

inward."¹ As concrete illustrations of successive stages in this development of barrier beaches, Professor Ganong presents, among other cases, the following:—

(a) Three short beaches, just south of Point Escuminac, which connect headlands, and which enclose very narrow lagoons. "These are of especial interest as showing the mode of origin of the greater beaches, for in the case of the first two, while they are still shore beaches, lagoons are forming inside them." Likewise, Chockpish beach, which "extends from the rocky Richibucto head in an inbowed curve south to a rocky point just north of Buctouche beach, encloses mostly bog and marsh, but with rudimentary lagoons. It is thus another forming beach."²

(b) The long barriers or sand reefs which shut off from the sea the wide estuaries of Pokemouche, Little Tracadie, and other rivers. According to Professor Ganong's theory, the lagoons have been broadened by progressive subsidence faster than they have been narrowed by the inland migration of the sand reefs. In other words, the vertical subsidence has been more effective, here, than the horizontal advance of the barrier towards the land—an advance which is accomplished mainly through the drifting of sand along the exposed shore and the scattering of the sand through the gulleys into the lagoons.

(c) The more detached fragments of sand reefs, like Portage and Fox islands, at the mouth of the Miramichi. These are conceived to have passed through the stages already described, and to have become disconnected from their original anchorage as subsidence converted the mainland border into a submerged shoal, or as the protecting ledges at the headlands were drowned and their places were taken by easily eroded cliffs of peat, whose destruction let the sea through the barrier, at points where there was no longer a supply of sand for the beach. In short, "both Portage and Fox islands . . . appear to have been formed as true beach plains against the neighbouring upland. . . . Their separation from the upland is due to subsidence of the land, admitting the sea to flow over their

¹Op. cit., pp. 12-13.

²Op. cit., p. 9.