slope, therefore, of the new strata must be extremely gradual. According to the best charts, there is a gradual deepening from four to about sixty fathoms, as we proceed from the base of the delta to the distance of about one hundred miles into the Bay of Bengal. At some few points seventy, or even one hundred, fathoms are obtained at that distance.

One remarkable exception, however, occurs to the regularity of the shape of the bottom; for, opposite the middle of the delta, at the distance of thirty or forty miles from the coast, is a nearly circular space called the "swatch of no ground," about fifteen miles in diameter, where soundings of 100, and even 130, fathoms fail to reach the bottom. This phenomenon is the more extraordinary, since the depression occurs within five miles of the line of shoals; and not only do the waters charged with Gangetic sediment pass over it continually, but, during the monsoons, the sea, loaded with mud and sand, is beaten back in that direction towards the delta. As the mud is known to extend for eighty miles farther into the gulf, an enormous thickness of matter must have been deposited in "the swatch." We may conclude, therefore, either that the original depth of this part of the Bay of Bengal was excessive, or that subsidences have occurred in modern times. The latter conjecture is the less improbable, as the contiguous region of Chittagong has been convulsed in the historical era by earthquakes, and "the swatch" lies not far from that volcanic band which connects Sumatra and Barren Island with Assam.*

Opposite the mouth of the Hoogly river, and immediately south of Saugor Island, four miles from the nearest land of the delta, a new islet was formed about twenty years ago, called Edmonstone Island, on the centre of which a beacon was erected as a landmark in 1817. In 1818 the island had become two miles long and half a mile broad, and was covered with vegetation and shrubs. Some houses were then built upon it, and in 1820 it was used as a pilot station. The severe gale of 1823 divided it into two parts, and so reduced its size as to leave the beacon standing out in the sea, where, after remaining seven years, it was washed away. The islet in 1836 had been converted by successive storms into a sand-bank, half a mile long, on which a sea-mark was placed.

Although there is evidence of gain at some points, the general progress of the coast is very slow; for the tides, which rise from thirteen to sixteen feet, are actively employed in removing the alluvial matter, and diffusing it over a wide area. The new superficial strata consist entirely of sand and fine mud; such, at least, are the only materials which are exposed to view in regular beds on the banks of the numerous creeks. No substance so coarse as gravel occurs in any part of the delta, nor nearer the sea than 400 miles.

Yet it is remarkable that the boring of an Artesian well at Fort William, near Calcutta, in the years 1835—1840, displayed, at the depth of 120 feet, clay and sand, with pebbles. This boring

* See M'Clelland's Report on Geol. of India, and Map of Volcanic Bands, plate vi. Book ii. chap. 23.