

which are from *six to eight feet in diameter*, each concentric layer being about the eighth of an inch in thickness. The preceding diagram exhibits about fourteen feet of this immense mass, as seen in the path cut out of the rock in descending from the temple of Vesta to the Grotto di Nettuno. I have not attempted to express in this drawing, the innumerable thin layers of which these magnificent spheroids are composed, but the lines given mark some of the natural divisions into which they are separated by minute variations in the size or colour of the laminae. The undulations also are much smaller, in proportion to the whole circumference, than in the drawing. The beds (*a a*) are of hard travertin and soft tufa; below them is a pisolite (*b*), the globules being of different sizes: underneath this appears a mass of concretionary travertin (*c c*), some of the spheroids being of the above-mentioned extraordinary size. In some places (as at *d*) there is a mass of amorphous limestone, or tufa, surrounded by concentric layers. At the bottom is another bed of pisolite (*b*), in which the small nodules are about the size and shape of beans, and some of them of filberts, intermixed with some smaller oolitic grains. In the tufaceous strata, wood is seen converted into a light tufa.

There can be little doubt that the whole of this deposit was formed in an extensive lake which existed when the external configuration of this country varied greatly from that now observed. The Anio throws itself into a ravine excavated in the ancient travertin, and its waters give rise to masses of calcareous stone, scarcely if at all distinguishable from the older rock. I was shown, in 1828, in the upper part of the travertin, the hollow left by a cart-wheel, in which the outer circle and the spokes had been decomposed, and the spaces which they filled left void. It seemed to me at the time impossible to explain the position of this mould, without supposing that the wheel was imbedded before the lake was drained; but Sir R. Murchison suggests that it may have been washed down by a flood into the gorge in modern times, and then incrustated with calcareous tufa in the same manner as the wooden beam of the church of St. Lucia was swept down in 1826, and stuck fast in the Grotto of the Syren, where it still remains, and will eventually be quite imbedded in travertin.

I have already endeavoured to explain (p. 243.), when speaking of the travertin of San Filippo, how the spheroidal masses represented in figure 14. may have been formed.

*Sulphureous and gypseous springs.*—The quantity of other mineral ingredients wherewith springs in general are impregnated is insignificant in comparison to lime, and this earth is most frequently combined with carbonic acid. But, as sulphuric acid and sulphuretted hydrogen are very frequently supplied by springs, gypsum may, perhaps, be deposited largely in certain seas and lakes. The gypseous precipitates, however, hitherto known on the land, appear to be confined to a very few springs. Those at Baden, near Vienna, which feed the public bath, may be cited as examples. Some of these supply, singly from 600 to 1000 cubic feet of water per hour, and deposit a fine powder, composed of a mixture of sulphate of lime