fathoms; they appear, indeed, not to thrive below a depth of six or seven fathoms. They cannot survive exposure to sun and air, and consequently are unable to grow above the level of the lowest tides. They are likewise prevented from growing by the presence of much mud in the water. Various observations and estimates have been made of the rate of growth of coral. Individual specimens of *Mæandrina* have been found to increase from half an inch to an inch in a year, and others of *Madrepora* have grown three inches in the same time.[371] Specimens of *Orbicella*, *Manicina*, and *Isophyllia*, taken from the submarine telegraph-cable between Havana and Key West, showed a growth of from one to two and a half inches in about seven years. A. Agassiz estimates that in the Florida reef the corals could build up a reef from a depth of seven fathoms to the surface in 1000 or 1200 years.[372] When coral-reefs begin to grow, either fronting a coast-line or on a submarine bank, they continue to advance outward, the living portion being on the outside, while on the inside the mass consists of dying or dead coral, which becomes a solid white compact limestone. In the coral area of the Pacific there are, according to Dana, 290 coral-islands, besides extensive reefs round other islands. The Indian Ocean contains some groups of large coral-islands; others occur in the Red Sea. Reefs of coral occur less abundantly in the tropical parts of the Atlantic, among the West Indian Islands and on the Florida coast, but they are absent from the Pacific side of Central America—a fact attributed by Prof. Agassiz not to a cold marine current, as suggested by Prof. Dana, but to the enormous amount of

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[371] Dana, "Corals and Coral Islands," 2d edit. 1890, p. 123.

[372] Amer. Acad. xi. 1882, p. 129. See also Bull. Mus. Comp. Zool. Harvard, xx. 1890, p. 61.