

sometimes be observed in the body of the nodules, incorporated between the successive layers. There were six rounded or rolled pebbles; the largest, having in one direction a diameter of over 3 cm., was a basaltic rock, while the others were fragments of granitic and gneissic rocks. These pebbles are believed to have been ice-borne, this station being just beyond the borders of the region of floating ice in the southern hemisphere.

Twelve rounded pieces of pumice, the largest about the size of a hen's egg, were also met with; the outer portions were decomposed into earthy matter, and covered with layers of manganese, which also penetrated in the form of dendrites throughout the whole of the mass.

The magnetic spherules extracted from the deposit at this station, as well as from the manganese nodules, were numerous; some of them are represented in Pl. XXIII. figs. 1, 4, and 8.

Station 286, 2335 fathoms.—There were two layers in the sample of deposit obtained in the sounding tube, an upper dark-coloured layer containing but little carbonate of lime, and a lower light-coloured layer containing many *Globigerinæ* and Coccoliths. The trawl contained about two bushels¹ of manganese nodules and pumice stones, along with a large number of sharks' teeth and bones of Cetaceans. Pl. II. fig. 6 shows five of the nodules from this station. They are formed around sharks' teeth, or splinters of teeth, and small particles of pumice, and it will be seen from the figure that these are cemented into little groups of an irregular form. The striking characteristic of the nodules at this station is that the great majority of them are formed round fragments of teeth or of bone. Sometimes these organic fragments are surrounded by layers of manganese of considerable thickness, while at other times there is only a slight coating, although the bone may have dendrites of manganese ramifying throughout its whole mass, and the teeth are usually filled with manganese depositions. The manner in which the manganese penetrates and covers these organic fragments is represented by the figures on Pl. X.

Over 350 sharks' teeth and fragments were observed among the nodules; some of them are represented in Pl. V. figs. 8 and 9, Pl. VI. figs. 14 and 22, Pl. X. figs. 4 and 5. Numerous bones of Cetaceans were obtained at this station, including tympanic bullæ and detached petrous bones, beaks of Ziphioid whales, fragments of flat and spongy bones, and numerous other small fragments forming nuclei of the manganese nodules. Some of these are represented in Pl. VII. figs. 2, 3, 4, and 5, Pl. VIII. figs. 1, 2, 3, 6, 7, 8, 9, and 14, and Pl. X. figs. 1, 2, and 3.

A few of the nodules contained nuclei of basic volcanic glass and palagonite. There were several pieces of rolled pumice, and one large granitic pebble, over 3 inches in diameter, apparently ice-borne. Among the nodules were numbers of clayey concretions

¹ Over 70 litres.