from among several thousands, but not to give us the slightest indication of the ocean or depth from which the specimen was obtained. After examination, we have then marked regions on the chart in which we believed it was collected, stating at the same time the probable depth. In the great majority of cases, in about nine out of ten trials, the position could be stated within a few hundred miles and the depth within a few hundred fathoms. A few of the considerations on which we relied in making such determinations may fitly terminate this chapter on the methods of study.

The presence of large numbers of Pteropod and Heteropod shells indicates tropical or subtropical regions, and relatively shallow depths. Abundance of the shells of pelagic Foraminifera indicates the same regions, but when found without the shells of pelagic Molluscs they indicate a greater depth than when these latter are present. A very few fragments of these pelagic organisms, and consequently a low percentage of carbonate of lime, with abundance of the red and yellow oxides of iron and the black oxide of manganese, point out again still greater depths in the tropical regions. The presence or absence, and the size, of Rhabdoliths, Coccoliths, and Coccospheres give important indications as to latitude and depth—the first predominating in tropical regions, the two latter being better developed in temperate regions, and all disappear from the deposits as the polar waters are approached. Take again the remains of those lime-secreting organisms that habitually live at the bottom of the sea, such as Foraminifera, Polyzoa, Ostracodes, Molluscs, Corals, Annelids, and Algæ. The greater or less abundance of these in a deposit give most useful indications as to the depth and the distance from land at which the specimen was collected. These organisms are as a whole more abundant and better developed in shallow water, and in both these respects a change is observed in their fragmentary remains in greater depths and at a greater distance from land. Some species, however, denote, when present in abundance, ranges of depth. The greater or less abundance of some of the remains of the pelagic species give indications as to longitude; for instance, some pelagic species of Foraminifera are much more indicative of an Atlantic deposit than of a deposit from a similar latitude and depth in the Pacific.

In the same way the remains of siliceous organisms may furnish information as to depth and locality. The frustules of the large Diatom *Ethmodiscus*, Castracane, is quite characteristic of some of the deepest tropical Red Clays and Radiolarian Oozes far from land; it is quite absent in temperate and polar regions. A typical Diatom Ooze is only found in the neighbourhood of the great Southern Ocean surrounding the Antarctic continent, although some deposits that might be called Diatom Oozes are found in the most northern parts of the Pacific. A typical Radiolarian Ooze is limited to certain of the deeper tropical and subtropical portions of the Indian and Pacific Oceans.

When we consider the mineral particles, they too testify as to the conditions under which the deposit was formed. Typical glauconite and glauconitic casts appear to be