

of a Marine Biological Station at the entrance to Port Jackson, both being the property of the University. This biological station is at present the only one permanently equipped and in continuous use on the Australian coast.

#### Seasonal Plankton Rhythm

At the recent meeting of the Australian and New Zealand Association for the Advancement of Science, it was stated by Prof. Dakin that plankton studies in New South Wales waters had shown a distinct diatom maximum in the spring, followed by a smaller maximum in the autumn. These conditions presented an interesting and close parallel with those so well known in the temperate waters of Europe. In further agreement a scarcity of plankton is recorded during the winter months and the planktonic Crustacea—*Copepoda* and *Cladocera*—rise to maxima in the early summer following the diatom and dinoflagellate maxima. The variations in the abundance of plankton during the year do not seem to be anything like so great as in the Irish Sea or English Channel, and it would almost appear as if the phosphate and nitrate concentrations in the sea water were also more uniform. The study of the relation between the seasonal rhythm of the plankton and changes in the physico-chemical environment is to be continued, whilst particular attention will be paid to the occurrence of fish eggs and larvæ.

#### Fisheries of the Philippines

THREE fully illustrated accounts of various Philippine fisheries are published in the July number of the *Philippine Journal of Science*, No. 3, vol. 48, 1932: "The Japanese Beam Trawl used in Philippine Waters", by Augustin F. Urnali; "The Fisheries of Lake Sampaloc, San Pablo Laguna Province, Luzon", by Florencio Talavera; and "Fishing Appliances of Panay, Negros and Cebu", by Florencio Talavera and Heraclio R. Montalban. Fishes of many kinds, shrimps and other Crustacea, molluscs and holothurians are all important commercially in the Philippines. In some parts the fishing is deteriorating from over-fishing, lack of attention, or from physical causes. New methods and restrictions are recommended by the different writers. The Japanese beam trawl is at present used only by Japanese, in their own boats, manned by their own men. It is apparently no more destructive than the other methods of fishing, and its use is advised for the native fishermen. Lake Sampaloc, the largest of the nine crater lakes in the San Pablo Valley, was an important fishing centre before its height was lessened by approximately 10 metres. Now, partly from this alteration and partly from other causes which are investigated fully by Dr. Talavera, of the Division of Fisheries, Bureau of Science, Manila, the fishes are certainly decreasing, and legislative measures together with restocking are suggested. The shrimps in this lake appear to be inexhaustible. The multiplicity of terms used in the local fisheries and the names for the various appliances are astonishing, but these are all carefully explained and illustrated in the third paper.

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#### Oceanography in Spain

IN June 1933 the first Iberian-American Oceanographical Conference will be held in Madrid. The Council, under the presidency of Prof. D. Odon de Buen of Madrid, was instituted in 1929 in order to facilitate co-operation between the Iberian Peninsula and parts of America, the countries involved being Spain, Argentina, Costa Rica, Ecuador, Salvador, Guatemala, Mexico, Panama, Peru, Dominican Republic, and Uruguay. The publications of the Council consist of a review (*Revista del Consejo Oceanográfico Ibero-Americano*), which has been in existence for three years and contains many interesting short papers, and the memoirs (*Memorias del Consejo Oceanográfico Ibero-Americano*), eleven numbers of which have been published, each containing one long paper. No. 9, by Prof. Rafael de Buen, deals with all the activities connected with the Spanish Institute of Oceanography, which was founded in 1914 to unite in one centre the coastal marine laboratories already in existence, situated in Palma de Mallorca, Malaga, and Santander. All these are now connected with the main oceanographical laboratories in Madrid, where all investigations are centralised, the director being Prof. Odon de Buen. Various expeditions have been undertaken, mainly in the Mediterranean, and in 1924 Spain joined the International Council for the Exploration of the Sea, among other things working out certain hydrographical problems round Cape Finisterre and studying the biology of the sardine and other fishes, including the hake, tunny, and bonito.

#### Tasmanian Rock Carvings

A DISCUSSION of the origin of certain alleged rock-engravings at Mersey Bluff, Devonport, Tasmania, appears in the *Papers and Proceedings of the Royal Society of Tasmania* for 1931. In its general bearing the paper is of considerable interest to archaeologists and students of primitive art. Mr. A. L. Meston, who argues for the authenticity of the carvings, has examined and describes a number of them. He claims that he has identified representations of fish, coiled snakes, a bird's head, *Haliotis* shells, cup-and-rings, and concentric circles. The carvings are on horizontal surfaces of a hard diabase, and are not scratched but are incised, as if by a hard implement, such as a quartzite tool, impelled by a hammer. The existence of Tasmanian aboriginal carvings and drawings has been doubted, notably by the late H. Ling Roth; but Mr. Meston states that these examples have been accepted by those acquainted with primitive rock-carvings elsewhere. The case against the authenticity of these carvings is taken up by Mr. E. O. G. Scott, of the Queen Victoria Museum, Launceston, who has made an extensive and detailed report on the subject to the Museum Committee. A brief outline of his arguments appears in the *Proceedings*, pending decision as to publication in full. His conclusion is that the 75 rock-markings claimed by Mr. Meston to be carvings are not of aboriginal origin, but are items in an extensive series of natural erosions which have in general occurred along lines

of inherent pneumatological weakness in the Mesozoic region. He also suggests that rock-lichens have played a not unimportant part in the process of erosion of the grooves, and in some instances may have initiated them.

