

may be added a few bottom-living Foraminifera, such as *Miliolina*, *Textularia*, and others, with remains of Echinoderms, Molluscs, and a few teeth of fish and Cephalopod beaks. It is very seldom, if indeed it ever happens, that the shells of Pteropods, Heteropods, and Coccospheres are found in a characteristic Red Clay from the deep sea.

In the above 70 samples Globigerinidæ are represented in 43 cases, bottom-living Foraminifera (*Miliolidæ*, *Textularidæ*, *Lagenidæ*, *Rotalidæ*, *Nummulinidæ*) in 34 cases, teeth of fish in 34 cases, Echinoderm fragments in 22 cases, Ostracodes in 10 cases; Lamelli-branches, Gasteropods, Brachiopods, otoliths of fish, Polyzoa, Cephalopod beaks, and bone fragments are more sparingly represented, while remains of Pteropods, Coccospheres, Cocoliths, and Rhabdoliths occur in a few exceptional cases.

The carbonate of lime in these Red Clays ranges from 0 in 13 cases, and traces in 21 cases, to 28.88 per cent. at Station 30, in 2600 fathoms—the average percentage of carbonate of lime in these 70 samples being 6.70 per cent. The relation of the carbonate of lime to depth is shown thus—

18 samples from 2000 to 2500 fathoms	contain on the average	8.39 per cent.	CaCO ₃
42	" 2500 to 3000	" "	7.16 " "
7	" 3000 to 3500	" "	0.88 " "
3	" over 3500	" "	2.38 " "

One doubtful sample from 3875 fathoms, where there was almost certainly an admixture of carbonate of lime from another station, causes the rise in the last subdivision over 3500 fathoms; otherwise the carbonate of lime would be represented merely by traces at these depths.

The remains of pelagic organisms with siliceous shells, skeletons, and frustules, are widely distributed in the Red Clay areas, though occasionally they would appear to be entirely absent from the deposits of these regions. When the Radiolarian remains increase in number so as to form a very considerable portion of the deposit, as in some tropical areas of the Pacific and Indian Oceans, the Red Clay passes into Radiolarian Ooze; when the Diatom remains in like manner increase, as in the Southern Ocean, the Red Clay passes into a Diatom Ooze, and in other regions into a Globigerina Ooze, or Blue Mud. The siliceous spicules of Sponges are found sometimes sparingly, sometimes in considerable abundance, in nearly all samples of Red Clay.

The mean percentage of siliceous organisms is 2.39. Radiolaria were observed to be present in 61 cases, Sponge spicules in 49 cases, Diatoms in 32 cases, arenaceous Foraminifera (*Astrorhizidæ*, *Lituolidæ*, *Textularidæ*) in 49 cases, and glauconitic casts of calcareous organisms in 2 cases.

According to the Challenger researches, life appears to be universally distributed over the floor of the ocean, but to be much less abundant on the red clay areas than on any of the other kinds of Marine Deposits, and apparently to reach its zero in the greatest depths