

post, then a part-time occupation, which afforded great opportunities for the pursuit of private literary work. Keltie soon became the indispensable helper of the assistant secretary—the great naturalist H. W. Bates, whom he succeeded in the secretaryship in 1892. From this time onward the administrative work of the Society engrossed his attention and could well have filled the whole time of a less untiring worker than Keltie; but it only stimulated his literary and journalistic powers and, at a time when the science of publicity was still imperfectly developed, his connection with the press did much to enhance the prestige and popularity of the Society and the fame of the great travellers and explorers with whom he was in daily contact.

Throughout his work at the Royal Geographical Society Keltie was on the side of progress, always encouraging those who were striving after more scientific methods in exploration or discussion and always interposing a moderate but unwavering opposition to reactionary tendencies. The confidence which successive presidents and councillors reposed in his judgment made him a power in the Society and in the geographical world even in his days of silent service as secretary. After he retired from the secretaryship in 1917, he was elected to the Council and latterly acted as vice-president.

Keltie was long connected with Section E of the British Association, in which he was recorder for several years and president at the Toronto meeting of 1897; afterwards he served on the Council of the Association. He bore the lion's share of the organisation of the great International Geographical Congress of London in 1895 and was one of the secretaries at the meeting. He also supported the Geographical Association from its day of small things and helped it forward to its present splendid maturity.

Although most of his work is likely to be forgotten as journalism, much of it ranks as literature and is of more than ephemeral interest, especially his "Partition of Africa"—a study of political geography in the making—and his "Applied Geography." He initiated and edited several important series of books on travel and exploration either alone or in collaboration. In 1893 he reconstructed the serial publications of the Royal Geographical Society and made its monthly *Journal* the most popular as well as the most widely circulated paper of its kind in Europe, while at the same time maintaining to the full its scientific character and the high standard of its cartography. His skill as an editor was of a high order, and he excelled in the art of inducing difficult contributors to follow the rules.

Though no explorer and little of a traveller, Keltie exerted a powerful influence on exploration in every quarter of the globe by his close personal relations with travellers of every nationality during the last quarter of the nineteenth century and the first quarter of the twentieth. He had the quick intuition of the Highlander combined with the slow caution of the Lowlander and balanced by a tact and generalship peculiarly his own. While

faithful to his superiors and to his subordinates alike, he never failed in the duty of giving sound even if unpalatable advice to the former, and he always treated the latter as fellow-workers and was scrupulously just in giving them credit for good intentions as well as good work. He attained great success in organising public ceremonial functions, and his private hospitality, aided by the charm of his daughter Mrs. T. L. Gilmour, will long be remembered.

The appreciation in which Sir John Keltie's work is held by those best qualified to judge it may be estimated from the honours he received. These include gold medals from the Geographical Societies of London, Edinburgh, Paris, and New York, the honorary membership of nearly all the geographical societies in the world, the honorary degree of LL.D. from St. Andrews, the companionship of several Scandinavian orders, and finally the honour of knighthood, which he received in 1918.

HUGH ROBERT MILL.

#### DR. C. L. WITHYCOMBE.

DR. CYRIL LUCKES WITHYCOMBE, lecturer in advanced and applied entomology, died at Cambridge on December 5, aged twenty-eight years. Born at Walthamstow, the son of a schoolmaster, he early developed a peculiar taste and power for the keeping and rearing of insects, and this indicated his career. He passed his Intermediate Science Examination from Birkbeck College, and then went on to King's College, where he came under the influence of the late Prof. Dendy and of Dr. Mackinnon, on whose advice, with the object of broadening his science, he took the ordinary degree in botany, chemistry, and zoology instead of honours in one subject. He then went to the Imperial College to work under the late Prof. Lefroy, who regarded him as by far the best pupil he ever had.

During these years Withycombe spent all his spare time in the field, and he kept and reared a large series of Neuroptera, on which group he published fourteen papers, the most important being on the biology of the group in reference to the phylogenetic significance of their immature stages (*Trans. Ent. Soc.*, 1923 and 1925). The phylogeny had already been discussed by Handlirsch on palæontological evidence, and by Tillyard and Comstock on external morphology and wing venation. While their work was fully considered, the result was a modestly written discussion of the relationships of the families together, summarised by the propounding of a new phylogenetic tree, based also on the mass of new facts discovered by the author; assuredly this paper marks a stage in the scientific history of the group. It is a pity that the task he had set himself of monographing the British species cannot be carried out.

