

position of these tissues in contact with sea-water and the sundry matters which it holds in solution and suspension, these salts may pass into the more stable compound of which the red clay is composed.

Our dredgings in the Atlantic, and a subsequent careful examination of the soundings, certainly give us the impression that the siliceous bodies, including the spicules of sponges, the spicules and tests of Radiolarians, and the frustules of diatoms, which occur in appreciable proportion in the globigerina ooze, diminish in number, and that the more delicate of them disappear in the transition from the calcareous ooze to the red clay; and it is only by the light of subsequent observations that we are now aware that this is by no means necessarily the case. I think it may be well to anticipate here these later results in order to make the nature of the deep-sea deposits more clear.

On the 23d of March, 1875, in the Pacific, in lat. $11^{\circ} 24' N.$, long. $143^{\circ} 16' E.$, between the Caroline and the Ladrone groups, we sounded in 4575 fathoms. The bottom was such as would naturally have been marked on the chart, from its general appearance, "red clay:" it was a fine deposit, reddish brown in color, and it contained scarcely a trace of lime. It was somewhat different, however, from ordinary red clay—more gritty; and the lower part of the contents of the sounding-tube seemed to have been compacted into a somewhat coherent cake, as if already a stage toward hardening into stone. When placed under the microscope, it was found to contain so large a proportion of the tests of Radiolarians, that Mr. Murray proposed for it the name "radiolarian ooze."

The RADIOLARIA, whose name recurs so frequently in these pages, and which play so important a part in supplying material for these new geological formations, are not very familiar to British naturalists. It seems that a very insignificant current of cold water passing southward from the Arctic Sea divides against the north of Scotland, the main body of it flowing into