

mentioned were captured in the intermediate water, between a depth of 100 fathoms from the surface and a short distance from the bottom.

At 2425 fathoms there was a blue mud containing about 75 per cent. of mineral particles, the remainder of the deposit being composed of the remains of siliceous organisms and clayey matter; there was no trace of calcareous organisms.

In 600 fathoms the deposit was a green sand, containing 3 per cent. of carbonate of lime. In the sounding tube and in the trawl there were several small concretions, from 1 to 3 cm. in diameter, nodular, more or less elliptical, and varying in colour from grey-green to yellow-green. They were agglutinations of the clastic materials forming the deposit, and cemented together by a clayey matter united with a chloritic mineral, but were not very coherent. Cut into thin sections, they were seen to be formed of angular fragments of quartz (1.0 to 0.5 mm. in diameter), of felspars, some of which were triclinic, of hornblende, of glauconite, and of garnet. The argillaceous matter cementing this sand was finely granular, and impregnated with a green or yellowish chloritic substance, with vague outlines and non-birefringent, the same as that observed upon the isolated grains of the mud. With these sandy agglutinations were associated rounded elliptical fragments with a diameter of from 1 to 2 cm.; they were green, fine grained, could be scratched with steel, and at first sight appeared to have the grain and structure of glauconite. Examined with the microscope, they presented a greenish fundamental mass, with scattered colourless and irregular particles (0.05 mm. in diameter), and black and brown points which appeared to be organic. With polarized light the colourless particles with vague contours were seen to be crystalline, and were probably felspar or quartz. Other fragments with a coarser grain were seen under the microscope to be composed of felspar and quartz perfectly discernible, cemented and surrounded by chlorite.

The trawling on this occasion was one of the most productive of the whole cruise, there being in the net four fish and over two hundred specimens of invertebrates, chiefly belonging to the new genera and species first discovered by the Expedition.

The Deep-Sea Fishes.—Dr. A. Günther, F.R.S., is engaged in the preparation of a Report on these fishes, and the following general observations on their characteristic features are extracted chiefly from his recent Introduction to the Study of Fishes :¹—

Nothing was positively known as to the exact depths inhabited by deep-sea fishes until observations were made during the voyage of the Challenger. The results obtained by the Expedition afford a surer and more extended basis for the knowledge of deep-sea fishes.

The most striking characteristic found in many deep-sea fishes is in relation to the tremendous pressure under which they live. Their osseous and muscular systems are, as compared with the same parts of surface fishes, very feebly developed. The bones have a fibrous, fissured, and cavernous texture, are light, with scarcely any calcareous matter,

¹ An Introduction to the Study of Fishes, Edinburgh, 1880.