantly travelling, always finding pleasure in it, and with a never-failing

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 Synaptidæ and Molpadidæ", came in 1907. In the same year he published "The Cidaridæ", 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 *privatdocent* 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