

death of Professor Bailey the examination of the deposits devolved upon Pourtalès. In the deposits from off the American Coast from Cape Cod to Florida he found two well-marked varieties: ¹ siliceous and calcareous. The siliceous deposits stretch along the coast as far as Cape Florida. The calcareous deposits are divided into Coral and Foraminiferous ² formations, and are found at the greatest depths, at the southern point of Florida, and off Cuba and the Bahamas. Pourtalès remarked the coincidence between the limits of the siliceous deposits and the course of the cold current, and of the calcareous deposits and the warm current. He also distinguished a muddy deposit of much less extent, which he considered quite subordinate; it was observed off the eastern part of Long, Block, and Martha Islands. He considered this deposit as related to the Tertiary formations, some traces of which appear on Gay Head Reefs, Martha's Vineyard, and other localities in Massachusetts. The deposits in shallow water off the American coast are sandy, principally quartz grains, with a few grains of hornblende, felspar, and sometimes glauconitic, but the grains of glauconite may be derived from the disintegration of the geological strata.³ In these sandy deposits he observes that the Foraminifera are distributed in zones, sometimes overlapping: thus the zone nearest the shore from 10 to 20 fathoms is relatively poor, containing only a few small *Polystomellæ*; then *Miliolina* is met with in small numbers at about 40 fathoms; *Truncatulina advena* is found from 25 to 70 fathoms; *Marginulina* and *Cristellaria* begin at about 35 fathoms and extend down to over 1000 fathoms. From a depth of 60 fathoms the sand becomes mixed with *Globigerinæ*, which increase to such an extent that at a depth of 100 fathoms the shells are as abundant as the sand grains, marking the commencement of the calcareous deposit.

LOUIS AGASSIZ
ON THE POURTALÈS
PLATEAU.

In connection with the laying of a telegraph cable between Cuba and Florida, explorations were begun in 1867, and continued for two years, occasionally under the personal supervision of L. Agassiz. The coral reef was found to be closely confined to the coast of Florida, for the large reef-building Corals only acquire their full development near the surface, not extending below 10 fathoms. The fauna inhabiting the reef consists of a large number of animals of all classes, and is totally different from that of the deep sea. From the reef the bottom is muddy down to 50 or 60 fathoms, and is covered with dead Mollusca and triturated fragments of Corals, with few living animals. Then follows a rocky plateau, which Agassiz calls the Pourtalès Plateau, down to 100 and occasionally 200 fathoms, the bottom being a calcareous conglomerate with Molluscs and Corals. The Foraminiferous deposit is found in the Florida Strait at moderate depths, at points where the rocky bottom is hidden. Pourtalès observes that this calcareous

¹ Report of Superintendent of U.S. Coast Survey for 1869, pp. 220-225, Washington, 1872.

² Pourtalès claims that this Globigerina Ooze, one of the most important of oceanic deposits, was first observed in 1853 by Lieutenants Craven and Maffitt during their investigation of the Gulf Stream in connection with the U.S. Coast Survey; it was subsequently noticed during the preliminary survey of the route for the Transatlantic cable.

³ From the Greensand of New Jersey (Portalès in Rep. U.S. Coast Survey for 1869).