

limited to deposits now forming in relatively shallow depths in more or less close proximity to continental land, and especially along those high and bold coasts that are removed to some distance from the embouchures of rivers bearing abundance of fine silt into the ocean. Phosphatic and glauconitic nodules appear also to be indicative of deep water off continental shores.

In typical oceanic deposits, should there be any casts of the calcareous organisms, these are with few exceptions imperfect or mere skeletons, and are always of a reddish colour from the presence of ferric oxide. Quartz particles are relatively rare, or absent, in deposits far removed from the continents, with the exception of those regions affected by floating ice. They are, however, abundant along many continental shores for many miles seawards. Small round wind-borne fragments of quartz and other minerals are, however, found in the deposits many hundreds of miles to the west of the northern shores of Africa and off the shores of Australia. The size and nature of the mineral particles in an organic ooze, as well as the colour and amount of the amorphous clayey matter, or *fine washings* of our descriptions, very frequently enable us to tell the position from which the specimen was collected. Volcanic fragments, and especially glassy fragments and pieces of pumice stone, are in many cases markedly indicative of a deep-sea deposit; for instance, when these have undergone decomposition and are associated with nodules of manganese peroxide, sharks' teeth, bones of whales and cosmic spherules, we are sure that the specimen must have come from the greatest depths of the ocean, far removed from large masses of continental land.

Such are some of the main points on which we would rely for determining the position and depth from which a specimen of any deposit might have been procured were these unknown, but there are many others which have not been touched upon. Enough has been said, however, to show that at the present time a careful study of a deposit enables us to state with much precision the conditions under which it must have been laid down.

The application of the same reasoning to those geological strata which resemble modern marine formations is at once apparent.