

take the task of writing a text-book on this subject, and on the success with which he has accomplished it. The book ought to give a great impulse to the study of this theory, and to enlist many friends in its service.

O. HENRICI.

THE SIXTH SCIENTIFIC CRUISE OF THE STEAMER "HYÆNA" WITH THE LIVERPOOL MARINE BIOLOGY COMMITTEE.

THE Liverpool Salvage Association having kindly placed their s.s. *Hyæna* once more at the disposal of the Liverpool Marine Biology Committee, a four-days' dredging cruise was arranged and successfully carried out at Whitsuntide. The old gunboat left the Mersey on Friday, May 23, and steamed to the Menai Straits. Some of the party spent the afternoon and evening collecting on the shore at Puffin Island, off which the *Hyæna* was anchored for the night. On the following morning, after a few hauls of the dredge near Puffin Island, and between Penmon Point and Beaumaris, and again off Port Dinorwic, the steamer went through the straits to Carnarvon Bay, and commenced working along the southern coast of Anglesey.

The dredges and various kinds of tow-nets, surface and bottom, were used at intervals. Mr. W. E. Hoyle's deep-water closing net, which has now been modified so that its movements of opening and closing are effected by the passage of an electric current, was experimented with frequently during the cruise—not so much with the object of collecting specimens, as for the purpose of detecting and remedying any possible defects in the construction, and of guarding against conditions which might interfere with the proper action of the apparatus. On the whole the net worked satisfactorily, the causes of occasional failures were discovered, and when the improved form of frame used by the Germans has been adopted, the apparatus will no doubt be a most useful addition to the implements of the marine biologist.

The *Hyæna* anchored for the night in a small rocky bay, Porth Dafarth, on the south side of Holyhead Island, Anglesey, and half the party of over twenty biologists were landed to sleep on shore. After dark those who remained on board commenced tow-netting by electric light, and repeated with some modifications the experiments which had been made during the last two cruises of the *Hyæna* at the Isle of Man (NATURE, vol. xxxviii. p. 130, and vol. xl. p. 47) in 1888 and 1889. The large arc lamp was hoisted over the side of the ship so as to throw a strong glare on the water, and Edison-Swan incandescent lamps were sent down to the bottom in tow-nets which were hauled up at intervals. Comparatively few Cumacea, Amphipoda, and Schizopoda were obtained this time, but shrimps and young fishes were—for the first time in our experience—attracted by the light to the surface, and some of them were caught and preserved. One of the ship's boats was kept in the area illuminated by the arc lamp, and by leaning over her side the small objects in the surface-layer of water could be most distinctly seen, and particular animals picked out and captured with a hand-net as they darted about in the neighbourhood of the light.

Two of the party got up at 3 a.m., and took a surface tow-netting about dawn, which was afterwards found to contain a much greater number of Copepoda, and more variety, than any of the other tow-nettings, either day or electric light, surface or bottom. Amongst other interesting things it contained a large number of *Peltidium depressum*, which had not been taken at all during the day, and only in very small numbers with the electric light bottom net. This same species has recently been taken in quantity at Puffin Island by leaving a tow-net out all night attached to a buoy. It is usually found sticking on

*Laminaria* in the day-time, but evidently comes to the surface in abundance late at night or early in the morning.

The following day was spent in steaming slowly about off the southern coast of Anglesey, dredging and tow-netting at frequent intervals. The surface life was found to be very poor—comparatively few Copepoda and almost no representatives of other free-swimming groups being obtained; but Mr. Thompson noticed the relative abundance in all the tow-nettings, both surface and bottom, during the day, and also with the electric light, and at dawn, of unusually large specimens of *Dias longiremis*, and also the prevalence of the somewhat uncommon *Isias clavipes* in all the surface gatherings, though none were taken in the bottom ones.

