

This was confirmed by drilling, at a depth in agreement with the geophysical estimate, but only half that expected from neighbouring geological data. The peculiar structure is believed to be due to plastic deformation of the Lower Fars beds, which have been squeezed out above the Asmari anticline and thickened on either side.

The Geological Survey of Great Britain has employed magnetic methods at intervals since 1928. The range is restricted by the non-magnetic nature of most sedimentary rocks, but on the other hand the same fact allows a particularly satisfactory investigation of any underlying magnetic formations. A striking example of this was provided by the Survey mapping of the Melton Mowbray magnetic anomaly. The resulting contoured vertical force map bore practically no relation to the surface geology (Lias and Trias) but showed a remarkable magnetic 'high' area, with subsidiary ridges, such as might be due to igneous masses in the floor of older rocks. As a well-known French writer has observed: "la géophysique voit flou"; from east to west the outlines in the magnetic map become sharper until a system of ridges with east-north-east trend links up with the anomaly due to the exposed intrusive igneous mass at Mount Sorrel. The estimated depth of the floor is from 1,500 ft. to 500 ft. across the Melton anomaly.

Oil geology has afforded perhaps the most spectacular examples of success in geophysical exploration. Indeed, the value of the new oilfields discovered has tended to obscure the large number of explorations carried out on equally adequate grounds but which happened to yield negative results. They are sometimes described as failures, but they are in reality an essential part of the research. Obviously, researches cannot be limited entirely to 'successful' results, yet in the larger commercial departments programmes are designed in the expectation of only a few per cent of even moderately 'successful' results.

A clear account of some of the outstanding geophysical achievements in oil geology was contributed by Prof. V. C. Illing. Here the geological structures are chiefly anticlines or domes, and the principal methods employed are (1) seismic reflexion, for gently sloping structures, (2) torsion balance and seismic refraction, for steeper-sided salt-dome structures, (3) gravity, refraction and reflexion in faulted and folded areas. Prof. Illing again stressed the need for co-operation in work which has for its ultimate object the presentation of a picture that is geological rather than physical. In conclusion, he described the successful employment of the Schlumberger method for correlating strata in boreholes. Electrodes are lowered down the boreholes and the resistivity of the adjacent rock is determined at intervals and plotted as a profile characteristic of the strata passed through. Very striking sets of profiles from groups of boreholes were shown, but caution was indicated since the results are affected by the methods of boring used, especially the nature of the mud; and the resistance of the rock itself may have widely differing values according to the presence of interstitial oil or saline waters.

To sum up: the meeting once again indicated the wide use now made of geophysical methods, and their acceptance in fact as one of the most important tools of geological research. The restrictions in their use are at present largely due to their relative novelty and rather high cost, which in Great Britain has tended to restrict their employment to commercial enterprise.

OBITUARIES

Captain John D. S. Pendlebury

CLASSICAL and prehistoric archaeology suffer a severe loss in the death, during the invasion of Crete, of Captain John D. S. Pendlebury. He was the son of Herbert S. Pendlebury, a well-known London surgeon, and was educated at Winchester College and Pembroke College, Cambridge, where he held an exhibition and represented the University, and also England, in the high jump in 1926-27. As an undergraduate he showed already the high promise in classical scholarship and in archaeology which he fulfilled in later years, and, on graduating in the first class of the Classical Tripos, he was awarded the School Studentship in the British School of Archaeology at Athens (1927-28) followed by the Macmillan Studentship in 1928-29. He took part in excavations on prehistoric sites in Macedonia, and at Armant and Tell-el-Amarna in 1928 and 1929. This combination of Ægean and Oriental interests enabled him to put together in *Ægyptiaca* (1930) a 'corpus' of scarabs and other objects of Egyptian workmanship found on prehistoric sites in Greek lands, and he projected, with his scholarly and accomplished wife, a similar record of Ægean objects found in Egypt.

In 1930, Pendlebury was appointed curator of Knossos, in succession to Duncan Mackenzie, who had for many years been the principal assistant of Sir Arthur Evans. Here was a post which gave full scope to his abilities, for he was a persistent traveller and field-observer, and had the genial temperament which endeared him to all classes of Cretans. At Knossos itself there was still much to be done: supplementary excavation to clear up obscurities, reinforcement of repairs and precautions against weather damage to the 'Palace'; the preparation of a much-needed "Handbook to the Palace of Minos" (1933); and the classification, storage and calendaring of a very large accumulation of potsherds and other objects not needed by the Candia Museum, and indeed indispensable for minute study of the ruins. His intimate knowledge of the whole island found record in a larger handbook of the "Archæology of Crete" (1939).

It was part of the original arrangement that Pendlebury should continue during the winter months his direction of the Egypt Exploration Society's work at Tell-el-Amarna, but by 1934 the Egyptian and the Cretan duties had begun to conflict, and to the general regret Pendlebury resigned the curatorship of Knossos. For unforeseen reasons, however, the Egyptian work came to an end, and he found it possible to devote himself in his private capacity wholly to Cretan archaeology. His memoir "City of Akhenaten II", published in 1933, gives a full account of his work in Egypt.

Thenceforward, with his wife, and a succession of younger students of the British School of Archaeology, Pendlebury carried on minute and intensive exploration in the Lasithi highland, below the Dictæan Cave at Psychro, already excavated by the School; and the results of this have now appeared in a separate volume of the School's *Annual* (38, 1937-38) as well as current reports in earlier volumes; a remarkable record of the human occupation of this secluded region from the early Bronze Age until it became a refuge and last fortress of the Minoan people after the Iron Age invaders had conquered the lowlands of Crete.

