

Maiden Castle, Dorchester

EACH succeeding season of Dr. R. E. Mortimer Wheeler's excavation of Maiden Castle adds to the impressive character of the picture of this corner of Britain in prehistoric times which he is reconstructing from the evidence revealed by the spade. The masterly survey of the history of the site from neolithic times, dated approximately at 4,000 B.C., down to the close of Roman domination in the late fourth century of our era, which he gave in his report on the excavations of 1935 to the Society of Antiquaries on February 27, concurs with the evidence of recent excavation elsewhere in showing that life in early Britain, at least in later prehistoric times, was an affair of much more highly organised and settled conditions than has been conceived, even when the story of 'painted' savages is sufficiently discounted. It may be that Dr. Wheeler is right when he sees in the improved and strengthened fortifications, with their elaborated stone-walling reinforcements, which appear at the beginning of the first century B.C., evidence of the driving force of the individual megalomaniac; but the existence even before this of a town of some five to six thousand inhabitants argues no mean standard of culture and considerable ability in ordering and administering the daily details of communal life. In describing the objects which accompanied the remarkable extension of urban fortification and show traces of what is here at Maiden Castle a new culture, Iron Age "B", Dr. Wheeler suggests that the use of masonry may have come from the west; but it is significant that he does not find that the new culture arrived in any bulk. The population of Maiden Castle appears to him to remain unchanged, but dominated by an administration of an ambitious kind. A further season is to be devoted to the exploration of the site, when one of the principal tasks will be the exploration of the Roman eastern gate and the elaborate prehistoric structures which lie beneath.

Egypt and Asia under the Twelfth Dynasty

A DISCOVERY of no little importance in its bearing on the relations of Ancient Egypt and Asia under the Middle Kingdom is reported from Toud, the ancient Tophium, twenty-five miles south of Luxor, where an expedition of the Institut Français d'Archéologie Orientale is now at work. According to a dispatch from the Cairo correspondent of *The Times* in the issue of March 2, four small bronze caskets have been found which contain a tribute from Asia to Amenemhet II, one of the Pharaohs of the Twelfth Dynasty who reigned from 2000 to 1790 B.C. They were excavated from sand among the foundations of a temple of Mont, the god of war. The contents of the caskets are lapis lazuli beads and amulets, and ingots of gold, silver and lead. The amulets are said to be of a type hitherto unknown in Egypt. In addition to figures of Asiatic divinities, a human-headed eagle and a winged lion, each of the boxes contained a cylinder with a cuneiform inscription, which has not yet been deciphered.

Imperial Standards

THE periodical comparison of the Standards of Length and Mass with the Parliamentary copies was due in 1932, and the Board of Trade has just issued a report of 56 pages on the results obtained. The work has been carried out in the Metrology Department of the National Physical Laboratory. As compared with the measurements made in 1922, the four parliamentary copies of the Standard Yard have decreased in length as compared with the Standard itself by 28 millionths of an inch, a change which must be attributed in part at least to an increase in length of the Standard Yard. The British copy of the metre has been compared with the Sèvres copies of the Prototype Metre and has been found 0.66 parts in a million short, as compared with 0.60 parts in 1922. Two other copies have retained the lengths they had in 1922. Four Parliamentary copies of the Standard Pound weigh 3.6 and 1.1 thousandths of a grain more, and 0.7 and 3.0 thousandths less than the Standard respectively, the changes since 1922 being slight. The British National copy of the kilogram has been compared with the International Prototype and found to be 58 millionths of a gram too heavy, in good agreement with the 1922 value. The pound has been remeasured as 453.592338 grams. It is highly desirable that a new series of pound weights should be constructed of more stable materials than the present standards.

Diesel Engines for Road Transport

A COMPREHENSIVE statement of the present position of the Diesel engine in its application to road vehicles was given by Major Goddard in a paper presented at a joint meeting of the East Midland Section of the Institute of Fuel and the Institution of Mechanical Engineers at University College, Nottingham, on February 20. It is almost eight years since the first Diesel-engined vehicles, two demonstration lorries imported by the Daimler Benz Co., from Germany, were seen in Great Britain and, in the interval, this class of vehicle has been adopted by many transport companies. It is estimated that the number in operation in Great Britain is approximately 12,000; more than 900 London buses have already been fitted with Diesel engines, and the rest are being converted as quickly as circumstances permit; the magnitude of the change that is taking place so unobtrusively is probably little realised by the general public. This rapid adoption of the engine in commercial vehicles and, still more, the appearance of a Diesel-engined car—a Bentley with Gardner engine—in the Monte Carlo Rally in 1933, when it gained one of the awards, give a general interest to the information Major Goddard brought together in his paper. After setting out in detail the advantages of this type over the petrol engine, he discussed the conditions under which combustion is controlled and gave figures relative to fuel consumption and economy, speeds and maintenance costs. From these, a clear idea as to current practice and performance can be obtained. In dealing with the advantages of conversion of petrol-engined vehicles to the newer system, given a

thoroughly reliable make of engine, the saving on fuel alone over a period of five years was stated to be rather more than twice the initial cost of conversion.

