

There is no reason to believe that such aid from shells or Rhizopods is consistent with the grouping of living corals thickly enough to form reefs.

The other kind of limestone beds referred to, where unmixed with the former, grow up in compact layers to the surface, as a necessary consequence of wave-action; and limestones are made in such regions, instead of sandstones and shales, because the material exposed to degradation is corals and shells, instead of common rocks.

The facts show that there are formed about coral-reefs, in indefinite amount, all the ordinary products of degradation by wave-action—fragments large and small, down to sand, and even mud. With such an agent as the ocean's waves, driven often by the storm, so powerful and so persistent at lifting, rending, grinding, and transporting, it is of little account, at least about outer reefs, that some coral stems or masses are first weakened below by the boring sponge or mollusk; and neither fish, nor holothurian, nor alcyonoid is needed, in order to keep up the supply of particles for sand or mud-beds. In accordance with these facts, the reef-formations illustrate that not only coral conglomerates, or *coral rag*, may be made of corals, but also the very finest and most compact unfossiliferous limestones; that fine compact limestone, as flint-like in fracture as any of Silurian time, is one of the most common of coral-reef rocks, and is nothing but consolidated mud, or fine sand, of coral origin.

The elevated portion of the island of Matea, which consists largely of this kind of white, compact, coral-made limestone, appears to correspond to the interior of the original lagoon of the island; it exemplifies the kind of rock-making which is going forward in most coral-island lagoons. In archipelagos like that of the Feejees, where the reef channels are very broad, there is an opportunity for the formation of very large areas of this compact white limestone, and also for others of impure or argillaceous limestones.

Besides the kinds of coral-rocks above mentioned, there are also the *Beach* and *Drift Sand-rocks*, which are accumulated