

C. Probable evidence of subsidence now in progress.

1. *An atoll reef without green islets, or with but few small spots of verdure.*—The accumulation requisite to keep the reef at the surface-level, during a slow subsidence, renders it impossible for the reef to rise above the waves and supply itself with soil, unless the subsidence is extremely slow, or has wholly ceased.

From the above review of evidences of change of level, it appears that *where there are no barrier reefs, and only fringing reefs, the corals may afford no evidence of subsidence.* But it does not follow that the existence of only fringing reefs, or of no reefs at all, is proof *against* a subsidence having taken place. For we have elsewhere shown that through volcanic action, and at times other causes, corals may not have begun to grow till a recent period, and therefore we learn nothing from them as to what may have previously taken place. While, therefore, a distant barrier is evidence of change of level, we can draw no conclusion either one way or the other, as is done by Darwin, from the fact that the reefs are small or wholly wanting, until the possible operation of the several causes limiting their distribution has been duly considered.

The influence of volcanoes in preventing the growth of zoöphytes extends only so far as the submarine action may heat the water and it may therefore be confined within a few miles of a volcanic island, or to certain parts only of its shores.

There are two epochs of changes in elevation which may be here distinguished and separately considered. 1. The subsidence indicated by atolls and barrier reefs. 2. Elevations during more recent periods.

II. SUBSIDENCE INDICATED BY ATOLLS AND BARRIER REEFS.

Looking at atolls as covering buried islands, we observe, that through the equatorial latitudes such marks of subsidence abound, from the Eastern Paumotu to the Western Carolines, a distance of about six thousand geographical miles. In the