

spite of all that has been accomplished during the last 25 years towards settling the debateable points of the theory of coral reefs, *much remains to be done.*

Most important is an extensive system of boring¹ at well-selected points, to include barrier and fringing reefs and atolls in volcanic and other districts, as well as elevated coralliferous limestone islands, or islands partly limestone and partly volcanic; to be supplemented by lines of soundings and dredgings taken from low-water mark to the depths at which oceanic slopes are met.

The data thus obtained would give us the pitch of the slope of the strata underlying a barrier and a fringing reef, and of its continuation beyond the outer edge of the barrier reef.

For an atoll the bore would indicate the width of the talus, the original dimensions of the summits upon which the recent reef rock material was deposited, and the extent of lateral growth, both seaward and lagoonward. This would give a degree of precision now wanting in Professor Agassiz's recorded observations.

"On whatever side" (says Professor Sollas) "judgement may ultimately be given in the question, the thanks of the scientific world must undoubtedly be conceded to Sir John Murray for having disturbed a decided opinion from its slumber, for having awakened a fresh interest in Darwin's theory, and in thus leading to renewed investigation, which is both adding to our knowledge and suggesting fresh inquiry." (*Natural Science*, vol. xiv, p. 36.)

Of the 236 plates accompanying this great work the bulk are by the 'Heliotype' process, which is much more successful in its results than the half-tone blocks. Those plates giving views of distant reefs are only a monotone, and, as pictures, are not a success. It is possible that the lens of the camera employed was not well adapted for distant landscapes.

The near views of scenery, on the contrary, are very beautiful, and many of them most charming both for the rock-structures and the vegetation.

We heartily commend this grand work to the attention of our readers as one of the most valuable contributions yet made to the general history of coral reefs.

III.—BRIEF NOTICES.

QUEENSLAND.—Bulletin 18² of the publications of the Geological Survey of Queensland contains, amongst other matter, No. 180, Geological Survey Report, which is of a most interesting nature, dealing with a land of which little is known. In it Mr. C. F. V. Jackson writes a "Report on a visit to the West Coast of Cape York Peninsula and some islands of the Gulf of Carpentaria; also reports on the Horn Island and Possession Island Goldfields, and

¹ This work has been admirably carried out at Funafuti, and we are anxiously looking for the publication of the results of the examination of the cores, which has been carried out by Professor J. W. Judd, Dr. G. J. Hinde, and Dr. E. W. Skeats.

² For earlier notice see *GEOL. MAG.*, July, 1903, p. 336.

the recent prospecting of the Cretaceous Coals of the Cork District" (1902). Some midden heaps near Albatross Bay are noticed, from 20 to 30 feet high and stretching for several hundred yards, also large deposits of pisolitic iron-ore at the Batavia River, and some recent calcareous beds overlying Desert Sandstone of Upper Cretaceous age at Sweers Island. There is in addition much information of a general character concerning this district.

Other Queensland publications recently received are: Annual Report for 1901; Coal Beds of Waterpark Creek, by W. E. Cameron, described as Trias-Jura in age, resting on Permo-Carboniferous slates; the Kangaroo Hills mineral-field, by W. E. Cameron, 1901, mainly economic, but with a geological map on which the age of the sedimentary beds is "undetermined"; and the Burrum Coal-field, by W. H. Rands (1886) and L. C. Ball (1901), 1902, with maps and plans. Here, again, the age of the coal-bearing beds is said to be Lower Trias-Jura. Fossils are apparently scarce in species, though plentiful in numbers, but no fossils have been found in the surface rock, and its age is therefore unknown, though in places it resembles the Maryborough Desert Sandstone, which is of Upper Cretaceous age.

MELBOURNE, NATIONAL MUSEUM.—Mr. Frederick Chapman has, we are informed, already made great strides towards the general arrangement of this Museum. We notice that in the Proceedings of the Royal Society of Victoria he has begun the description of "New or little-known Victorian Fossils in the National Museum, Melbourne." Those described in part i, range from Plantæ to Crustacea, and include an interesting Crinoid to which the name *Helicoerinus* has been given, and a new Phyllocarid, called by Mr. Chapman *Rhinopterocharis*. A great deal may be said as to the advisability of giving local names to forms by reason of supplying a clue to their locality, but we think Mr. Chapman would be more kindly thought of if he refrained from calling any more fossils 'wooriyallockensis'!

