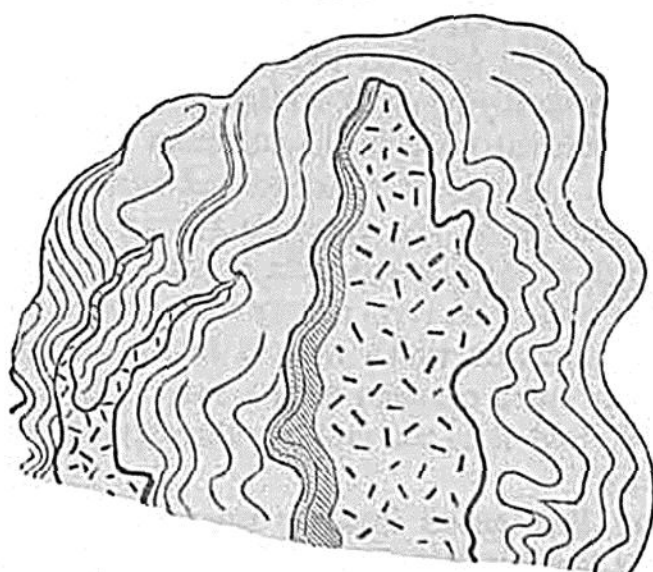


Fig. 662.



Clay. Lava. Clay. Altered. Lava. Clay, &c.
b. a. b. c. a. b.

Post-Pliocene strata invaded by lava, Isle of Cyclops (horizontal section).

a. Lava.

b. Laminated clay and sand.

c. The same altered.

of Campania is known to have undergone during the last 2000 years. The aggregate effect of igneous operations during that period is far from insignificant, comprising as it does the formation of the modern cone of Vesuvius since the year 79, and the production of several minor cones in Ischia, together with that of Monte Nuovo in the year 1538. Lava-currents have also flowed upon the land and along the bottom of the sea — volcanic sand, pumice, and scorïæ have been showered down so abundantly, that whole cities were buried — tracts of the sea have been filled up or converted into shoals — and tufaceous sediment has been transported by rivers and land-floods to the sea. There are also proofs, during the same recent period, of a permanent alteration of the relative levels of the land and sea in several places, and of the same tract having, near Puzzuoli, been alternately upheaved and depressed to the amount of more than 20 feet. In connection with these convulsions, there are found, on the shores of the Bay of Baiæ, recent tufaceous strata, filled with articles fabricated by the hands of man, and mingled with marine shells.

It was also stated in this work (p. 119), that when we examine this same region, it is found to consist largely of tufaceous strata, of a date anterior to human history or tradition, which are of such thickness as to constitute hills from 500 to more than 2000 feet in height. These post-pliocene strata, containing recent marine shells, alternate with distinct currents and sheets of lava which were of contemporaneous origin; and we find that in Vesuvius itself, the ancient cone called Somma is of far greater volume than the modern cone, and is intersected by a far greater number of dikes. In contrasting this ancient part of the mountain with that of modern date, one principal point of difference is observed; namely, the greater frequency in the older cone of fragments