

excelling both the Indian and Atlantic Oceans in this respect. It may be assumed with great probability that by far the largest portion of the Pacific has a depth of between 2000 and 3000 fathoms, and that its bottom is covered either with Radiolarian ooze (§ 237) or with a red clay (§ 239), which contains many SPUMELLARIA and NASSELLARIA, and has probably been derived for a great part from broken down and metamorphosed Radiolarian ooze (see note A). Pure Radiolarian ooze was found by the Challenger eastwards in the Central Pacific (over a wide area between lat. 12° N. and 12° S., Stations 265 to 274), and also westwards in the latitude of the Philippines, twenty degrees to the east of them (between lat. 5° N. and 15° N.). The great abundance of Radiolaria present in the neighbourhood of the Philippines and in the Sunda Sea was already known from other investigations (note B). The red clay also, which covers a great part of the bottom of the North Pacific, and which was obtained of very constant composition by the Challenger between lat. 35° N. and 38° N., from Japan to the meridian of Honolulu (from long. 144° E. to 156° W.), is so pre-eminently rich in Radiolaria that it often approaches in composition the Radiolarian ooze, and has probably been derived from it. The track of the Challenger through the tropical and northern parts of the Pacific describes nearly three sides of a rectangle, which includes about half of the enormous Pacific basin, and from this as well as from other supplementary observations it may with great probability be concluded that by far the largest part of the bed of the Pacific (at least three-fourths) is covered either with Radiolarian ooze or with red clay, which contains a larger or smaller amount of the remains of Radiolaria. With this agrees also the important fact that the numerous preparations of pelagic materials and collections of pelagic animals, which were collected by the Challenger in the Pacific, almost always indicate a corresponding amount of Radiolarian life on the surface. This is true in particular also of the South Pacific, between lat. 33° S. and 40° S. (from long. 133° W. to 73° W., Stations 287 to 301); the surface of this southern region and the different bathymetrical zones were rich in new and peculiar species of Radiolaria.

A. Many specimens of bottom-deposits from the Pacific, which are entered in the Challenger lists either as "red clay" or "Globigerina ooze," contain larger or smaller quantities of Radiolaria, and the number of different species of SPUMELLARIA and NASSELLARIA which they contain is often so great that the deposit might have been almost as appropriately termed "Radiolarian ooze," *e.g.*, Stations 241 to 245, and 270, 271 (compare §§ 236-239).

B. Pacific Radiolarian ooze was first obtained by Lieutenant Brooke (May 11, 1859) between the Philippines and Marianne Islands, from a depth of 3300 fathoms (lat. 18° 3' N., long. 129° 11' E.). Ehrenberg, who first described it, found seventy-nine different species of Polycystina in it, and reported "that their quantity and the number of different forms increased with the depth" (Monatsber. d. k. preuss. Akad. d. Wiss. Berlin, 1860, pp. 466, 588, 766).

230. *Fauna of the Indian Ocean.*—As regards its Radiolarian fauna the Indian Ocean is the least known of the three great basins. Still the few limited spots, regarding which