When the War came, Pendlebury received a commission in a cavalry regiment but remained in Crete as British Vice-Consul and was able to render very valuable services through his intimate acquaintance with the country and the people. Rumours of his death during the German invasion remained long unconfirmed, but his death has now been presumed. He will be remembered as a man of varied ability, strong character and personal charm, and it is to be hoped that he may have left further memorial of his devoted study of Cretan antiquity.

JOHN L. MYRES.

WE regret to announce the following deaths:

Prof. A. C. Davis, jun., head of the Department of Experimental Engineering at Sibley College, Cornell University, on March 17, aged fifty-two.

Prof. W. E. Davis, professor of plant physiology at the Kansas State College of Agriculture and Applied Science, on January 17, aged seventy-five.

Prof. R. W. Hegner, professor of protozoology in Johns Hopkins University, on March 11, aged sixty-two.

NEWS and VIEWS

King's Birthday Honours List

THE following names of scientific men and others associated with scientific work appear in the King's Birthday Honours list:

O.M.: Prof. E. D. Adrian, professor of physiology in the University of Cambridge.

Baron: Mr. J. M. Keynes, the distinguished economist.

K.C.M.G.: Sir Guy Marshall, director of the Imperial Institute of Entomology.

K.B.E.: Dr. C. G. Darwin, director of the National Physical Laboratory.

Knights: Prof. R. H. Fowler, Plummer professor of mathematical physics in the University of Cambridge, lately liaison officer in North America; Dr. W. H. Fyfe, principal and vice-chancellor of the University of Aberdeen; Mr. H. Gaskell, a director of Imperial Chemical Industries, Ltd.; Mr. W. Gavin, chief agricultural adviser, Ministry of Agriculture; Mr. L. Mason, deputy director-general of supply, India, and lately inspector-general of forests; Prof. W. F. Shaw, president of the Royal College of Obstetricians and Gynaecologists; Major-General J. Taylor, I.M.S., director of the Central Research Institute, Kasauli; Mr. R. A. Watson Watt, scientific adviser on telecommunications, Ministry of Aircraft Production.

C.B.: Dr. H. J. Gough, deputy controller-general of research and development, Ministry of Supply.

C.M.G.: Prof. D. B. Blacklock, professor of tropical hygiene, University of Liverpool; Mr. G. F. Clay, director of agriculture, Uganda; Dr. A. F. Mahaffy, director of the Yellow Fever Research Institute, Uganda.

C.I.E.: Mr. W. T. Hall, chief conservator of forests, United Provinces; Mr. C. M. Harlow, chief conservator of forests, Central Provinces and Berar; Colonel E. A. Glennie, director of the Survey of India; Lieut.-Colonel G. R. McRobert, professor of medicine, Medical College, Madras; Dr. L. E. Napier, director of the School of Tropical Medicine, Calcutta; Lieut.-Colonel E. McK. Taylor, director of the Irrigation Research Institute, Punjab.

C.B.E.: Mr. G. E. Bodkin, director of agriculture and principal of the College of Agriculture, Mauritius; Dr. E. A. Carmichael, director of the Neurological Research Unit of the Medical Research Council, National Hospital for Nervous Diseases; Prof. T. J. Mackie, professor of bacteriology, University of Edinburgh; Mr. F. J. Mortimer, lately president of the Royal Photographic Society; Prof. A. C. Norman, director of the X-Ray Institute in Iraq and

professor of radiology in the Royal College of Medicine, Baghdad; Dr. Z. F. Willis, general secretary of the Y.M.C.A.

O.B.E.: Mr. V. A. Beckley, senior agricultural chemist, Kenya; Mr. E. G. Bowen, senior scientific officer, Ministry of Aircraft Production; Dr. H. J. O'D. Burk-Gaffney, senior pathologist, Tanganyika; Mr. S. Butterworth, principal scientific officer, Admiralty; Mr. T. G. Henderson, principal veterinary officer, Basutoland; Mr. G. D. A. Macdougall, chief assistant, Statistical Branch, Prime Minister's Office; Mr. A. Monro, chief veterinary officer, Ministry of Agriculture; Dr. B. Prasad, director of the Zoological Survey of India; Mr. A. H. Stein, divisional forest officer, Hoshangabad, India; Mr. C. B. Symes, medical entomologist, Kenya; Mr. A. F. Thelwell, secretary of the Jamaica Agricultural Society; Mr. A. F. Wilkins, principal scientific officer, Ministry of Aircraft Production; Mr. H. Wooldridge, senior scientific officer, Department of Scientific and Industrial Research.

M.B.E.: Canon L. A. Lennon, for services to education and agriculture, in Nigeria; Mr. G. W. Lines, agricultural officer, Nigeria; Mr. R. E. Mills, technical assistant, Ministry of Aircraft Production; Mr. H. C. Mundell, agricultural and livestock officer, Basutoland; Miss K. M. Shaw, personal assistant to the Dean, London School of Hygiene and Tropical Medicine; Mr. L. B. Turner, deputy assistant director, Explosives Department, Ministry of Supply; Mr. J. J. Unwin, scientific officer, Ministry of Aircraft Production.

I.S.O.: Mr. G. D. Goode, chief clerk, Department of Science and Agriculture, and personal secretary to the Director of Agriculture, Jamaica.

Prof. E. D. Adrian, O.M., F.R.S.

THE recognition of the value of the work of Prof. E. D. Adrian to science by the award of the Order of Merit will be a source of great pleasure to his colleagues and students throughout the world. The advance in our knowledge of the working of the nervous system that has taken place in the last twenty years owes much to his long series of researches into the nature of the fundamental processes in nerve cells. As research in clinical neurology is able to make full use of this knowledge, further advances may also spring from his work, but this application must, of necessity, take a long time to reach fruition. Prof. Adrian's work on nerve and muscle, in association with Keith Lucas, started before the War of 1914-18; during that War he worked in clinical neurology, which gave him a wide experience and