zones, at depths where the action of the waves is not felt, and in areas to which the terrigenous materials are rarely transported, forming vast accumulations of *Globigerina* and other pelagic Foraminifera, Coccoliths, Rhabdoliths, shells of pelagic Molluscs, and remains of other organisms. These deposits may perhaps be called the sediments of median depths and of warmer zones, because they diminish in great depths and tend to disappear towards the poles. This fact is evidently in relation with the surface temperature of the ocean, and shows that pelagic Foraminifera and Molluscs live chiefly in the warm superficial waters of the sea, whence their dead shells fall to the bottom. Globigerina ooze is not found in enclosed seas nor in polar latitudes. In the southern hemisphere it has not been met with beyond the 50th parallel. In the Atlantic it is deposited upon the bottom at a very high latitude below the warm waters of the Gulf Stream, but is not observed under the cold descending polar current which runs south in the same latitude. These facts are readily explained, when it is remembered that this ooze is formed chiefly by the shells of surface organisms, which require an elevated temperature and a wide expanse of sea. But as long as the conditions of the surface are the same, one would expect the deposits at the bottom also to remain the same; such is not the case. Globigerina ooze is rarely found in the tropical zone at depths exceeding 2400 fathoms; when depths of 3000 fathoms are explored in this zone of the Atlantic and Pacific, there is found an argillaceous deposit without, in many instances, any trace of calcareous organisms. In descending from the "submarine plateaux" to depths which exceed 2250 fathoms, the Globigerina ooze gradually disappears, passing into a greyish marl, and finally is wholly replaced by an argillaceous material which covers the bottom at all depths greater than 2900 fathoms.

The transition between the calcareous formations and the argillaceous ones takes place by almost insensible degrees. The thinner and more delicate shells disappear first. The thicker and larger shells lose little by little the sharpness of their contours, and appear to undergo a profound alteration; they assume a brownish colour, and break up in proportion as the calcareous constituent disappears. The red clay predominates more and more as the calcareous element diminishes in the deposit.

It has been noted that when the sounding rod brings up a graduated series of sediments from a declivity descending into deep water, among the calcareous shells those of the Pteropods and Heteropods disappear first in proportion as the depth increases. At depths less than 1400 fathoms in the tropics a Pteropod ooze is found with abundant remains of Heteropods and Pteropods; deeper soundings then give a Globigerina ooze without these Molluscan remains; and in still greater depths, as before mentioned, there is a red clay in which calcareous organisms are nearly, if not quite, absent. At first it would be expected that the Foraminiferal shells, being smaller, would disappear from a deposit before the Pteropod shells; but if it be remembered that the latter are very thin and delicate, and, for the quantity of carbonate of lime present, offer a larger surface to the