

In depths greater than 2000 fathoms there was less than 50 per cent. of carbonate of lime, viz., 46 per cent. at 2075 fathoms, 26 per cent. at 2375 fathoms, still less in 2400 fathoms, and scarcely a trace in 2600 fathoms, thus showing a gradual diminution in the number of calcareous shells with increasing depth.

At several Stations the sounding tube had penetrated over a foot into the deposit, and on two occasions, viz., at 2025 and 2275 fathoms, there was much less carbonate of lime in the lower layers than in the upper ones, but on another occasion, in 2335 fathoms, the arrangement was the reverse of this, a red clay with only a few calcareous shells occupying the surface, and a Globigerina ooze with very many calcareous shells forming the deeper layers. There were very few remains of siliceous organisms in all these deposits, in which respect they are in marked contrast to the deposits of the Central and West Pacific.

The various dredgings and trawlings were successful with one exception, when the line parted and a trawl with 1600 fathoms of line were lost. The number of animals was not large. From 2550 fathoms there were several siliceous Sponges and Annelids, and two specimens of *Brisinga*, along with some Shrimps and a Scopelid Fish (*Bathypterois longicauda*, Günth.), which probably did not come from the bottom. In several trawlings in depths between 2000 and 2385 fathoms there were again several siliceous Sponges, a Holothurian (*Oneirophanta mutabilis*, Théel), *Hymenaster echinulatus*, Sladen, several Annelids and Hydroids, together with a few Fish and Crustaceans which probably came from intermediate depths. In depths less than 2000 fathoms animals were not much more abundant. The best haul was in 1825 fathoms, when seven specimens of larger animals were taken, including the following:—*Ophiomusium lymani*, Wyv. Thoms.; *Ophiotholia supplicans*, Lyman; *Cystechinus wyvillii*, A. Ag.; and *Polystomidium patens*, Hertwig. In addition to the animals here mentioned there were of course at all the Stations many Foraminifera living on the bottom—some attached to the nodules, some living in the mud, with either arenaceous or calcareous tests. There were many surface animals taken in the tow-nets during each day of the cruise, but the number of forms was much less than in the tropical waters.

By far the most interesting result of these trawlings and dredgings was the great number and variety of Sharks' teeth, bones of Cetaceans, manganese nodules, volcanic lapilli, and zeolitic minerals procured in all the greater depths. In these respects they resemble the trawlings between the Equator and Tahiti (see pp. 774, 775).

On the 6th October, from 2385 fathoms, there were over two bushels of manganese nodules, which were of two kinds, the one round with a concentric arrangement of layers, the other large slabs containing in the centre a volcanic tufa. There would appear to have been at this locality an old sea bottom of red clay, in which round manganese nodules had been formed; and then at a later date a fall of volcanic ashes, covering the bottom in some places to a depth of two inches. This fall of ashes, which