Suggested Museum for Croydon

CROYDON now has an excellent opportunity of building a museum worthy of the town. A large area of ground of several acres has lately been acquired from the Southern Railway Company, but at present the proposed lay-out of the area does not foreshadow a museum. There will be a technical college, art school, with other public buildings, and the Corporation could now very appropriately consider the establishment of a museum. The large bequest of Dr. Franklin Parsons of a good many years ago is still unexhibited, and the small museum at Grangewood Mansion has been from time to time curtailed, in order to provide schoolrooms. There is a wealth of material waiting to find a place in a public museum, and the educational facilities of the town are not complete until it possesses a well-stocked museum. The population of the borough approaches a total of a quarter of a million, and it must be difficult to find a borough of the same dimensions that has so far not seen fit to equip itself with a suitable museum. Now a site offers itself, and it is to be hoped that the Corporation will rise to the occasion.

B.M.A. Fund for Research in Australia

A CORRESPONDENT in Melbourne writes: "Readers of NATURE may be interested to know that the British Medical Association meeting in Melbourne in September last wound up with a surplus of about £1,500. This has been offered to, and gratefully accepted by, the University of Melbourne as the nucleus of a special fund for medical research. We have in Melbourne two excellent medical research organisations, namely, the Walter and Eliza Hall Institute at the Royal Melbourne Hospital and the Baker Institute at the Alfred Hospital. But some of us feel that we want a fund which can be devoted to the aid of someone recommended for a particular piece of work terminable when the work is finished. The members of the permanent staff of these institutes have a good deal of routine work to do—essential and valuable—but here and there someone is found who wants to extend the boundaries of knowledge and wants help and guidance. Hence this fund, of which we are somewhat proud, as Congresses do not generally end with a credit balance. The senior medical men worked hard and organised excellently."

Nationalism and Soil Erosion

A STRIKING connexion between physical geography and economic policy is outlined by Prof. C. F. Shaw in the *Geographical Review* for January. He points out that the upland soils of much of Great Britain are shallow. In England and Wales they average twenty-five inches in depth and in Scotland, where glacial deposits are more general, forty inches. Chalk soils of southern England are the thinnest, averaging

only ten inches. On all these upland soils erosion, though not conspicuous, is active. Evidence is obtainable from remains of Roman occupation and other sources as shown at the recent International Congress of Soil Science held at Oxford. Prof. Shaw's contention is that economic pressure, exerting itself in increased grain production in the home country, will entail the ploughing of sloping uplands, which will loosen the soil cover and so promote more active erosion. This will in turn impoverish the uplands and cause further deposition of soil on the lowlands. A sounder economic policy is in his opinion the preservation of the thin upland soils by maintaining them under grass, which would at least ensure their continued usefulness as grazing grounds for food animals.

Insurance Against Price Fluctuations

DISCUSSING some statistical aspects of future trading on a community exchange, Mr. G. R. White, in a paper read recently before the Royal Statistical Society, remarked that, during the past ten years, 'future' trading has spread rapidly and now covers commodities such as coffee, cocoa, sugar, butter, eggs, pepper, vegetable oils, shellac, wool tops, hides, rubber, silk, jute, tin, copper and zinc, in addition to grain and cotton, in which future trading has been an established practice for upwards of seventy years. Supporters of the system claim that, among other things, future trading reduces major fluctuations in prices, and provides a method of price insurance through 'hedging'. Mr. White, selecting for the purpose of his investigation future trading in hides, controverted this assumption; he concludes that there is no evidence that fluctuations in the price of hides have been reduced since a future exchange was established for this commodity in New York in 1929. In fact, he says the evidence trends in the opposite direction. 'Hedging' on the Hide Exchange has only provided imperfect price insurance. He suggests that more attention should be paid to evolving a method of insurance more akin to that evolved for other insurable risks, and taking data of the past fourteen years, he calculates that the premiums necessary to insure over a period of twenty weeks against either a fall or rise in price would not be prohibitive.

Malvern College Natural History Society

THE twelfth report of this Society (1935) contains an article by J. W. B. Waring on minute pond organisms, well illustrated by original drawings from the living material, both plant and animal. The author has collected samples of ooze from a number of ponds including an artificial gold fish pond in his garden, and records his own observations on the life in these ponds. Such work is valuable, and should be encouraged in every way. An article on the history of the Malvern College Natural History Society shows that it dates from 1868, when the Malvern Naturalists' Field Club was transferred to the College. The present membership is thirty-six, and it is to be hoped that the number will increase considerably.