

In support of this classification I pointed out the fact that the "upper marine sands," or Grès de Fontainebleau of the Parisian series, with their characteristic shells, extend southwards from the French metropolis, as far as Etampes, which is within seventy miles of Pontlevoy, near Blois, and not more than 100 miles from Savigné, near Tours, two localities where the *falunian* shells are very abundant. So remarkable a difference between the species of the valley of the Loire and those of the valley of the Seine cannot be the result of geographical distribution at one and the same former era, but must evidently have depended on a difference in the age of the deposits. It marks the influence of Time, and not of Space.

Another reason which induced me to class the Grès de Fontainebleau and strata of the same age with the older series rather than with the newer, was the decidedly Eocene aspect of the testaceous fauna, and the fact that a certain proportion of the shells of the "upper sands" are of species common to the underlying Parisian strata.

A different arrangement, however, was adopted by MM. Dufrenoy and E. de Beaumont, in their coloring of the Government Map of France, for they comprehended in their Miocene group, not only the faluns of Touraine, but also the freshwater "calcaire de la Beauce," and the marine sands and sandstone (Grès de Fontainebleau), *i. e.* all the tertiary deposits which lie above the gypseous series of Montmartre, a formation well known as rich in extinct mammalia, first brought to light by the genius of Cuvier. M. D'Archiac, in 1839, followed the same mode of classification, dividing what he termed "Lower" from his "Middle tertiary" in the same way. M. Deshayes, in his work on the Fossil Shells of the Environs of Paris (1824-1837), had given twenty-nine species as belonging to the upper marine strata, nearly all of which he distinguished specifically from shells of the *Calcaire Grossier*, although he regarded them as characteristic of the same fauna. The railway cuttings near Etampes, in 1849, enabled M. Hébert to raise the number to ninety, and he first pointed out that most of them agreed specifically with shells of Kleyn Spawen, near Maestricht, in Belgium, and with those of Rupelmonde and other places near Antwerp. These Belgian fossils had been described by MM. Nyst, De Koninck, and Bosquet, and their geological position had been accurately ascertained by M. Dumont, and placed by him above the Brussels tertiary beds, which are the undoubted representatives of the *Calcaire Grossier* of Paris, a typical Eocene group. M. de Koninck, about the same time, remarked that the Kleyn Spawen, or "Limburg" fossils, were in part identical with those of the Mayence tertiary basin, a group which in my first editions I had assigned to the Miocene period. M. Beyrich more recently (1850) has described a formation of the same age as that of Kleyn Spawen, occurring within seven miles of the gates of Berlin, near the village of Hermsdorf; and has shown that about a third of the species agreed with known Belgian shells of the age of the Grès de Fontainebleau, while about a fifth are English and French Middle Eocene species.