

According to this view, the reduction of the temperature, the cause of the break in the fauna, would depend more upon the elevation of Central America and the Isthmus of Panama and the intertropical eastern coast of the continent of Asia, than even upon the depression of the northern barrier and the throwing open of the Arctic basin.

“ If at any former period the climate of the globe was much warmer or colder than it is now, it would have a tendency to retain that higher or lower temperature for a succession of geological epochs. . . . The slowness of climatical change here alluded to would arise from the great depth of the sea as compared with the height of the land, and the consequent lapse of time required to alter the position of continents and great oceanic basins. . . . The mean height of the land is only 1,000 feet, the depth of the sea 15,000 feet. The effect, therefore, of vertical movements equally 1,000 feet in both directions, upwards and downwards, is to cause a vast transposition of land and sea in those areas which are now continental, and adjoining to which there is much sea not exceeding 1,000 feet in depth. But movements of equal amount would have no tendency to produce a sensible alteration in the Atlantic or Pacific oceans, or to cause the oceanic or continental areas to change places. Depressions of 1,000 feet would submerge large areas of existing land; but fifteen times as much movement would be required to convert such land into an ocean of average depth, or to cause an ocean three miles deep to replace any one of the existing continents.”<sup>1</sup>

<sup>1</sup> Lyell, *Principles of Geology*, 1867. Pp. 265-6.