

shallow water for a distance of six or seven miles ; the water deepened to ten or eleven fathoms the first mile, fifteen the second, and at the last throw of the lead there were still but twenty-five-fathoms. Christmas Island affords on its western side another example of gradually deepening waters. Yet these shallow waters terminate finally in a rapid declivity of forty or fifty degrees:

Off the prominent angles of an atoll, soundings generally continue much beyond the distance elsewhere, as was first observed by Beechey. At Washington Island, mostly abrupt in its shores, there is a bank, according to the surveys of the Expedition, extending from the east point to a distance of half a mile, and another on the west extending to a distance of nearly two miles. At Kuria, one of the Kingsmills, soundings continue for three miles from the north extremity, along a bank stretching off from this point to the north northwest. Many other instances might be cited, though they are seldom as remarkable ; yet nearly all islands, especially if the points are much prominent, afford similar facts. The Florida reefs, according to Prof. Agassiz, have a gradual slope to seaward instead of the abruptness of the Bahamas. As corals may grow on submerged land of any form, there is no reason why the bottom around should not often deepen gradually. It has been said that the reef to leeward is generally less abrupt than that to windward, but facts thus far obtained are not sufficiently definite or extensive to settle this question. It is probably true, yet the difference, if any, must be small.

### III. STRUCTURE OF CORAL ISLANDS.

The descriptions of reefs and their islets already given apply with equal force to coral islands. By transferring here the statements respecting the former, we should have a nearly complete account of the latter. The same causes, with scarcely an exception, are at work :—the growing of coral zoophytes, and the action of the waves, of oceanic currents, and of the winds. This resemblance will be rendered more