The dredging results were fairly good: some very fine sponges were obtained, and Ascidians were plentiful. One patch of rich ground was discovered near Rhoscolyn Beacon, where *Comatula* was brought up in abundance along with various Tunicata, Holothurians, Nudibranchs, Zoophytes, Polyzoa, and large sponges. After dark, in Porth Dafarth, the electric lights were again used for a couple of hours. This time the large arc lamp was taken to the stern and suspended close to the surface of the water, but as it was not working steadily one of the incandescent submarine lamps was lowered over the side and kept a few inches under water, and this proved most effective in attracting animals to a stationary tow-net or a hand-net beside it. On the fourth day the *Hyæna* returned through the Menai Straits to Liverpool. As usual the specimens collected have been distributed to specialists, and the detailed reports upon the various groups will appear in the next volume of the "Fauna of the Liverpool District." W. A. HERDMAN.

W. S. DALLAS.

THE death of this genial and accomplished man will awaken feelings of no ordinary regret, not only among geologists, but among naturalists all over the country. For two-and-twenty years his tall, handsome person has been the most familiar figure at the rooms of the Geological Society in Burlington House. Always at his post, with a pleasant smile of welcome, ever ready with assistance from his large treasures of knowledge and experience, knowing more intimately than anyone else the affairs and traditions of the Society, proud of its history and keenly sensitive for its scientific reputation, he had come to be looked upon as a kind of *genius loci*—the living embodiment of the Society's aims and work.

Of those who knew Mr. Dallas only in his later years, and saw his whole-hearted devotion to the geological labours intrusted to him, probably few were aware that he was not always a geologist. He began life with zoological inquiries, and devoted his attention more especially to insects. His early papers appeared in the Transactions of the Entomological Society, but he prepared also a Catalogue of the Hemipterous Insects in the British Museum, which was published as far back as the years 1851-52. Yet he did not confine himself to one branch of zoology; on the contrary, his reading and knowledge ranged over a wide domain in natural history. In the year 1856 he published his "Natural History of the Animal Kingdom," by far the best work of the kind in its day, which rendered important service to biology, in making the study of living forms more attractive, and in providing for that study a much more accurate groundwork than had ever before been obtainable. The value of his labours was recognized not long afterwards by his being appointed Curator of the Yorkshire Philosophical Society's Museum at York—an office which he held for ten years, until in 1868 he obtained the post which he held up to the last—that of Assistant Secretary, Librarian, and Curator to the Geological Society of London.

After his return to reside in London he found the duties of the office he had undertaken so engrossing, and the cares of domestic life so exacting, as to leave him little or no spare time for original inquiry. He devoted such leisure as he could command to translating, editing, and other scientific labour of a literary kind. Biologists will especially remember the appearance of his translation of Fritz Müller's "Facts and Arguments for Darwin," shortly after the beginning of the controversy aroused by "The Origin of Species." His wide range of knowledge in natural science, and his literary tact and experience, made him an unrivalled editor of a scientific periodical. The volumes of *The Quarterly Journal of the Geological Society* for the last twenty years will remain as a memorial of the accuracy, skill, and punctuality of his work. It will be difficult to find another assistant secretary so deft and helpful as he: it will be, however, still harder to discover one who to ample scientific acquirements and long experience will unite a nature so gentle and kindly as his, and a character so honourable and sincere. Mr. Dallas may be said to have died in harness. Though for some time he had been growing gradually feebler, he attended the evening meeting of the Geological Society only a fortnight ago. But the hand of death was then visibly upon him. Two days afterwards he was struck down with paralysis, and, after lingering a week, died on the morning of May 28, at the age of sixty-six. Last Monday his associates of the Geological Society laid him in his grave in the Norwood Cemetery. A. G.

#### NOTES.

BESIDES the death of Mr. W. S. Dallas, the Assistant-Secretary of the Geological Society, the ranks of the geologists of this country were further thinned last week by the loss of another well-known and most esteemed student of geology—Mr. John Gunn, of Norwich. Though not distinguished as a writer on geological subjects, he has long been looked up to as the chief authority on that most interesting deposit—the Cromer Forest-bed; and as the most indefatigable and successful collector of its organic contents. He had, moreover, an extensive knowledge of all the geological formations of East Anglia. He was, likewise, fond of antiquarian researches, and in early life did good service among the archaeological and ecclesiastical antiquities of his county. But while always eagerly seeking fresh information and gathering a vast store of facts in many departments of inquiry, he refrained from rushing frequently into print, while on the other hand, with generous self-abnegation, he was ever ready to place his materials at the service of science and the public. Every honest inquirer was always welcome to any information or assistance he could give. After amassing a magnificent suite of fossils, illustrating especially the mammalian life of Pliocene time in England, he presented it to the Norfolk and Norwich Museum, where it forms one of the most attractive and instructive features of the collection, and fills what is called after him the "Gunn Room." Mr. Gunn had reached his eighty-ninth year.

