

times more than a hundred in number, each of which is a miniature atoll in itself; in other words, a ring-shaped strip of coral surrounding a lagoon of salt water. To account for the origin of these, Mr. Darwin supposes the larger annular reef to have been broken up into a number of fragments, each of which acquired its peculiar configurations under the influence of causes similar to those to which the structure of the parent atoll has been due. Many of the minor rings are no less than three, and even five miles in diameter, and some are situated in the midst of the principal lagoon; but this happens only in cases where the sea can enter freely through breaches in the outer or marginal reef.

The rocks of the Maldivas are composed of sandstone formed of broken shells and corals, such as may be obtained in a loose state from the beach, and which is seen when exposed for a few days to the air to become hardened. The sandstone is sometimes observed to be an aggregate of broken shells, corals, pieces of wood, and shells of the cocoa-nut.*

The Laccadive islands run in the same line with the Maldivas, on the north, as do the isles of the Chagos Archipelago, on the south; so that these may be continuations of the same chain of submerged mountains, crested in a similar manner by coral limestones.

Origin of the circular form—not volcanic.—The circular and oval shape of so many reefs, each having a lagoon in the centre, and being surrounded on all sides by a deep ocean, naturally suggested the idea that they were nothing more than the crests of submarine volcanic craters overgrown by coral; and this theory I myself advocated in the earlier editions of this work. Although I am now about to show that it must be abandoned, it may still be instructive to point out the grounds on which it was formerly embraced. In the first place, it had been remarked that there were many active volcanos in the coral region of the Pacific, and that in some places, as in Gambier's group, rocks composed of porous lava rise up in a lagoon bordered by a circular reef, just as the two cones of eruption called the Kamenis have made their appearance in the times of history within the circular gulf of Santorin.† It was also observed that as in S. Shetland, Barren Island, and others of volcanic origin, there is one narrow breach in the walls of the outer cone by which ships may enter a circular gulf, so in like manner there is often a single deep passage leading into the lagoon of a coral island, the lagoon itself seeming to represent the hollow or gulf just as the ring of dry coral recalls to our minds the rim of a volcanic crater. More lately, indeed, Mr. Darwin has shown that the numerous volcanic craters of the Galapagos Archipelago in the Pacific have all of them their southern sides the lowest, or in many cases quite broken down, so that if they were submerged and incrustated with coral, they would resemble true atolls in shape.‡

* Captain Moresby on the Maldivas, Journ. Roy. Geograph. Soc., vol. v. part ii. p. 400.

† See above, p. 426.

‡ Darwin, Volcanic Islands, p. 113.