

and is five miles in length by one in breadth. It has a flat surface, and, on all sides, except the north, is bounded by perpendicular cliffs about fifty feet high, composed entirely of dead coral, more or less porous, honey-combed at the surface, and hardening into a compact calcareous mass, which possesses the fracture of secondary limestone, and has a species of millepore interspersed through it. These cliffs are considerably undermined by the action of the waves, and some of them appear on the eve of precipitating their superincumbent weight

Fig. 97.



Elizabeth, or Henderson's Island.

into the sea. Those which are less injured in this way present no alternate ridges or indication of the different levels which the sea might have occupied at different periods; but a smooth surface, as if the island, which has probably been raised by volcanic agency, had been forced up by one great subterraneous convulsion.* At the distance of a few hundred yards from this island, no bottom could be gained with 200 fathoms of line.

It will be seen, from the annexed sketch, communicated to me by Lieutenant Smith, of the Blossom, that the trees came down to the beach towards the centre of the island; a break at first sight resembling the openings which usually lead into lagoons; but the trees stand on a steep slope, and no hollow of an ancient lagoon was perceived.

Beechey also remarks, that the surface of Henderson's Island is flat, and that in Queen Charlotte's Island, one of the same group, but under water, there was no lagoon, the coral having grown up every where to one level. The probable cause of this obliteration of the central basin or lagoon will be considered in the sequel.

That the bed of the Pacific and Indian oceans, where atolls are frequent, must have been sinking for ages, might be inferred, says Mr. Darwin, from simply reflecting on two facts; first, that the efficient coral-building zoophytes do not flourish in the ocean at a greater depth than 120 feet; and, secondly, that there are spaces occupying areas of many hundred thousand square miles, where all the islands consist of coral, and yet none of which rise to a greater height than may be accounted for by the action of the winds and waves on broken and triturated coral. Were we to take for granted that the floor of the ocean had remained stationary from the time when the coral began to grow, we should be compelled to assume that an incredible number of submarine mountains of vast height (for the ocean is always deep, and often unfathomable between the different atolls,) had all come to within 120 feet of the surface, and yet no one mountain had risen above water. But no sooner do we admit the theory of subsidence, than this great difficulty vanishes. However

* Beechey's Voyage to the Pacific, &c., p. 46.