

is also as a whole one of elevation. The same is true of the volcanic islands of the Pacific, and also of Java, which contains many active volcanoes, and around the shores of which there are old coral reefs 140 feet above the level of the sea. Under other circumstances a great number of coral reefs of the kind called atolls and barrier reefs, yield, according to Darwin, perfect evidence of depression of land. In the Pacific an area more than 4,000 miles in length is now undergoing this kind of submergence. The same takes place in the Laccadive and Maldive archipelagos in the Indian Ocean. All these islands are non-volcanic. Where volcanoes occur the land is generally rising.

During such depressions strata may accumulate to an immense thickness under favourable conditions of supply, and time being also allowed for consolidation, when these are again upheaved they will, both as regards quantity and structure, be more apt to resist destruction than smaller masses of (probably) softer strata that were formed during periods of minor oscillations of sea and land.

Strata are consolidated (petrified) chiefly by pressure and chemical decomposition and recombination. Some formations are many thousands of feet in thickness. In a set of strata 10,000 feet thick, the superincumbent weight on the lowest bed would be about 12,333 lbs. per square inch; but beside this, more intense pressures have taken place throughout all but the very latest geological epochs. This kind of pressure has been brought about by contraction of the crust of the earth due to radiation of the proper heat of our globe into space, the result being, that over broad areas rocky masses have been much contorted and compressed, and thus mountain ranges have been upheaved. In some