NORTH OF ENGLAND GEOLOGY.—Bibliographies of the geology of the North of England have appeared in *The Naturalist* since 1884. The one recently published by Mr. Thos. Sheppard for the year 1900 contains some 200 entries, to the majority of which are appended short notes of contents. These local lists are of considerable value, and we should like to see a special effort made to keep them more up to date.

PETROLEUM.—M. Romain Zaloziecki has published "O nitrowaniu nizej wracych frakcyj ropy galicyjskiej," in *Bull. Intern. Sci. Cracovie* (Avril, 1903). This may be englished as follows: "On the nitration of fractions of Galician petroleum of which the boiling point is slightly raised." The paper is in French. A further article on the petroleum industry in Peru during 1901 will be found in Spanish in the *Boletín del Cuerpo de Ingenieros de Minas del Peru*, a new periodical of which Nos. 1 and 2 (1902) have just reached us. It is issued at Lima by the Ministerio de Fomento.

MEDULLOSA.—Those who study fossil botany seem rather to work from a morphological than a systematic standpoint. Hence such works as Mr. Arber's "On the roots of *Medullosa anglica*" (Ann. of Botany, xvii) are of not infrequent occurrence. The first British specimens of *Medullosa*, one of the Palæozoic Cycadofilices, were described by Dr. Scott as recently as 1899. From sections of the roots of this plant, preserved at Cambridge, and which Mr. Lomax considers came from the Lower Coal-measures of Hough Hill Colliery, Stalybridge, Lancashire, Mr. Arber has been enabled to supplement Dr. Scott's very complete account. The result of this examination of fresh material has revealed a more complete knowledge of the thin-walled tissues which lie between the xylem and the periderm. The most noteworthy points are, the presence of a thin zone of phelloderm, the structure of the phloem, and the discovery of lateral sieve-plates in the phloem elements of both the stem and the roots. In the phloem of *Medullosa* we have another point of agreement between it and *Heterangium*. The structure of the root of *Heterangium tiliæoides* is at present unknown, but the phloem in the roots of *Medullosa anglica* closely resembles that of the stem in the former species. Excellent figures are given.

PERU.—Under the authority of Don Eugenio Larrabure y Unanue, Minister of Foreign Affairs in Peru, Mr. Eduardo Higginson, Consul of Peru, has issued a new map of the republic. This is not in any way geological, but will be found of great value by those who seek to localise specimens from that interesting country. The back of the map contains much printed matter of interest, and that relating to geological matters will be found under the heads of Guano, Artesian Wells, and Mineral Wealth.

REPORTS AND PROCEEDINGS.

I.—THE PALÆONTOGRAPHICAL SOCIETY OF LONDON.

ANNUAL GENERAL MEETING, June 26th, 1903.—Dr. Henry Woodward, F.R.S., President, in the chair. The Secretary read the fifty-sixth Report of the Council for the year ended 31st March, 1903. It referred to the satisfactory condition of the Society, and the unusually large volume, with varied contents, which had been issued for the year 1902. This volume contained instalments of the monographs of Pleistocene Mammalia (Cave Hyæna), Cretaceous Fishes, Cretaceous Lamellibranchia, and Graptolites. The receipts were £91 3s. 5d. less than those of the previous year, and there had been several losses by death and resignation. Special reference was made to the death of the Rev. Thomas Wiltshire, D.Sc., who was for thirty-seven years Secretary of the Society. The withdrawal of several small libraries was noticed, and an appeal was made for new personal subscribers. Besides the monographs of Cretaceous and Carboniferous Mollusca, Graptolites, Cretaceous and Carboniferous Fishes, and Pleistocene Mammalia, other works were also in active progress, among these monographs of Trilobites and