

Obituary.

MR. B. N. PEACH, F.R.S.

THE death of Benjamin Neeve Peach on January 29 has removed one of the most conspicuous figures from the Scottish geological world. Born in 1842, he had retired from the Geological Survey of Scotland in 1905, but advancing years and recurrent attacks of rheumatic gout did not prevent him from taking a keen interest in every kind of investigation and discovery in the fields of research which he had cultivated.

Peach was born in Gorran, Cornwall, and his father, Charles W. Peach, was a notable man, who, although a Customs officer of comparatively humble station, had trained himself in geology and biology until he was well known for his original contributions to natural science. He was the friend of Sir Roderick Murchison, Hugh Miller, Robert Dick, and many other eminent scientific workers. The boy attended school at Peterhead and Wick (Caithness) and passed on to the Royal School of Mines (London), where he studied under Huxley, Ramsay, and many of the first teachers and investigators of the time. Benjamin Peach entered the Geological Survey in due course, and after a short period of work in London with Salter, the palæontologist, started field work on the Scottish staff. His colleagues included such men as Archibald Geikie, James Geikie, John Young, and at a later date, W. Gunn and John Horne, men of brilliant ability who were destined to make their department famous by their researches. At their head were two great geologists, Sir Roderick Murchison and Sir Andrew Ramsay. Each of the group had his individual merits and claims, but Peach in some ways was the most brilliant of them all.

The love of biology, which Peach probably acquired from his father, was one of his principal interests. For many years he acted as palæontologist to the Geological Survey of Scotland and did a vast amount of routine work. His special field, however, was the fossil Crustacea, and on these he has left some short monographs and papers. He ascribed his interest in this group to the teaching of Huxley, and by his high artistic skill he was able to furnish all the drawings required to illustrate the memoirs.

It was as a field geologist, however, that Peach especially shone. His experience was vast, for there was scarcely a parish in Scotland in which he had not worked or visited at some period. His early work was in the Scottish Midland valley, where a great variety of rocks, sedimentary and igneous, lay open to his scrutiny, and the glacial and alluvial deposits were of great diversity and presented many problems then awaiting solution. In course of time he began work in the Highlands and was one of the leaders of that band who settled the obscure questions involved in the great thrust zones of the north-west. From there his work spread over many parts of that delightful but puzzling country. When Lapworth's discoveries in the Scottish Silurian rocks necessitated revision of the published maps, Peach and Horne undertook the work and carried it to completion with triumphant success.

Peach's wide experience of field work, however, was only one of the factors that contributed to his pre-eminence. Peach had in especial degree the gifts that

make a great field geologist. With great physical strength and activity, he combined a restless passion for investigation that left no stone unturned that seemed likely to conceal some evidence. He had the most wonderful ingenuity and an imagination that amounted almost to inspiration. In difficult ground where the evidence was scanty and obscure, he tried every possible hypothesis and his judgment was seldom at fault. With these he had the rarest faculty of all, that of seeing in three dimensions, and in all sectional planes, the structural anatomy of the country he was mapping; so that each bit of evidence was fitted immediately into its place. No other geologist of his time had this faculty in the same measure except Charles Lapworth of Birmingham.

To his great gifts as a geologist were added the most charming personality and a striking physique. To his last days Peach had the boisterous spirits of a schoolboy. Full of humour and endowed with innumerable good stories, which he retailed in broad Scotch, he was a centre of attraction in every social gathering. His influence on young men was remarkable, and probably the greatest service he did to science was the training he gave to successive generations of young geologists, partly by precept (of which he was very lavish) but principally by example and by lessons in the field. To accompany Peach for a few weeks in the field (in the Highlands especially) was a liberal education for a young geologist; and by his rich store of recollected facts, his penetrating acuteness in observation, his rapid and logical deductions, and the lightning-like rapidity with which he read the riddles of geological structure, he inspired his assistants with a love of the work and a knowledge of the best and most rapid methods of getting accurate results. It was not easy going, for Peach made each field day an arduous task, both physical and mental, but the reward was certain.

In the study and the office Peach was a different man. His knowledge of geological cartography was profound, and his drawings, sketches, sections and maps were never at fault and were often of the greatest merit. As a writer, however, he was less successful. He hated the slow labour of the pen. Although fluent of speech, he was a slow and involved writer, and only by patient effort could he express his thoughts in clear sequence and exposition. Fortunately, however, his defects were more than compensated by the great literary skill of his friend and colleague Dr. John Horne, who formed with Peach a partnership that produced many geological monographs now known as classics in every country where geology is studied. Aably supported by their colleagues, these two geologists achieved magnificent results in many fields of geological work. Their faculties blended so perfectly that each produced his best in their joint enterprises, and they have dominated the progress of Scottish geology for the last forty years.

The list of geological papers, monographs, and memoirs to which Peach contributed is a very long one, but they mark only a portion of his activities. His published maps and the manuscript maps that show his field results are to the initiated even more instructive. Such work, for example, as his survey of parts of Assynt, of Arthur's Seat, and of the graptolite zones of

the south of Scotland, indicates the hand of the master. For many years he gave devoted service to the geological mapping of Scotland, and so long as men take interest in Scottish geology his memory will endure.

