

two-thirds of its height (or of the fifty feet), was only fifteen feet in diameter along its upper half; and it supported above a great tabular mass one hundred feet in diameter, whose top was bare at low tide. The tide at this place is but two feet, and this is favourable to the preservation of such top-heavy structures. In many places, he says, these tops have joined together, leaving arches between them; and in some parts of the reef-region such united coral-heads cover acres in extent, being joined together above and supported by their pillars. A case is reported of a whale having gone through one of these under



THE LIXO CORAL REEF, ABROLHOS.

passages after being struck with a harpoon. Mr. Whipple also states that there are cavernous recesses in some of these heads, some that are 200 to 300 feet across; and "when there is a heavy swell on, the water is one entire sheet of white foam, caused by its being forced through them and the air entering as the heavy sea recedes from them."

Professor C. F. Hartt, in his "Geology, &c., of Brazil" (1870), describes very similar coral-heads in his account of the reefs of the Abrolhos, and represents a scene of coral-head tops in a sketch, of which the preceding is a copy. Professor Hartt