

incrustations, and at first sight presenting a fallacious resemblance to a Coral such as *Millepora*.

The margins of the reefs inside the lagoons presented quite a different appearance from those on the seaward face outside. Here they were fringed with living coral, sloped downwards and outwards for a few feet, and then plunged at once to depths of 10 and 16 fathoms. Many of them were overhanging, and in one place a large ledge seemed recently to have fallen away, and to have rendered the water shallower alongside the reef. These overhanging or mushroom-shaped reefs inside lagoons or lagoon-channels have been frequently described by Jukes and others. The deposit in the lagoons was in some places a coral sand and in others a volcanic mud. The reefs at Tahiti have been described both by Darwin and Dana as examples of barrier reefs, but for miles the reefs have quite a fringing character; in other places there is only a small channel across which the natives wade to the edge of the barrier, or there is a boat passage; in other places, as at Papieté, there is a ship channel, or a commodious harbour, while there are some portions of the coast where no reefs exist.

The island of Tahiti is surrounded by a belt of fertile land from 3 to 4 miles wide, and in some places the alluvium rests on portions of the shore reef in such a way as to indicate that the island had been recently elevated.

According to Mr. Murray the observations of the reefs at Tahiti support the view that the reefs have been built from the shore seawards, and that the lagoons have been, and are still being, formed by the removal of the inner and dead portions of the coral reef by the solvent action of sea water. The islands in the harbour and lagoons are regarded as portions of the reef which have been left standing, but will ultimately be removed, and in confirmation of this it is pointed out that on the inner part of the reef there are large and massive specimens of the coral which are now dead, but which probably flourished at the time when the outer edge of the reef was at the position in which they are now found. The steep slope which is found on the outer edge of the reef, between the depths of 35 and 200 fathoms, is believed to be formed by huge masses and heads of coral which have been torn away from the ledge between the edge of the reef and 35 fathoms during storms, or by overhanging masses which have fallen by their own weight. In this way a talus has been formed on which the corals living down to 35 fathoms have found a foundation on which to build further seawards, for this seaward slope is the great growing surface of the reef. The food supply for the masses of living coral on the outer slope of the reef is brought by the oceanic currents sweeping past the islands, a fact in relation with the more vigorous growth of the reef on the windward sides. It is maintained by Mr. Murray¹ that the whole of the phenomena of the Tahiti reefs may be fully explained by reference to the processes at present in action, and without calling

¹ On the Structure and Origin of Coral Reefs and Islands, by John Murray, *Proc. Roy. Soc. Edin.*, vol. x. pp. 505-518, 1880.