International Astrographic Chart and Catalogue at the Paris Congress of 1887. Of this work Gill said in 1907: "A century hence this great work will have to be repeated, and then, if we of the present day have done our duty thoroughly, our successors will have the *data* for an infinitely more complete and thorough discussion of the motions of the sidereal system than any that can be attempted to-day".

Another scheme of Gill's was the measurement of the Great African arc on the 30th meridian. So early as 1874, after his visit to Mauritius, at the invitation of General Stone, chief of the military staff of the Khedive, he had measured a base-line for a proposed survey of Egypt, and once settled at the Cape he took up the question of a geodetic survey of South Africa. It became the dream of his life to see the completion of the measurement of an arc from Cape Agulhas to Cairo, whence the measurement would be carried by the eastern shore of the Mediterranean and Greece to meet Struve's great arc which extends to North Cape.

But while it was these and other labours of a kindred nature which occupied Gill's time and raised him to a leading position in the astronomical world, his success was to a large extent due to his simple, direct and energetic character. As his biographer in the Report of the Council of the Royal Astronomical Society for 1915 said: "Those who came in contact with him felt the charm of his personality. In some indefinable way he could inspire others with his enthusiasm and determination. Enjoying a life crowded with activity, surrounded by an unusually wide circle of friends, he was ever ready and eager to encourage the humblest beginner." Settling in London after his retirement from the Cape, he did valuable service for various scientific societies, and in 1913 he published his "History and Description of the Cape Observatory".

Gill was elected a fellow of the Royal Society in 1883 and made K.C.B. in 1900. He fell ill with pneumonia in December 1913, and died on January 24, 1914; he was buried at Aberdeen.

reef adjacent to the sponge fisheries, and in 1930 he was deputed to report on the sponge industry in Cyprus. He retired in 1934, and during the remainder of his life he worked regularly at the Plymouth Laboratory, continuing his researches on the Porifera with unabated enthusiasm.

It is greatly to be regretted that so little of Crawshay's unrivalled knowledge of sponges and sponge culture has been published. The results of his long years of work in the West Indies and British Honduras were sent as official reports to the Colonial Office and none of them has been printed. His report on the Cyprus industry has, however, been published, and one paper, intended as the first of a series, which he wrote after his retirement. Throughout his life he was interested in entomology, in which his brother, the Rev. G. R. Crawshay, did most useful work; in 1903 he published a detailed account of the development of Drilus (Coleoptera) and he made valuable observations (not published because he regarded them as incomplete) on certain Dartmoor Coleoptera. He wrote on the arterial system of the Anura, contributed short papers on a variety of subjects to the *Journal of the Marine Biological Association*, and reported on the microplankton obtained by the *Scotia* in a voyage which he himself accompanied in 1913.

Crawshay was a keen lover of Nature at its wildest. He delighted in solitary tramps across the remotest parts of Dartmoor, and spoke with such enthusiasm of his work abroad that it may be doubted whether he ever felt the extreme loneliness of his life on the sponge lagoons. As a scientific worker he had outstanding qualities, observing and recording with scrupulous accuracy and exercising the greatest caution in his deductions. He devoted himself to his work to the exclusion of every other thought, and had no regard whatever for his own material comforts. To all at the Plymouth Laboratory he endeared himself by his modesty and charm of manner and by his constant thoughtfulness for others.

S. KEMP.

OBITUARIES

Mr. Lionel R. Crawshay

MR. L. R. CRAWSHAY, who died suddenly at Plymouth on April 24, was born at Honiton on July 9, 1868. He was educated at Harrow and Brasenose College, Oxford; he graduated in arts, but later took up natural science, studying under Prof. Minchin at University College during 1903-5. He was then appointed assistant naturalist to the Marine Biological Association under Dr. E. J. Allen, a post which he held until 1914. During the War of 1914-18 he served as a trooper in the First King Edward's Horse and as instructor in computation, Field Survey Co., R.E. In 1919 he was awarded a Ray Lankester investigatorship at the Plymouth Laboratory, but shortly afterwards he was selected for a Colonial Office appointment as research officer, Sponge Fishery Investigations. The post was a temporary one, at Nassau in the Bahamas, and was originally for one year only; but Crawshay quickly proved his capacity and the appointment was repeatedly extended until his service had reached a total of fifteen years. He worked for some time in British Honduras, living in primitive conditions on a

Dr. H. Gordon Rule

DR. H. GORDON RULE, reader in the Department of Chemistry at the University of Edinburgh, died on March 15, at the age of fifty-five. After graduating with honours in chemistry at Birkbeck College, London, he carried out research with Prof. Alex McKenzie and then worked for two years under Otto Dimroth in von Baeyer's laboratory in Munich, where he gained his Ph.D. in 1912. Returning to Great Britain, Rule spent a year at Birkbeck College and in 1913 went as an assistant to the University of Edinburgh. In 1921 he was appointed senior lecturer in organic chemistry, a position he held until his death. He was made reader in 1939.