In 1923 Dr. Withycombe went to Trinidad as lecturer in entomology at the newly founded Imperial College of Tropical Agriculture. He was happy in having agreeable colleagues, and in seeing the tropics and their produce. He described to me

how his first year almost daunted him with his realisation of the insufficiency of present knowledge. It was clear he was passing through his transition period, blending what he knew of three sciences into one harmonious whole. It was at this time he published his work on the bladders of *Utricularia*, which as a boy he had independently discovered as capturing their prey by active movement in response to stimuli. His thought henceforth was of his plant first, and this is well seen in his research on the sugar-cane froghopper blight in Trinidad. Here he was dealing with a pest not introduced but belonging to the forests of the island, only secondarily attacking the canes. Having studied his insects and his plant together as one entity, his advice to the planter is to attend with the greatest care to his cultivation, in particular to see that his canes have plenty of water physiologically available for their growth. "Canes do not necessarily show serious blight when froghoppers have been abundant, nor is an abundance of the insect a necessary condition for serious blight." Other research in Trinidad resulted in the discovery of a bollworm, *Sacadodes pyralis*, a moth, the life history of which was worked out, and much time was spent in studying and rearing successive generations of cotton stainers, *Dysdercus*, bugs which prefer cotton to their natural Malvaceous plants and stain and rot the cotton lint by the bacteria and fungoid spores they introduce.

Dr. Withycombe only came to Cambridge in August last, and he at once set to work on his material of froghoppers and *Dysdercus*. He had to prepare a course of advanced lectures, and he had a sub-department to get into order. As a lecturer he was almost conversational, as he had seen everything of which he spoke, and his class loved him. As a colleague we admired and loved him too, for he had a most lovable personality, quite extraordinary vision, and absolute devotion to research.

J. S. G.

MR. CHARLES HARDING, formerly an assistant in the Meteorological Office, died at Eastbourne on Sunday, Jan. 9, in his eighty-first year. Mr.

Harding entered the Meteorological Department of the Board of Trade in 1861, and was among those who transferred to the service of the Meteorological Committee when the Office was reconstructed in 1867 after the death of Admiral Fitzroy. He thus had experience of the Office under all the different forms of administration through which it had passed, with the exception of the most recent one of all under the Air Ministry. For some thirty years Mr. Harding was Principal Assistant in the Marine Division, and served under three Marine Superintendents, Captain Toynbee, Lieutenant Baillie, and Captain M. W. Campbell Hepworth. He retired in 1911, but returned during the War for part-time duty, and did not finally sever his connexion with the Office until 1920. His active career in the Office, therefore, extended over nearly sixty years. Mr. Harding became a fellow of the Royal Meteorological Society in 1874, and served on its council and as vice-president for many years. He was the author of a number of meteorological papers, dealing mainly with climatology or marine meteorology, published in the *Proceedings of the Royal Meteorological Society* and elsewhere. For some forty years he was a valued and regular contributor of notes and articles on meteorological subjects to the columns of NATURE.

WE regret to announce the following deaths :

Dr. Daniel Carhart, professor emeritus of civil engineering since 1908 at the University of Pittsburgh, on Dec. 8, aged eighty-seven years.

Dr. Forris Jewett Moore, until a year ago professor of organic chemistry at the Massachusetts Institute of Technology, on Nov. 20, aged fifty-nine years.

Sir Isambard Owen, from 1909 until 1921 Vice-Chancellor of the University of Bristol, who took a leading part in the establishment of the University of Wales (1891-93) and in the reconstruction of the University of Durham (1907-9), on Jan. 14, aged seventy-six years.

Mr. F. J. Stoakley, for some fifty years chief assistant to the professor of chemistry at Cambridge, and well known to many generations of men who have worked in the Chemical Laboratory there, on Jan. 16, aged sixty-two years.

### News and Views.

IN connexion with the reprint elsewhere in this issue (p. 125) of Clerk Maxwell's own abstract of his great memoir on the electrodynamic field, our attention has been directed by Sir Joseph Larmor to the valuable group of Maxwell letters that were discovered in 1903 among Stokes's private papers. They have been made public in the "Memoir and Scientific Correspondence of Sir George Stokes," vol. 2 (1907), pp. 1-45, published by the Cambridge University Press. They are an intimate account, reporting progress in a personal way from time to time in most of his scientific activity throughout his life. These and like collections of letters, from many of the most prominent workers of the time, all preserved by Stokes, make the two volumes an almost indispensable

prolegomena to the history of discovery in physical science during the latter half of last century. A very interesting account of Maxwell's early years is contained in an obituary notice written by Tait for the Royal Society of Edinburgh, and printed in NATURE, vol. 21.

PROF. G. ELLIOT SMITH has announced in the *Times* of Jan. 14 an interesting discovery which he says "should settle once for all the century-old controversy regarding the identification of certain elephant-like creatures represented . . . in Mexico, Central America, and elsewhere in the New World." Mr. J. Eric Thompson has just discovered in the Ayer Collection of the Newberry Library in Chicago unpublished