

In the Alcyonia family, which includes semi-fleshy corals, and in the Gorgoniæ, the lime is often scattered through the polyps in granules; and the process of death sets these calcareous grains free, which are constantly added to the coral sands. The same process has been supposed to take place in the more common reef corals, the Madreporæ and Astræas, and it is possible that this may be to some extent the case. Yet it would seem, from facts observed, that after the secretion has begun within the polyp, the secretion of lime going on takes place *against* the portions already formed and in direct union with them, and not as granules to be afterward cemented.

The *mud-like* deposits about coral reefs (pp. 113, 149, 167) have been attributed to the causes just mentioned, but without due consideration. There is an unfailing and abundant source of this kind of material in the self-triturating sands of the reefs acted upon by the moving waters. On the seaward side of coral islands, and on the shores of the larger lagoons, where the surface rises into waves of much magnitude, the finer portions are carried off, and the coarser sand remains alone to form the beaches. This making of coral sand and mud is just like that of any other kind of sand or mud. It takes place on all shores exposed to the waves, coral or not coral, and in every case the gentler the prevailing movement of the water, the finer the material on the shore. In the smaller lagoons, where the water is only rippled by the winds, or roughened for short intervals, the trituration is of the gentlest kind possible, and, moreover, the finely pulverized material remains as part of the shores. Thus the fine material of the mud must be constantly forming on all the shores, for the sands are perpetually wearing themselves out; but the particles of the fine mud, which is washed out from the beach sands, *accumulates* only in the more quiet waters some distance outside of the reef, and within the lagoons and channels, where it settles. This corresponds exactly with the facts; and every small lake or region of quiet waters over our continent illustrates the same point.