Much of Rule's time was devoted to research, but he never neglected his teaching duties. He was an excellent teacher and his lectures were models of clearness and conciseness, while his quiet humour added to his popularity with the students. It was the same at the Chemistry Colloquium: a 'full house' was assured if Rule was the speaker.

Rule's main research work extended over a period of twenty years and dealt with the factors governing the magnitude of optical rotatory power, a problem which had earlier attracted the attention of another Edinburgh chemist, Crum Brown. Rule published more than thirty papers on this subject and estab-

lished the important part played by the polar groups in the asymmetric molecules and in the solvent employed. Later he turned to quite a different line of research and made some notable contributions in the rather ungrateful field of benzanthrone chemistry. Before the end, however, he returned to his first love, stereochemistry, and with G. M. Henderson published an account of the resolution of an organic racemic compound by chromatographic adsorption.

No record of Rule's work would be complete without reference to his admirable translation of the well-known German text-book, Julius Schmidt's "Kurzes

Lehrbuch der Organischen Chemie", the fourth edition of which was in the printer's hands when Rule was overtaken by the illness to which he succumbed. His extensive alterations and improvements of the original text undoubtedly contributed much to the success of the volume in Great Britain.

All Rule's work was characterized by orderliness and neatness and his motto might well have been the dictum of Hofmann, "Ordnung ist die halbe Chemie". The value of his researches was widely recognized and his death will be keenly felt.

NEIL CAMPBELL.

NEWS and VIEWS

Royal Botanic Gardens, Kew : New Director

Prof. E. J. Salisbury, C.B.E., F.R.S.

THE appointment of Prof. E. J. Salisbury as director of the Royal Botanic Gardens at Kew will give general satisfaction. Like one of the most successful of its directors, Sir William Thiselton Dyer, Prof. Salisbury began his career as a teacher of botany, having held with distinction the Quain professorship of botany in University College, London, for many years. His earlier interests in botany were in the field of plant ecology, to which he made a number of first-rate contributions. His study of the vegetation of Blakeney Point, Norfolk, led him to take a special interest in the distribution of plants in the neighbouring parts of the country and resulted in an excellent account of the East Anglian flora published in the *Transactions of the Norfolk and Norwich Naturalist Society*. His work on the distribution of plants directed his attention to the gradual disappearance from some of our counties of many interesting plants, and his account of the "Waning Flora of Britain" expresses his concern in the matter, and has caused him to take an active part in the preservation of the flora of Britain.

Always a keen and successful gardener, Prof. Salisbury's "Living Garden" embodies the why and wherefore of his success and gained for him the recognition of the Royal Horticultural Society. During the War, he was elected to the Agricultural Research Council and his scientific knowledge joined to his horticultural experience has enabled him to play an important part in the solution of many horticultural problems. By Prof. Salisbury's appointment to Kew, the Gardens will not only gain a director with a wide outlook, who will ensure the continuance of the good work of the Herbarium and the advisory work to the Colonial gardens, but his horticultural experience will enable him to carry on successfully the cultivation of the collection of living plants and will lead, it is to be presumed, to some experimental work both in the cultivation of plants and in plant genetics.

King's Birthday Honours for Canadian Services

A SEPARATE list of honours conferred by the King "on the occasion of the celebration of His Majesty's birthday and on the advice of Canadian Ministers", includes the following names: C.M.G.: Prof. C. J. Mackenzie, acting president of the National Research

Council of Canada; Prof. W. G. Penfield, head of the Neurological Institute, Montreal. C.B.E.: Dr. A. E. Archer, president of the Canadian Medical Association; Prof. J. B. Collip, president of the Royal Society of Canada; W. E. Phillips, president of Research Enterprises, Ltd.

Association of Scientific Workers : Council Meeting

THE twenty-sixth council meeting of the Association of Scientific Workers was held in London during May 8 and 9. A rapid growth in membership was recorded, the present total being more than 11,000. The most important organizational development during the past year was the decentralization of much of the work of the Association to area committees, nine of which have been formed to co-ordinate the work of the 148 branches. As a result of this, area offices have been opened in London and Manchester. It was decided that in future half the executive committees would be elected as representatives of the areas. After debating internal matters, the Council instructed the executive committee to "carry out a nation-wide campaign to draw the attention of all citizens to the contributions to human welfare which science can make if properly planned, adequately financed, and applied solely for the good of society". It approved the principle of a State Medical Service, and urged the rapid extension of the use of mass radiography. Many aspects of science education were debated, and changes in university curricula to enable students better to meet present industrial requirements were recommended. The need for employees to have opportunities for part-time study was stressed, and the executive committee was asked to "obtain from the Board of Education a definite undertaking (on the lines of that given by the Canadian Government) that students trained under special war-time schemes in Universities and Training Colleges will be accorded adequate post-war facilities for the completion of their education". Support was given to the broad principles embodied in the T.U.C. Memorandum on Education. The council reaffirmed its views that a central planning board was necessary to obtain the maximum utilization of scientific and technical resources, and urged that scientific knowledge should be used on joint production committees by allowing the technical staff to be represented. The Beveridge Report was discussed by the delegates, who welcomed "the adoption in the Scheme of scientifically determined