rocks of the next periods; his clear conception that the oldest inhabitants of the ocean had become extinct and been succeeded by younger forms; his allocation of the early home of the large Mammalia in Polar districts; and his belief, based upon the distribution of land faunas, that the Old and New Worlds had once been united as a wide Northern Continent.

The weaker features of Buffon's work are his views about the origin of mountains and valleys, which are far behind those of Steno, and appear to have been taken for the most part from the *Telliamed*. He also neglected to incorporate the important results attained by Lehmann, Füchsel, Arduino, and other stratigraphers. At the same time, Buffon was undeniably one of the most gifted exponents of that speculative direction which characterised the geological writings of the sixteenth, seventeenth, and eighteenth centuries. This period, however, contributed a large amount of useful material towards our knowledge of the earth, and its many theoretical failures brought men at last to a clearer preception that the materials for an accurate history of the earth must be looked for in the earth itself. But the key had not yet been discovered to the solution of a chronological succession of rock-formations; the study of stratigraphy was still in its infancy, and the merest beginning had been made in the investigation of deformation of the crust and mountain structure.

Volcanoes and Earthquakes.—The phenomena of volcanoes and earthquakes have always attracted a large share of attention from geologists, not only in virtue of their majesty and splendour, but also because of their destructive effects upon human life and property. The philosophers of antiquity for the most part associated volcanoes and earthquakes with a molten earth-nucleus, or with special subterranean centres of eruptivity, and the majority of the authors in the sixteenth, seventeenth, and eighteenth centuries supported one or other of these views.

Martin Lister had a theory that when sand or other material with an admixture of sulphur weathered in the atmosphere, the sulphur became heated and exploded, causing volcanic eruptions. Lemery, in 1700, put Lister's theory to experimental test; he showed how a mixture of sulphur, iron filings, and water imbedded in earth becomes heated, and finally bursts open the earthy covering and emits flame and vapour.