WE are glad to gather from the statement made in the House of Commons on May 22 by Sir John Gorst, in reply to a question from Sir Henry Roscoe, that the new regulations which will shortly be issued by the Civil Service Commission for the competitions for admission to the higher branch of the Indian Civil Service are, in the opinion of Sir John Gorst, likely to satisfy the desire which is widely felt at the Universities and elsewhere that they "shall secure more equal prospects of success for those whose chief studies have been in science than are at present accorded in these competitions." Those who are interested in this important educational question will be glad that Sir Henry Roscoe has directed the attention of the authorities at

the India Office to this matter, and they will hope that if the new regulations are not found to satisfy the necessities of the case, he will continue his exertions. We do not wish to be prophets of evil, but experience unfortunately shows that the Civil Service Commissioners are by no means likely to put science subjects on anything like a fairly equal footing with classics except under considerable pressure from public opinion. It will therefore be important that prompt combined action shall be taken in support of Sir Henry Roscoe by those who have interested themselves in the question, if the new regulations do not prove to be of a satisfactory character. If the present opportunity of securing that the conditions of admission to this important service be put on a proper footing be lost, it may be long before another occurs. Such action has, however, succeeded in other cases, and ought to do so in this case also.

IN moving the Education Estimates on Tuesday evening, Sir W. Hart Dyke gave an elaborate and most careful account of the new Code, the leading provisions of which we have already discussed. Among the speakers who took part in the subsequent debate or conversation was Sir Henry Roscoe, who congratulated the Vice-President on having for the first time carried out some of the recommendations of the Royal Commission on which he had had the honour to serve. He welcomed the proposal to give a grant for manual instruction. He was also pleased to learn that the Vice-President took to heart one of the recommendations which laid the foundation for technical instruction—a foundation which many of them for a long time had hoped would be laid. It was gratifying to learn that already great progress had been made in several of the larger towns with regard to technical instruction. He hoped that the question of drawing would progress. He thought the specialization of science ought not to be made before the fourth standard. The question of training teachers was one which referred to probably the most important portion of the Code. He welcomed all that it was proposed to do. He believed that the new Code would mark an era in the educational progress of the country. Mr. Mundella, in the course of a short speech, said he had risen only to express his thanks to the Vice-President of the Council for the liberal provisions of his Code. He regretted, however, that these provisions had not been somewhat extended. Why had the Vice-President not gone somewhat further with respect to the recommendations of the Royal Commission as to raising the standard of age, and extending the school life of the child? They might make the best and most liberal arrangements for education, but if the child's school life was to end at ten years of age, they were wasting their money. In large towns there were thousands of children who went to full-time labour after the fourth standard. In many rural districts, especially in the west, the second standard was the half-time standard, and two years ago that had been the case in Bradford. Why could not the right hon. gentleman screw up his courage and adopt the recommendation of the Royal Commission, and do for England what was done in Scotland? They should have a minimum standard for half-time. He hoped that later on the right hon. gentleman would be able to announce that he had made some provision for meeting the suggestions which had been offered with regard to raising the age at which the school life of the child should end, and raising the full and half-time standards.

A DEPUTY Linacre Professor of Human and Comparative Anatomy is to be appointed at Oxford. He will hold office during the continuance of Prof. Moseley's illness. Candidates must send in their applications on or before June 21.

GOOD progress has been made with the arrangements for the fifty-eighth annual meeting of the British Medical Association, under the presidency of Dr. W. F. Wade, senior physician to