

terior of fossil shells at a time when these were still at the bottom of the sea near the coast. "They tell us that these shells were formed in the hills by the influence of the stars; but I ask where in the hills are the stars now forming shells of distinct ages and species? and how can the stars explain the origin of gravel, occurring at different heights and composed of pebbles rounded as if by the motion of running water; or in what manner can such a cause account for the petrification in the same places of various leaves, sea-weeds, and marine crabs?"*

The excavations made in 1517, for repairing the city of Verona, brought to light a multitude of curious petrifications, and furnished matter for speculation to different authors, and among the rest to Fracastoro †, who declared his opinion, that fossil shells had all belonged to living animals, which had formerly lived and multiplied where their exuviæ are now found. He exposed the absurdity of having recourse to a certain "plastic force," which it was said had power to fashion stones into organic forms; and with no less cogent arguments, demonstrated the futility of attributing the situation of the shells in question to the Mosaic deluge, a theory obstinately defended by some. That inundation, he observed, was too transient, it consisted principally of fluviate waters; and if it had transported shells to great distances, must have strewed them over the surface, not buried them at vast depths in the interior of mountains. His clear exposition of the evidence would have terminated the discussion for ever, if the passions of mankind had not been enlisted in the dispute; and even though doubts should for a time have remained in some minds, they would speedily have been removed by the fresh information obtained almost immediately afterwards, respecting the structure of fossil remains, and of their living analogues.

But the clear and philosophical views of Fracastoro were disregarded, and the talent and argumentative powers of the learned were doomed for three centuries to be wasted in the discussion of these two simple and preliminary questions; first, whether fossil remains had ever belonged to living creatures; and, secondly, whether, if this be admitted, all the phenomena could not be explained by the deluge of Noah. It had been the general belief of the Christian world down to the period now under consideration, that the origin of this planet was not more remote than a few thousand years; and that since the creation the deluge was the only great catastrophe by which considerable change had been wrought on the earth's surface. On the other hand, the opinion was scarcely less general, that the final dissolution of our system was an event to be looked for at no distant period. The era, it is true, of the expected millennium had passed

* See Venturi's extracts from Da Vinci's MSS. now in Library of Institute of France. They are not mentioned by Brocchi, and my attention was first called to them by Mr. Hallam. L. da Vinci died A. D. 1519.

† Museum Calceol.—See Brocchi's Discourse on the Progress of the Study of Fossil Conchology in Italy, where some of the following notices on Italian writers will be found more at large.