

the accumulators were stretched to their utmost before it was finally got free. When it came to the surface the net was not torn, but the beam was scored and marked with streaks of black manganese peroxide. The fragments of tufa in the trawl were coated with manganese on one side, and appeared to have been torn away from larger masses, so that here as well as at several other Stations there were indications that the bed of the ocean was uneven, probably from volcanic disturbance.

At 1450 fathoms, 330 miles westward from Chiloe Island, the deposit was again a *Globigerina* ooze containing 82 per cent. of carbonate of lime. The mineral particles were chiefly minute fragments of sideromelan and palagonite, and peroxide of manganese. The pelagic Foraminifera in the deposit were chiefly *Globigerina* with a few *Orbulina* and *Pulvinulina*, and all these were very small and dwarfed, in this respect agreeing with those taken on the surface by means of the tow-nets.

The trawl again brought up a large number of animals and some manganese nodules. Some of these latter appeared to have been fragments torn from larger masses, and some had nuclei which seemed originally to have been portions of the ooze itself. This association of manganese nodules with altered volcanic fragments in a *Globigerina* ooze was frequently observed during the Expedition.

The deposit in 1325 fathoms was a blue mud containing 25 per cent. of carbonate of lime made up of pelagic and other Foraminifera, fragments of Polyzoa, Echinoderms, Ostracode shells, and fragments of other calcareous organisms. The mineral particles consisted chiefly of quartz and fragments of rocks and minerals derived from the continent.

Dr. P. P. C. Hoek's Reports on the Cirripedia<sup>1</sup> and Pycnogonida<sup>2</sup> collected by the Expedition form parts of the zoological series; he has prepared the following abstracts of his Reports:—

*The Cirripedia.*—"A very valuable collection of Cirripedia was made during the cruise of H.M.S. Challenger. It numbers about seventy-five species, eighteen of which were already known, fifty-seven being described in the Report as new to science. The great value of the collection, however, does not exclusively consist in the number of species or of the new ones alone; the objects themselves are highly important from different points of view.

"What a Cirripede Crustacean is, how it develops, grows, and lives, Darwin has taught us with great skill; his monographs, moreover, contain such excellent descriptions of all the genera and species known to him, that they must necessarily be considered as the foundation for all future investigators to build upon. To erect a superstructure on that foundation has, to a certain extent at least, been possible by the aid of the Challenger collection.

<sup>1</sup> Report on the Cirripedia (Systematic Part), by Dr. P. P. C. Hoek, Zool. Chall. Exp., part xxv., 1883. Report on the Cirripedia (Anatomical Part), by Dr. P. P. C. Hoek, Zool. Chall. Exp., part xxviii., 1884.

<sup>2</sup> Report on the Pycnogonida, by Dr. P. P. C. Hoek, Zool. Chall. Exp., part x., 1881.