

suggested, that the mean rate of continuous vertical elevation has amounted to $2\frac{1}{2}$ feet in a century (and this is probably a high average), it would require 27,500 years for the sea-coast to attain the height of 700 feet, without making allowance for any pauses such as are now experienced in a large part of Norway, or for any oscillations of level.

In England, buried ships have been found in the ancient and now deserted channels of the Rother in Sussex, of the Mersey in Kent, and the Thames near London. Canoes and stone hatchets have been dug up, in almost all parts of the kingdom, from peat and shell-marl; but there is no evidence, as in Sweden, Italy, and many other parts of the world, of the bed of the sea, and the adjoining coast, having been uplifted bodily to considerable heights within the human period. Recent strata have been traced along the coasts of Peru and Chili, inclosing shells in abundance, all agreeing specifically with those now swarming in the Pacific. In one bed of this kind, in the island of San Lorenzo, near Lima, Mr. Darwin found, at the altitude of 85 feet above the sea, pieces of cotton-thread, plaited rush, and the head of a stalk of Indian corn, the whole of which had evidently been imbedded with the shells. At the same height on the neighboring mainland, he found other signs corroborating the opinion that the ancient bed of the sea had there also been uplifted 85 feet, since the region was first peopled by the Peruvian race.* But similar shelly masses are also met with at much higher elevations, at innumerable points between the Chilian and Peruvian Andes and the sea-coast, in which no human remains were ever, or in all probability ever will be, discovered.

In the West Indies, also, in the island of Guadaloupe, a solid limestone occurs, at the level of the sea-beach, enveloping human skeletons. The stone is extremely hard, and chiefly composed of comminuted shell and coral, with here and there some entire corals and shells, of species now living in the adjacent ocean. With them are included arrow-heads, fragments of pottery, and other articles of human workmanship. A limestone with similar contents has been formed, and is still forming, in St. Domingo. But there are also more ancient rocks in the West Indian Archipelago, as in Cuba, near the Havana, and in other islands, in which are shells identical with those now living in corresponding latitudes; some well-preserved, others in the state of casts, all referable to the post-pliocene period.

I have already described in the seventh chapter, p. 84, what would be the effects of oscillations and changes of level in any region drained by a great river and its tributaries, supposing the area to be first depressed several hundred feet, and then re-elevated. I believe that such changes in the relative level of land and sea have actually occurred in the post-pliocene era in the hydrographical basin of the Mississippi and in that of the Rhine. The accumulation of fluvial matter in a delta during a slow subsidence may raise the newly gained land superficially at the

* Journal, p. 451.