

streams, and much resembles Hawaii in character; it bears proof in every part of being the last seat of the volcanic fires of the Samoan Group. Its reefs are consequently few and small: there is but a narrow line on part of the northern shores, although on the other islands they are very extensive.

This absence of corals results obviously from the destruction of the zoöphytes by heat, consequent on volcanic action. Submarine eruptions, which are frequent as long as a volcano near the sea is in action, heat the waters and destroy whatever of life they may contain. After the eruption of Kilauea, in 1840, there were numerous dead fish thrown on the beach; and many such instances in different regions are on record.

The agencies affecting the growth of coral reefs being before the mind, we may proceed to notice the actual distribution of reefs through the coral seas. The review given is a rapid one, as our present object is simply to explain the absence or presence of reefs within the coral-reef limits by reference to the above facts.

In the valuable work by Mr. Darwin, the geographical distribution of reefs is treated of at length. The facts here detailed have been obtained from independent sources, except where otherwise acknowledged. In accounting for the character and distribution of reefs, Mr. Darwin appears to attribute too much weight to a supposed difference in the change of level in different regions, neglecting to allow the requisite limiting influence to volcanic agency, and to the other causes mentioned. His conclusion that the areas of active volcanoes in general are areas of elevation, and not of subsidence, and the inference that reefs are absent from the shores of islands of recent volcanic action on this account do not accord with the facts above stated: for example, the condition of Maui, that it has no reefs on the larger half, that of the volcanic cone of recent action, but has them on the other half whose fires were long since extinct; for it is not probable that one end has been undergoing elevation and the other subsidence.

*Pacific Ocean.*—The west coast of South America is known to be without coral reefs even immediately beneath the