The coral islands of the Pacific may be classified into three groups. These are:

1. Islands with fringing reefs
2. Islands with barrier reefs
3. Coral atolls

Charles Darwin, in 1837, published the first clear explanation of the origin of these forms and the relationships existing among them. Darwin stated that the fringing reefs formed close inshore, in the shallow water preferred by the polyps. As the central island slowly subsided the fringing reef became a barrier reef due to the flooding of the lagoon now present between the reef and the new strand line. The base of the reef subsided with the island but the top remained near the surface due to the upbuilding of the polyps. The polyps are restricted to depths of approximately 200 feet or less and when the rate of subsidence exceeded the rate of building and carried the top of the reef below the critical depth, the reef was drowned and the sea animals destroyed. Subsidence of the island below the surface of the sea, combined with the building of the reefs by the polyps produced an atoll. These atolls are usually a closed figure, with numerous narrow or wide passages leading into the centrally located lagoon. Many of them approach a circular shape, but this is slightly variable.

Darwin's theory was widely accepted for many years. In the 1870's many objections were presented but none of these stood up. Daly presented the first serious contradiction of Darwin's theory, with his glacial control theory. Daly postulated the following:

1. Sea level was reduced 150 to 300 feet by the transformation of water into ice during the time of the Pleistocene continental glaciers.

2. The cooling of the marine waters by the large scale glaciation had inhibited coral growth.

3. Wave cut terraces and wave built terraces were built to conform to the lowered level of the sea. These were present as nearly flat or gently sloping surfaces extending seaward.

4. With the waning of the glaciers and the warming of the seas, the polyps started building reefs on these newly developed terraces. These reefs were raised as the water was returned to the sea from the glaciers, by the accelerated rate of development of the polyps.

5. Where the erosion during glacial times had reduced the original islands below the post-glacial level of the sea, atolls were

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