of 1,200 to 2,000 fathoms. The stones, some of them glaciated, were granite, diorite, amphibolite, mica schist, gneiss and quartzite. This deposit ceases and gives place to Globigerina ooze and red clay at 46° to 47° S., but even farther north there is sometimes as much as 49 per cent. of crystalline sand. In the Labrador current a block of syenite, weighing 400 lbs., was taken up from 1,340 fathoms, and in the Arctic current, 100 miles from land, was a stony deposit, some stones being glaciated. Among these were smoky quartz, quartzite, limestone, dolomite, mica schist, and serpentine; also particles of monoclinic and triclinic felspar, hornblende, augite, magnetite, mica and glauconite, the latter, no doubt, formed in the sea bottom, the others drifted from Eozoic and Palæozoic formations to the north.[1]

A remarkable fact in this connection is that the great depths of the sea are as impassable to the majority of marine animals as the land itself. According to Murray, while twelve of the *Challenger's* dredgings, taken in depths greater than 2,000 fathoms, gave 92 species, mostly new to science, a similar number of dredgings in shallower water near the land, give no less than 1,000 species. Hence arises another apparent paradox relating to the distribution of organic beings. While at first sight it might seem that the chances of wide distribution are exceptionally great for marine species, this is not so. Except in the case of those which enjoy a period of free locomotion when young, or are floating and pelagic, the deep ocean sets bounds to their migrations. On the other hand, the spores of cryptogamic plants may be carried for vast distances by the wind, and the growth of volcanic islands may effect connections which, though only temporary, may afford opportunity for land animals and plants to pass over.

With reference to the transmission of living beings across the Atlantic, we have before us the remarkable fact that from

[1] *General Report, "Challenger" Expedition.*