

maintain the average balance of sea and continent, the amount of land elevated must exceed that depressed, or be equal to the amount of that depressed by gradual submergence, added to that destroyed by degradation.

The evidences of past elevation and depression are simple. 1st. A large proportion of the rocks in many mountain ranges, however high above the sea, contain marine fossils, generally of extinct species. Such strata are in great part highly disturbed, broken, contorted, often pierced by igneous intrusions, and largely denuded. 2nd. On all continents and on many large islands raised beaches occur, and also superficial accumulations of loose strata, lying on the older rocks, and yielding shells, in great part, or altogether identical with those that now inhabit neighbouring seas; and these organic remains occur in such a manner, that it is plain they lived and died on the spots where they lie, ere those parts of the sea-bottom were elevated. In Britain, such beds are found more than 1,000 feet above the sea; and in South America, 1,300 feet on the western side of the Andes. 3rd. Experience shows that certain volcanic regions subject to earthquakes are often areas of elevation. The earthquake of 1835 in Chili is an instance when a large tract of the coast of South America was suddenly raised from four to twelve feet, and part of the sea-bottom converted into land; and it is probable that similar causes have conduced to raise by degrees the shelly strata above alluded to, to the height of 1,300 feet above the level of the sea. The chain of the Andes is volcanic, and the elevating forces and earthquakes of South-Western America are connected with this circumstance. The Mediterranean volcanic region (though marked by many oscillatory movements)