the Fiji and other islands of the Pacific. Indeed many inter-tropical islands are apparently surrounded, between depths of 400 and 1400 fathoms, by deposits which might in most cases be called Pteropod Oozes. In northern temperate and polar regions this deposit could not occur, as the shells do not live in the surface waters of these regions in sufficient abundance.

II. *Terrigenous Deposits.*

At the outset of this chapter it was pointed out that all marine deposits might be divided into two great groups, viz., Pelagic and Terrigenous (see pp. 185 and 186). It was likewise stated that the terrigenous deposits were for the most part made up of materials immediately derived from the great land masses, which had been subject, in a greater or less degree, to the mechanical effects of erosion. A very large part of the terrigenous deposits does not, however, fall to be considered in detail in this work, which is limited to a description of deep-sea deposits, or, according to our definition of the term, to those deposits forming in the ocean beyond a depth of 100 fathoms. The terrigenous deposits of the littoral and shallow-water zones surrounding the land are primarily of the same nature as those forming in the deep-sea zone. In consequence, however, of the different physical conditions prevailing in these three zones, the deposits are more diverse, heterogeneous, local, and coarser in the shallower zones than in the deeper one, for the deposits become more and more uniform, homogeneous, fine grained, and widely distributed as the deep water of the ocean basins is approached.

It is well known that fresh water carries a much larger amount of sediment in suspension than salt water, and that wherever a mixture of these waters takes place along the borders of the continents almost the whole of the sediment falls rapidly to the bottom, thus contributing a great mass of material to the terrigenous deposits in process of formation.[1] Murray and Irvine[2] have shown that a considerable quantity of clayey matter can be held in suspension in sea-water, the amount being greater in waters of a low, than in waters of a high, temperature, and they point out that Radiolarians and Diatoms probably obtain their silica from this source. This does not, however, in any way lessen the importance of the fact that the great bulk of detrital matters borne from the land to the ocean is deposited in somewhat close proximity to the coasts. The combined effect of rivers, winds, waves, currents, and tides on the materials of the land and shallow-water areas, is to transport all the fine particles out to depths in which they may fall to the bottom in comparatively still water, and where they may accumulate in the form of various kinds of muds. We have seen that while the depth at which these muds form in enclosed seas

[1] Th. Scheerer, *Pogg. Ann*, Bd. lxxxii. p. 419, 1851 ; Fr. Schulze, *Ibid.*, Bd. cxxix. p. 368, 1866 ; Sidell in Abbot and Humphreys' Report on the Mississippi, App. A. No. 2, 1876 ; Hilgard, *Amer. Journ. Sci.*, ser. iii. vol. xvii. p. 205, 1879 ; Brewer, "On the Subsidence of Particles in Liquids," *Mem. Nat. Acad. Sci.*, Washington, vol. ii. p. 165, 1883.

[2] "Silica and Siliceous Organisms in Modern Seas," *Proc. Roy. Soc. Edin.*, 1891 ; see also Chapter VI.