

thick, quite soft before exposure to the air, but hardening thereafter, and much of it exhibiting a confused crystallization.³⁶⁸ It is known locally as Coquina. The calcareous dunes of Bermuda have been already referred to (p. 573).

*Coral-reefs.*³⁶⁹—But the most striking calcareous formations now in progress are the reefs and islands of coral. These vast masses of rock are formed by the continuous growth of various genera and species of corals, in tracts where the mean temperature is not lower than 68° Fahr. Coral-growth is prevented by colder water, and by the fresh and muddy water discharged into the sea by large rivers. One of the essential conditions for the formation of coral-reefs is abundance of food for the reef-builders, and this seems to be best supplied by the great equatorial currents. It is observed that on the eastern coasts of Africa, Central America, and Australia, bathed by ocean currents, extensive coral-reefs flourish, while on the western coasts, in corresponding latitudes, where no such powerful currents flow, only isolated patches of coral exist.³⁷⁰

Darwin and Dana have shown that reef-building corals cannot live at depths of more than about fifteen or twenty

³⁶⁸ H. D. Rogers, Brit. Assoc. Rep. 1834, p. 11.

³⁶⁹ See Darwin, "The Structure and Distribution of Coral Islands," 1842; 2d edit. 1874; Dana, "Corals and Coral Islands," 1872; 2d edit. 1890; Jukes's "Narrative of Voyage of H.M.S. 'Fly,'" 1847; C. Semper, Zeitsch. Wissen. Zool. xiii. 1863, p. 558; Verhandl. Phys. Med. Gesellsch. Würzburg, Feb. 1868; "Die Philippinen und ihre Bewohner," 1869, p. 100; J. J. Rein, Senckenb. Naturf. Ges. Würzburg, 1869-70, p. 157. Murray, Proc. Roy. Soc. Edin. x. p. 505, xvii. 1889, p. 79; A. Agassiz, Mem. Amer. Acad. xi. 1882, p. 107; Bull. Mus. Compar. Zool. Harvard, 1889, No. 3. C. P. Sluiter, on the coral-reefs of the Java Sea, Natuurkund. Tijds. Nederl. Indië. xlix. 1890; J. Walther, on the coral-reefs of the Sinai peninsula, Abhand. Math.-Phys. Kön. Sachs. Gesell. xiv. 1888; H. B. Guppy, Trans. Roy. Soc. Edin. xxxii. 1885, "The Solomon Islands," 1887; J. C. Bourne, Nature, 1888, pp. 414, 546; J. O. Wharton, *ibid.* p. 393; A. Heilprin, "The Bermuda Islands," 1889, Proc. Acad. Nat. Sci. Philadelphia, 1890, p. 303; Jukes Brown and Harrison, Barbadoes, Quart. Journ. Geol. Soc. xlvii. 1891, p. 197; Walther, Peterm. Mitth. Ergänz. No. 102, 1891.

³⁷⁰ A. Agassiz, Amer. Acad. xi. 1882, p. 120.