J. S. F.

DR. W. E. HOYLE.

THE death of William Evans Hoyle, D.Sc. (Oxon.), on February 7, at Porthcawl, has removed from this world one who, to the deep regret of his many friends, had for the last year or two been compelled by ill-health to withdraw entirely from that active participation in their pursuits to which for half a century they had been accustomed.

Born at Manchester, in 1855, Hoyle was by circumstances inclined to the profession of his father, William Jennings Hoyle, an engineer connected with both Whitworth's and Armstrong's. But his education at Owens College and afterwards at Oxford, which he entered as an exhibitioner in natural science at Exeter College, being elected later a junior student of Christ Church, turned his thoughts to the mechanism of the animal body, and this attraction was intensified by the influence of the great teacher, Rolleston. Thus it was that, after taking a first class in natural science, and qualifying at St. Bartholomew's Hospital for M.R.C.S., Hoyle was glad to become demonstrator in anatomy at Owens College and, not long after, to migrate to Edinburgh as a naturalist on the editorial staff of the *Challenger* Expedition. This division of interests bore at first similarly divided fruit: the year 1883 saw papers by him on primary epithelioma of the lung and on a new species of Octopus, while 1886 produced his translation of Leuckart's "Parasites of Man" as well as his report on the Cephalopoda collected by the *Challenger*. After this it was the cephalopods that conquered; on that fascinating group Hoyle produced a series of reports and papers, including reports on the cephalopods collected by Herdman at Ceylon (1904), by Stanley Gardiner at the Maldives and Laccadives (1905), by the National Antarctic Expedition (1907), and the Scottish National Antarctic Expedition (1912). Valuable and thorough though they were, these works did not introduce any startling changes in our conception of the group; apart from the systematic aspect, the chief study to which they led was that of phosphorescence in the cephalopods and other animals of the deep sea. Hoyle's knowledge of recent cephalopods was summarised in his presidential address to Section D of the British Association at Leicester (1907).

Meanwhile his systematic work and his training in the *Challenger* Office had qualified Hoyle to act as curator of a large collection. A chance arose for transferring him to the Zoological Department of the British Museum, but failed owing to the opposition of the staff, which did not like to see promotion checked by the appointment of senior men from outside. There was, I know well, no objection on personal grounds. The result, whether gain or loss to the British Museum, was a gain to Hoyle's own development and to the museum world. What London rejected, Manchester seized: Hoyle was made curator of the Manchester Museum, at Owens College, and, under the guidance of Sir William Boyd Dawkins, entered on his career as a

great museum curator and administrator. He studied his new profession, as all museum-men should do, from every side. Methods of exhibition, of conservation, of storage and arrangement, of registration, and of card-indexing, all benefited from his active mind. He even trespassed on the field of the librarian, and was, I believe, the first in England to apply the Dewey decimal system, which he used in his catalogues of the libraries at the museum and the Conchological Society. All the results of his museum experience were communicated by him to the Museums Association, of which he was an original member, becoming its president in 1906. At the yearly gatherings of that body, as in all meetings of zoologists, his sagacity and his humour were alike welcome.

When, in 1909, a National Museum was to be established for Wales, the governors took the unprecedentedly wise step of first getting a director. Hoyle was their choice, a fact which he jestingly ascribed less to his own merits than to his name "Evans." On his own suggestion, he was at once sent abroad to complete his already extensive knowledge of the great museums. The plans were drawn to his specification and emended after criticism by himself and an independent expert. To the wisdom of the governors in trusting to Hoyle's initiative and direction is due the high position of that Museum to-day. We all regretted that he should have had to retire before receiving public acknowledgment of his great services.

F. A. BATHER.

WE regret to announce the following deaths:

Prof. D. S. Capper, from 1902 until 1921 professor of engineering at King's College, London, on February 12, aged sixty-one years.

Prof. W. O. Crosby, emeritus professor of geology in the Massachusetts Institute of Technology, known for his work on ore deposits and on the geology of the Boston Basin, Alaska, and the Rocky Mountains, on December 31, aged seventy-five years.

Prof. F. Y. Edgeworth, fellow of All Souls College and emeritus professor of political economy in the University of Oxford, president in 1912-14 of the Royal Statistical Society, and joint editor for many years of the *Economic Journal*, the organ of the Royal Economic Society, on February 13, aged eighty-one years.

Dr. Ernst Ehlers, professor of zoology since 1874 in the University of Göttingen, on December 31, aged ninety years.

Dr. Sigmund Exner, emeritus professor of physiology in the University of Vienna, and a member of the Vienna Academy of Sciences, on February 6, aged eighty years.

Prof. J. F. Gemmill, F.R.S., professor of natural history, University College, Dundee (University of St. Andrews), and first president of the parent society of the Scottish Marine Biological Association, on February 10.

Sir John Burchmore Harrison, Director of the Department of Science and Agriculture, in British Guiana, the author of numerous papers on the chemistry of tropical products, on February 8, aged sixty-nine years.

Sir George Holmes, K.C.B., K.C.V.O., honorary member and for more than twenty years secretary of the Institution of Naval Architects, on February 13, aged seventy-seven years.