

the land about Elephantine, or the first cataract, lat. $24^{\circ} 5'$, has been raised nine feet in 1700 years; at Thebes, lat. $25^{\circ} 43'$, about seven feet; and at Heliopolis and Cairo, lat. 30° , about five feet ten inches. At Rosetta and the mouths of the Nile, lat. $31^{\circ} 30'$, the diminution in the perpendicular thickness of the deposit is lessened in a much greater decreasing ratio than in the straightened valley of Central and Upper Egypt, owing to the great extent, east and west, over which the inundation spreads."*

For this reason the alluvial deposit does not cause the delta to protrude rapidly into the sea, although some ancient cities are now a mile or more inland, and the mouths of the Nile, mentioned by the earlier geographers, have been many of them silted up, and the outline of the coast entirely changed.

The bed of the Nile always keeps pace with the general elevation of the soil, and the banks of this river, like those of the Mississippi and its tributaries (see p. 212.), are much higher than the flat land at a distance, so that they are seldom covered during the highest inundations. In consequence of the gradual rise of the river's bed, the annual flood is constantly spreading over a wider area, and the alluvial soil encroaches on the desert, covering, to the depth of six or seven feet, the base of statues and temples which the waters never reached 3000 years ago. Although the sands of the Libyan deserts have in some places been drifted into the valley of the Nile, yet these aggressions, says Wilkinson, are far more than counterbalanced by the fertilizing effect of the water which now reaches farther inland towards the desert, so that the number of square miles of arable soil is greater at present than at any previous period.

Mud of the Nile. — On comparing the different analyses which have been published of this mud, it will be found that it contains a large quantity of argillaceous matter, with much peroxide of iron, some carbonate of lime, and a small proportion of carbonate of magnesia. The latest and most careful analysis by M. Lassaigne shows a singularly close resemblance in the proportions of the ingredients of silica, alumina, iron, carbon, lime, and magnesia, and those observed in ordinary mica†; but a much larger quantity of calcareous matter is sometimes present.

In many places, as at Cairo, where artificial excavations have been made, or where the river has undermined its banks, the mud is seen to be thinly stratified, the upper part of each annual layer consisting of earth of a lighter colour than the lower, and the whole separating easily from the deposit of the succeeding year. These annual layers are variable in thickness; but, according to the calculations of Girard and Wilkinson, the mean annual thickness of a layer at Cairo cannot exceed that of a sheet of thin pasteboard, and a stratum of two or three feet must represent the accumulation of a thousand years.

The depth of the Mediterranean is about twelve fathoms at a

* Journ. of Roy. Geograph. Soc. vol. ix. p. 432. Memoirs, p. 20.; and Lassaigne, Journ. le Pharm. t. v. p. 468.

† Quart. Journ. Geol. Soc. vol. v.;