

in Italy about the middle of the seventeenth century, had deeply studied the fossil shells discovered in that country. The Italian painter Scilla produced in 1670 a Latin treatise on the fossils of Calabria, in which he established the organic nature of fossil shells.

The eighteenth century gave birth to two very opposite theories as to the origin of our globe—namely, the *Plutonian* or igneous, and the *Neptunian* or aqueous theory. The Italian geologists gave a marked impulse to the study of fossils, and the name of Vallisneri \* may be cited as the author to whom science is indebted for the earliest account of the marine deposits of Italy, and of the most characteristic organic remains which they contain. Lazzaro Moro † continued the studies of Vallisneri, and the monk Gemerelli reduced to a complete system the ideas of these two geologists, endeavouring to explain all the phenomena as Vallisneri had wished, “without violence, without fiction, without miracles.” Marselli and Donati both studied in a very scientific manner the fossil shells of Italy, and in particular those of the Adriatic, recognising the fact that they affected in their beds a regular and constant order of superposition.‡

In France the celebrated Buffon gave, by his eloquent writings, great popularity to the notions of the Italian naturalists concerning the origin of fossil remains. In his admirable “*Époques de la Nature*” he sought to prove that the shells found in great quantities buried in the soil, and even on the tops of mountains, belonged, in reality, to species not living in our days. But this idea was too novel not to find objectors: it counted among its adversaries the bold philosopher who might have been expected to adopt it with most ardour. Voltaire attacked, with his jesting and biting criticism, the doctrines of the illustrious innovator. Buffon insisted, reasonably enough, that the presence of shells on the summit of the Alps was a proof that the sea had at one time occupied that position. But Voltaire asserted that the shells found on the Alps and Apennines had been thrown there by pilgrims returning from Rome. Buffon might have replied to his opponent, by pointing out whole mountains formed by the accumulation of these shells. He might have sent him to the Pyrenees, where shells of marine origin cover immense

\* *Dei corpi marini*, &c., 1721.

† *Sui crostacei ed altri corpi marini che sè trovano sui monti*, 1740.

‡ Consult Lyell's “*Principles of Geology*” and the sixth edition of the “*Elements*,” with much new matter, for further information relative to the study of fossils during the last two centuries.