

together in families, particularly the genera *Arca*, *Pecten*, *Venus*, *Murex*, and some others. He also states that in divers localities he found a mass composed of corals, shells, and crustaceous bodies of different species, confusedly blended with earth, sand, and gravel. At the depth of a foot or more, the organic substances were entirely petrified and reduced to marble; at less than a foot from the surface, they approached nearer to their natural state; while at the surface they were alive, or, if dead, in a good state of preservation. ‡

*Baldassari*. — A contemporary naturalist, Baldassari, had shown that the organic remains in the tertiary marls of the Siennese territory were grouped in families, in a manner precisely similar to that above alluded to by Donati.

*Buffon*, 1749. — Buffon first made known his theoretical views concerning the former changes of the earth, in his *Natural History*, published in 1749. He adopted the theory of an original volcanic nucleus, together with the universal ocean of Leibnitz. By this aqueous envelope the highest mountains were once covered. Marine currents then acted violently, and formed horizontal strata, by washing away solid matter in some parts, and depositing it in others; they also excavated deep submarine valleys. The level of the ocean was then depressed by the entrance of a part of its waters into subterranean caverns, and thus some land was left dry. Buffon seems not to have profited, like Leibnitz and Moro, by the observations of Steno, or he could not have imagined that the strata were generally horizontal, and that those which contain organic remains had never been disturbed since the era of their formation. He was conscious of the great power annually exerted by rivers and marine currents in transporting earthy materials to lower levels, and he even contemplated the period when they would destroy all the present continents. Although in geology he was not an original observer, his genius enabled him to render his hypothesis attractive; and by the eloquence of his style, and the boldness of his speculations, he awakened curiosity, and provoked a spirit of inquiry amongst his countrymen.

Soon after the publication of his "*Natural History*," in which was included his "*Theory of the Earth*," he received an official letter (dated January, 1751,) from the Sorbonne, or Faculty of Theology in Paris, informing him that fourteen propositions in his works "were reprehensible, and contrary to the creed of the church." The first of these obnoxious passages, and the only one relating to geology, was as follows: — "The waters of the sea have produced the mountains and valleys of the land — the waters of the heavens, reducing all to a level, will at last deliver the whole land over to the sea, and the sea successively prevailing over the land, will leave dry new continents like those which we inhabit." Buffon was invited by the College, in very courteous terms, to send in an explanation, or rather a recantation of his unorthodox opinions. To this he submitted; and a general assembly of the Faculty having approved of his "*Declaration*," he was required to publish it in his next work. The document begins with these words: — "I declare that I had no intention to contradict