

“Through the channels and among the inner reefs of the Australian reef-region,” says Jukes, “they run sometimes with an impetuous sweep in the same direction even for two or three days together, especially after great storms have driven large quantities of water into the space between the outer edge and the land.”

A current of the kind here represented will carry out much coral débris, and strew it along its course. The transported material will vary in amount from time to time, according to the force and direction of the current. It is therefore evident that the ground over which it runs must be wholly unfit for the growth of coral, since most zoöphytes are readily destroyed by depositions of earth or sand, and require, for most species, a firm basement. Or if the flow is very strong, it will scour out the channels and so keep them open. The existence of an opening through a reef may require, therefore, no other explanation; and it is obvious that harbours may generally be expected to exist wherever the character of the coast is such as to produce currents and give a fixed direction to them.

The currents, about the reef grounds west of the large Feejee Islands, aid in distributing the débris both of the land and the reefs. In some parts, the currents eddy and deposit their detritus; in others they sweep the bottom clean. Thus, under these varying conditions, there may be growing corals over the bottom in some places and not in others; and the reefs may be distributed in patches, when without such an influence we might expect a general continuity of coral reef over the whole reef-grounds.

The results from marine currents are often increased by waters from the island streams; for the coves, where harbours are most likely to be found, are also the embouchures of valleys and the streamlets they contain. The fresh waters poured in add to the amount of water, and increase the rapidity of the out-current. At Apia, Upolu, there is a stream thirty yards wide; and many other similar instances might be mentioned. These waters from the land bring down also much detritus, especially during freshets, and the depositions aid those from