

newer secondary beds, although some of them, such as the Alps and the Pyrenees, have received great accessions to their height in later times. All these newer beds have therefore been deposited with a certain relation in position to certain main features of contour which are maintained to the present day. Many oscillations have doubtless taken place since, and every spot on the European plateau may have probably alternated many times between sea and land; but it is difficult to show that these oscillations have occurred in the north of Europe to a greater extent than from 4,000 to 5,000 feet, the extreme vertical distance between the base of the tertiaries and the highest point at which tertiary or post-tertiary shells are found on the slopes and ridges of mountains. A subsidence of even 1,000 feet would, however, be sufficient to produce over most of the northern land a sea 100 fathoms deep, deeper than the German Ocean; and an elevation to a like amount would connect the Shetland and Orkney Islands and Great Britain and Ireland with Denmark and Holland, leaving only a long deep Fjord separating a British peninsula from Scandinavia. When we bear in mind the abundant evidence which we have that these minor oscillations, with a maximum range of 4,000 to 5,000 feet, have occurred again and again all over the world within comparatively recent periods, alternately uniting lands and separating them by shallow seas, the position of the deep water remaining throughout the same, the importance of an accurate determination of the depth of intervening sea in all speculations as to geographical distribution and the origin of special faunæ becomes most apparent.