#### Mammoth Remains in New Jersey

It is announced by the Academy of Natural Sciences of Philadelphia that five teeth and several fragments of bone of the mammoth (*E. primigenius*) have been discovered near Blackwood, New Jersey, twelve miles south-east of Philadelphia. The discovery was made in the course of work on the golf course of the Hidden Lake Country Club, and the remains were identified by Mr. Edgar B. Howard of the Academy's Department of Zoology. The teeth were found at a depth of 4 ft. within a small radius of what was once the bed of a fairly wide creek, now the bank of a streamlet. Each of the five teeth is fairly whole and one clearly shows the roots, of the size of a man's finger. In size the teeth range from 3 in. × 5 in. × 7 in. to 4 in. × 5½ in. × 9 in. and in weight from 3¼ to 6½ lb. each. The thin enamel ridges which traverse the chewing surface are still clearly visible. This constitutes the most impressive find of mammoth remains yet made in the eastern United States. Previously no more than a single tooth had been found in any one locality. Previous finds were at Trenton and North Plainfield, New Jersey, and five in Pennsylvania. In the Pleistocene epoch the mammoth had a distribution in North America ranging from Alaska, through British Columbia and the northern United States to the Atlantic, being a migrant by way of the Asiatic-Alaskan land-bridge from Siberia, where frozen specimens, complete with flesh, hide and wool, have been found in recent times. The fossils from Blackwood, with the tooth from Chadd's Ford, are now on exhibition in the museum of the Academy of Natural Sciences of Philadelphia.

#### Botany Collections at the Natural History Museum

The Godman Trustees have presented to the Department of Botany of the Natural History Museum a collection of about six hundred plants made by Mr. R. C. N. Young in north-east Angola (Lunda). The Department is particularly rich in Angolan plants having valuable collections from F. Welwitsch and J. Gossweiler. The present set of plants is of considerable interest as it is from an area so far botanically unknown. Three octavo volumes of British plants have been presented by Miss Jackson. The interest in these is bibliographical, as there is a printed title page giving publisher's name and date (1847); there is also a printed preface. The title reads "Specimen Flora or British Botany exemplified by Plants from a Collector's Cabinet". The plants were "arranged by the author of 'The Pictorial Flora'" [Mary Ann Jackson].

#### Birds of Northumberland

FOR the third time the Natural History Society of Northumberland, Durham, and Newcastle-upon-Tyne

has published a catalogue of the birds of the district—P. J. Selby in 1831, John Hancock in 1874, and now, as a worthy successor, appears George Bolam's list of 1932. It appears as a special part (vol. 8) of the *Transactions* of the Society, and in order to avoid undue repetition, it takes as its datum line Mr. Bolam's own list of 1912, in his "Birds of Northumberland and the Eastern Borders". Hancock's catalogue included 255 birds for Northumberland, by 1912 the number had risen to 282, now the number well exceeds 300, and this largely because of the finer analysis of species and racial forms. Of course quite a considerable number of the birds in this or any other local list are no more than accidental visitors, the presence of which really means very little from a local point of view. Here, for example, the smew, with four records, takes more space than the swallow, martin, and sand-martin all added together; and yet fluctuations in the numbers of these summer visitors would be more worth recording than the odd occurrences of the winter duck. From a scientific point of view, the day of usefulness of the county list, unless it becomes an intimate and detailed chronicle of local changes and fluctuations, is past, and we venture to think that the third Northumberland catalogue of birds will be the last, notwithstanding its particular value and appeal to the people of the county itself.

#### Pest Control and Wild Animal Life

IN many parts of the United States of America the destruction of agricultural pests has become an intensified and highly specialised warfare organised by State departments. But it has scarcely been realised that the destruction is apt to reach far beyond the pests at which it is aimed. This would appear to be true particularly of large scale use of thallium and strychnine baits, the former of which is preferred at most seasons and in most areas because it makes 'better kills' than other types of poison. Dr. Jean M. Linsdale has collected further facts concerning losses to wild life in California from these sources, and summarises the reports of 285 observers who have found dead mammals and birds (other, of course, than squirrels and coyotes) unquestionably killed during pest control campaigns (*Condor*, vol. 34, p. 121; 1932). The list occupies 13 pages of the magazine, and it must be remembered that it covers, as a rule, only conspicuous species—many others must have passed unnoticed or unidentified. The author is of opinion that the accelerated development of pest control methods and their uninterrupted practice could so change the native bird life of California within a few seasons that all previous activities for its preservation would be nullified. The publication of these facts, however, should induce the authorities to reconsider their methods of pest destruction.

#### The Cinematograph as an Aid to Histology

A NEW reconstructive technique is put forward by Messrs. Peacock and Price in the September issue of the *Journal of the Royal Microscopical Society*. Successive photographs of the sections in a uniform series are taken on standard cinema film and after-