

brought down with sand by the Rhone.* If the number of mineral springs charged with carbonate of lime which fall into the Rhone and its feeders in different parts of France be considered, we shall feel no surprise at the lapidification of the newly deposited sediment in this delta. It should be remembered, that the fresh water introduced by rivers being lighter than the water of the sea, floats over the latter, and remains upon the surface for a considerable distance. Consequently it is exposed to as much evaporation as the waters of a lake; and the area over which the river-water is spread, at the junction of great rivers and the sea, may well be compared, in point of extent, to that of considerable lakes.

Now, it is well known, that so great is the quantity of water carried off by evaporation in some lakes, that it is nearly equal to the water flowing in; and in some inland seas, as the Caspian, it is quite equal. We may, therefore, well suppose, that, in cases where a strong current does not interfere, the greater portion not only of the matter held mechanically in suspension, but of that also which is in chemical solution, may be precipitated at no great distance from the shore. When these finer ingredients are extremely small in quantity, they may only suffice to supply crustaceous animals, corals, and marine plants, with the earthy particles necessary for their secretions; but whenever it is in excess (as generally happens if the basin of a river lie partly in a district of active or extinct volcanos), then will solid deposits be formed, and the shells will at once be included in a rocky mass.

Delta of the Po.—I have already alluded to the delta of the Po when describing the abundant supply of sediment which many rivers entering the head of the Adriatic are pouring into that gulf. (See above, p. 208.) Although they are rapidly converting the sea into land, it appears, by recent observations of M. Morlot and others, that since the time of the Romans, there has been a general subsidence of the coast and bed of the sea in that region to the amount of 5 feet, so that the advance of the new-made land has not been so fast as it would have been had the level of the coast remained unaltered. The signs of a much greater depression anterior to the historical period have also been brought to light by an Artesian well, bored in 1847, to the depth of more than 400 feet, which still failed to penetrate through the modern fluviatile deposit. The auger passed chiefly through beds of sand and clay, but at four several depths, one of them very near the bottom of the excavation, it pierced beds of turf, or accumulations of vegetable matter, precisely similar to those now formed superficially on the extreme borders of the Adriatic. Hence we learn that a considerable area of what was once land has sunk down 400 feet in the course of ages.†

Coast of Asia Minor.—Examples of the advance of the land upon the sea are afforded by the southern coast of Asia Minor. Admiral Sir F. Beaufort has pointed out in his Survey the great alterations effected

* Hist. Phys. de la Mer.

† Archiac, Histoire des Progrès de la Geol. 1848, vol. ii. p. 232.