

(Figure 4, page 337), which is called the "Palisades," with a length of about eight miles. The depth of the water inside reaches to 60 feet. Before the district sank subsequent to the post-Liguanea elevation, Kingston Harbour was only a continuation of the Rio Cobre. When the land was depressed so that the coast line occupied the location of the eastern end of the beach, a bar was thrown across the valley, and the beach slowly developed as the land continued to sink. The mouth of the harbour was subsequently changed to the present outlet.

*Alluvium.*—Owing to the late elevation of the land, the slopes of the streams have not been reduced sufficiently to allow the deposition of much alluvium along their courses. However, at the mouths of many of the rivers, especially along the southwestern end of the island, there are extensive marshes. Indeed, from their broad character, a late subsidence seems to have occurred, if not in progress at present. The sinking of Port Royal (at the end of the Kingston Palisades) in 1697, from earthquake action cannot be taken as evidence of changes of level of the coast line.

*A Review of Erosion Features since the Miocene Period.*—The features of denudation have formed prominent diagnostics in the present researches, and consequently had to be separated and partly considered in several connections. In these erosion features, the records of the history of the land are as clearly told, as in the fossils is the history of the sea. Owing to changing conditions from terrestrial to marine, and back again, both departments of geology have to be considered, and each makes the other study the more valuable. The Mio-Pliocene denudation was enormous, but it was effected with the land near the base level of erosion. This condition need not imply that the land was actually low, but the sea may have been much farther from the modern plateau than now, as is suggested from the submarine banks, only in the elevation of the land Jamaica may have been abnormally lifted above the now submerged plateau; and the seaward margins, from which even the "White Limestones" had been mostly denuded, were depressed. Since the early Miocene period, the "White Limestones" themselves have been raised 3,000 feet. The Mio-Pliocene period was one of erosion affecting the island beyond its present margins; and this long period of denudation was ended by the Layton submergence. The post-Layton degradation, (that is the early Pleistocene), was also of considerable duration, and represented very great elevation with the formation of deep valleys, but the country was not ground down to the base level of denudation as during the long Mio-Pliocene elevation. The later, or post-Liguanea, erosion has been