

There is also no evidence, in any part of any ocean, that there is a set of cold-water corals fitted to commence a reef in deep water and build it up to such a level that another set of species may take it and carry it up higher; the facts thus far gathered are all opposed to such an idea. Should it be hereafter proved that the corals of the inferior beds differ in species from those now existing, it will probably be found that the predecessors of those now living were also shallow-water species; so that the subsidence in any case was necessary.

#### V. DEEP-SEA LIMESTONES SELDOM IF EVER MADE FROM CORAL ISLAND OR REEF DEBRIS.

This point has been discussed on pages 114, 173. The facts show that the sediment or débris from a shore is almost wholly thrown back by the waves against the land where it originated, or over its submerged part in the shallow waters, and that it is not transported away to make deep-sea formations.

The facts have also a wider bearing, for they teach that lands separated by a range of deep ocean cannot supply one another with material for rocks. The existence of an Atlantic ocean continent—an Atlantis—has sometimes been assumed in order to make it a source of the mud, sand and gravel, out of which the thick sedimentary formations of the Appalachian region of North America were made. But if this Atlantis were a reality, there would still have been needed, in addition to the presence of such an ocean continent, a set of freight-carriers that could beat off the waves from their accustomed work, and push aside the ordinary oceanic currents; or else Atlantis would get back all its own dirt.

#### VI. ABSENCE OF FOSSILS FROM LIMESTONE STRATA.

Absence of fossils has been mentioned as a frequent characteristic of the fine compact coral reef-rock, and also of the beach and drift sand-rock or oölite (pp. 122, 158). The rocks are formed at the sea-level, and in the midst of abundant life,