

Messrs. Murray and Renard arrive at the following conclusions as the result of their investigations of the deep-sea deposits :—“Muds and sands are situated at various depths at no great distance from the land, while the organic oozes and red clays occupy the abysmal regions of the ocean basins far from land. Leaving out of view the coral and volcanic muds and sands which are found principally around oceanic islands, blue muds, green muds and sands, and red muds, together with all the coast and shore formations, are situated along the margins of the continents and in enclosed and partially enclosed seas. The chief characteristic of these deposits is the presence in them of continental débris. The blue muds are found in all the deeper parts of the regions just indicated, and typically near the embouchures of rivers. Red muds do not differ much from blue muds except in colour, due to the presence of ferruginous matter in great abundance, and occur under the same conditions as the blue muds. The green muds and sands occupy, as a rule, portions of the coast where detrital matter from rivers is not apparently accumulating at a rapid rate, viz., on such places as the Agulhas Bank, off the east coast of Australia, off the coast of Spain, and at various points along the coast of America.

“The region occupied by terrigenous deposits extends from high water mark down, it may be, to a depth of over four miles, and in a horizontal direction from 60 to perhaps 200 miles seawards, and includes all inland seas, such as the North Sea, Norwegian Sea, Mediterranean Sea, Red Sea, China Sea, Japan Sea, Caribbean Sea, and many others. It is the region of change and of variety with respect to light, temperature, motion, and biological conditions. In the surface waters the temperature ranges from 80° in the tropics to 28° in the polar regions. Below the surface, down to the ice-cold water found in some places at the lower limits of the region in the deep sea, there is in the tropics an equally great range of temperature. Plants and animals are abundant near the shore, and animals extend in relatively great abundance down to the lower limits of this region, which is now covered by these terrigenous deposits. The specific gravity of the water varies much, owing to mixture with river water or great local evaporation, and this variation in its turn affects the fauna and flora. In the terrigenous region tides and currents produce their maximum effect, and these influences can in some instances be traced to a depth of 300 fathoms, or nearly 2000 feet. The upper or continental margin of the region is clearly defined by the high water mark of the coast line, which is constantly changing through breaker action, elevation, and subsidence. The lower or abysmal margin is less clearly marked out; it passes in most cases insensibly into the abysmal region, but may be regarded as ending when the mineral particles from the neighbouring continents begin to disappear from the deposits, which then pass into an organic ooze or a red clay.

“A Pteropod ooze is met with in tropical and subtropical regions in depths less than 1500 fathoms and a Globigerina ooze in the same regions between the depths of 500 and 2800 fathoms. These two deposits occupy about 110° of latitude between the two polar