in the same spots for centuries. It is supposed that some of them may vie in age with the most ancient trees of Europe. Ehrenberg also observed single corals of the genera Meandrina and Favia, having a globular form, from six to nine feet in diameter, "which must (he says) be of immense antiquity, probably several thousand years old, so that Pharaoh may have looked upon these same individuals in the Red Sea."* They certainly imply, as he remarks, that the reef on which they grow has increased at a very slow rate. After collecting more than 100 species, he found none of them covered with parasitic zoophytes, nor any instance of a living coral growing on another living coral. To this repulsive power which they exert whilst living, against all others of their own class, we owe the beautiful symmetry of some large Meandrinæ, and other species which adorn our museums. Yet Balani and Serpulæ can attach themselves to living corals, and holes are excavated in them by saxicavous mollusca.

At the island called Taaopoto, in the South Pacific, the anchor of a ship, wrecked about 50 years before, was observed in seven fathom water, still preserving its original form, but entirely incrusted by coral.† This fact would seem to imply a slow rate of augmentation; but to form a correct estimate of the average rate must be very difficult, since it must vary not only according to the species of coral, but according to the circumstances under which each species may be placed; such, for example, as the depth from the surface, the quantity of light, the temperature of the water, its freedom from sand or mud, or the absence or presence of breakers, which is favourable to the growth of some kinds and is fatal to that of others. It should also be observed that the apparent stationary condition of some coral reefs, which according to Beechey have remained for centuries at the same depth under water, may be due to subsidence, the upward growth of the coral having been just sufficient to keep pace with the sinking of the solid foundation on which the zoophytes have built. We shall afterwards see how far this hypothesis is borne out by other evidence in the regions of annular reefs or atolls.

In one of the Maldiva islands a coral reef, which, within a few years, existed on an islet bearing cocoa-nut trees, was found by Lieutenant Prentice, "*entirely covered with live coral and madrepore.*" The natives stated that the islet had been washed away by a change in the currents, and it is clear that a coating of growing coral had been formed in a short time.‡ Experiments, also, of Dr. Allan, on the east coast of Madagascar, prove the possibility of coral growing to a thickness of three feet in about half a year§, so that the rate of increase may, under favourable circumstances, be very far from slow.

It must not be supposed that the calcareous masses termed coral reefs are exclusively the work of zoophytes; a great variety of shells,

* See Ehrenberg's work above cited, p. 751.

† Stutchbury, West of England Journal, No. i. p. 49.

‡ Darwin's Coral Reefs, p. 77.

§ Ibid. 78.