

be for the Bronze Age. More entertaining discoveries are the dedication of the famous prostitute Rhodopis, the helmet of Miltiades (presumably the victor of Marathon), and what—it seems—the Athenians of the fifth century B.C., after archaeological examination, wrongly identified as the graves of the Seven against Thebes.

Torquay Natural History Society

THE impact of the Second World War of necessity curtailed the activities of the Torquay Natural History Society, and the centenary year of 1944 passed almost unmarked with the exception of a short historical article in the April issue of the *Museum Journal* in that year. Prior to this the Society had published papers from time to time in its *Transactions* on one aspect or another of its development and activities; but the main historical record remains that of Mr. Harford J. Lowe, published in four parts over the years 1909–13, on the growth and history of the Society. This is now more than forty years ago, and A. G. Madan, curator of the Museum, has prepared an account not only to bring the history up to date but also to report on the collections and present-day activities of the Society (*Trans. and Proc. Torquay Nat. Hist. Soc.*, 11, No. 3). Much of the history is concerned with the excavations at Kents Cavern during which considerable evidence was unearthed which threw fresh light on the antiquity of man.

Oil Palm Research

THE first annual report of the West African Institute for Oil Palm Research, just published (pp. 1–135. Benin City, Nigeria; and Crown Agents, 4 Millbank, London, S.W.1. 2s. 6d.), gives an account of the Institute's organization, research and field work for the period 1952–53. The first issue of the Institute's research journal, which contains detailed reports, has already appeared and has been noted in these columns (*Nature*, 173, 19; 1954): and other publications are in preparation. While the scientific staff list still shows a considerable number of vacancies, the research policy, which is here defined in some detail, is being actively carried out in all its many aspects. The present report gives a comprehensive account of field studies, agronomy, chemistry, plant breeding, general botanical studies, pathology and statistics.

Canadian Biological Publications

WITH the support of the Research Council of Ontario, J. Murray Speirs, Ruth Kingsmill and George W. North, of the Ontario Fisheries Research Laboratory of the University of Toronto, have prepared a bibliography of Canadian Biological Publications for 1949. The bibliography, a most thorough and comprehensive survey, was assembled by searching biological journals in local libraries, and by following leads suggested by correspondents. Medical and commercial papers have been omitted unless the biological content predominated. The bibliography is arranged by subjects, and within the subject by author, publication, date and page. To anyone wishing to know of recent biological events in Canada this survey will be most valuable; its value would be considerably enhanced if its publication coincided more closely with that of the papers mentioned in it. The bibliography is published jointly by the Quebec Biological Bureau and the University of Toronto.

Annals of Library Science

THE first number of a new quarterly periodical (1, No. 1; March 1954; published by the Times of India Press, Delhi; Rs. 10; 3 dollars; 20s.), edited by Dr. S. R. Ranganathan, contains two articles by Dr. Ranganathan on Depth Classification which include some criticism of the Decimal Classification and describe the emergence of the Colon Classification. The Universal Decimal Classification is also criticized in an article by Faqir Chand. These, like K. A. Isaac's article on dialectics of the Universal Decimal Classification, are continuations from the journal *Abgila*. The issue also contains a glossary of cataloguing firms by K. D. Puranik, a further article by Dr. Ranganathan on a library development plan for Delhi State, and one by G. Otterick and S. Mochlenbrock on training for library service in Sweden.

Callendar's "Radio-Balance" for determining the Thermal Energy of Radiation

IN 1910 H. L. Callendar described a thermal-balance device which he called a "radio-balance" and which consisted of a calorimeter for the measurement of radiation in which the quantity of heat to be measured was balanced against the cooling from a Peltier couple. With this device he made measurements of the solar radiation and also of the energy emitted in unit time from a sealed source of radon which had been lent to him by Lord Rutherford. Since then the only other use of a radio-balance appears to be that of F. E. Hoare some twenty years later, who utilized the device to determine the Stefan-Boltzmann radiation constant. However, the radio-balance as an instrument for the measurement of energy dissipation has much to commend it, and the operation of the device has been extensively investigated recently by W. B. Mann (*J. Res. U.S. Nat. Bur. Standards*, 52, 177; April 1954; Research Paper 2486) with the view of its use for the accurate determination of the energy emission from radioactive sources. Several radio-balances were constructed, and the final version consists of two copper cups 13/16 in. long and having internal and external diameters of 0.099 and 0.130 in., respectively. Each cup is mounted on a six-junction constantan-chromel thermopile, and the lower junctions of each thermopile are dipped into silicone oil contained in two small cavities in the lower copper block that constitutes the container of the radio-balance. A constantan-chromel Peltier couple is soldered to the base of each cup. Each cup may be used singly, and the cups may be used together in opposition. In the series of experiments described by W. B. Mann, measurements were confined to radium preparations contained in platinum-iridium needles of 0.5 mm. wall thickness. For an absorption equivalent to 0.126 cm. of lead, a heat emission of 128.9 cal. gm.⁻¹ hr.⁻¹ was found for radium in equilibrium with its products down to radium D. The estimated accuracy is ± 0.7 per cent. It is stated that it is proposed to apply the radio-balance described to the measurement of the average energy of beta-ray emitters, and a new radio-balance is being constructed for the comparison of the United States and Canadian national radium standards.

Dreyer's Catalogue of Nebulae and Clusters of Stars

J. L. E. DREYER's "New General Catalogue of Nebulae and Clusters of Stars", giving descriptions