dreaded than an igneous stream (lava di fuoco), from the greater velocity with which it moves. So late as the 27th of October, 1822, one of these alluviums descended the cone of Vesuvius, and, after overspreading much cultivated soil, flowed suddenly into the villages of St. Sebastian and Massa, where, filling the streets and interior of some of the houses, it suffocated seven persons. It will, therefore, happen very frequently that, towards the base of a volcanic cone, alternations will be found of lava, alluvium, and showers of ashes.

To which of these two latter divisions the mass enveloping Herculaneum and Pompeii should be referred, has been a question of the keenest controversy; but the discussion might have been shortened, if the combatants had reflected that, whether volcanic sand and ashes were conveyed to the towns by running water, or through the air, during an eruption, the interior of buildings, so long as the roofs remain entire, together with all underground vaults and cellars, could be filled only by an *alluvium*. We learn from history, that a heavy shower of sand, pumice, and lapilli, sufficiently great to render Pompeii and Herculaneum uninhabitable, fell for eight successive days and nights in the year 79, accompanied by violent rains. We ought, therefore, to find a very close resemblance between the strata covering these towns, and those composing the minor cones of the Phlegræan Fields, accumulated rapidly, like Monte Nuovo, during a continued shower of ejected matter; with this difference however, that the strata incumbent on the cities would be horizontal, whereas those on the cones are highly inclined; and that large angular fragments of rock, which are thrown out near the vent, would be wanting at a distance where small lapilli only can be found. Accordingly, with these exceptions, no identity can be more perfect than the form and distribution of the matter at the base of Monte Nuovo, as laid open by the encroaching sea, and the appearance of the beds superimposed on Pompeii. That city is covered with numerous alternations of different horizontal beds of tuff and lapilli, for the most part thin, and subdivided into very fine layers. I observed the following section near the amphitheatre, in November, 1828—(descending series):—

	Feet.	Inches.
1. Black sparkling sand from the eruption of 1822, containing minute regularly formed crystals of augite and tourmaline, from		2 to 3*
2. Vegetable mould	3	0
3. Brown incoherent tuff, full of *pisolitic globules* in layers, from half an inch to three inches in thickness	1	6
4. Small scoriæ and white lapilli	0	3
5. Brown earthy tuff, with numerous pisolitic globules	0	9
6. Brown earthy tuff, with lapilli divided into layers	4	0
7. Layer of whitish lapilli	0	1
8. Grey solid tuff	0	3
9. Pumice and white lapilli	0	3
	10	4

* The great eruption, in 1822, caused a covering only a few inches thick on Pompeii. Several feet are mentioned by Prof. J. D. Forbes. — Ed. Journ. of