

related to Upper Cretaceous faunas in other French localities. They pointed out that the upheaval of the Pyrenees had taken place after the accumulation of these intermediate deposits, and therefore proposed to include them with the Cretaceous system. It was admitted, however, that the Nummulite rocks of Ronca, Monte Bolca, and a few other localities were, as Élie de Beaumont had said, of Tertiary age.

The Swiss geologists, Studer and Escher von der Linth, regarded the Nummulite deposits of Southern Europe as passage-beds between the Mesozoic and Cainozoic periods, the affinity being greater with the Cretaceous than with the Eocene faunas. Leymerie (1843) treated the Nummulite deposits in the Pyrenees as an independent formation (*Terrain épicrotacé*) between Cretaceous and Tertiary, and Tallavignes sub-divided this formation into two horizons, Iberien and Alaricien.

Deshayes and Raulin contested the supposed close affinity of the Nummulite group with the Cretaceous series, and emphasised the decided Eocene character of the Nummulite fauna. D'Archiac gave an exhaustive account of the Nummulite formation in his *Histoire des Progrès de la Géologie*, and brought forward an imposing array of arguments in favour of the Tertiary age of these deposits. Three years afterwards, in 1853, a handsomely illustrated monograph was issued under the conjoint authorship of D'Archiac and Haime. It contained a complete synopsis and description of all Nummulite species, and demonstrated that the genus Nummulites was not known to occur either in the Cretaceous deposits or in the younger Tertiary groups. This work was regarded as practically decisive, and the Nummulite formations were assigned to the Eocene period.

Meantime the Tertiary deposits of Central and Northern Europe were made the subject of many special researches. The memoirs by Galeotti (1837) and by A. Dumont (1836-41) on the Belgian development were far-reaching in their influence. Dumont distinguished (1849-52) a series of palæontological zones, and named the Belgian sub-divisions accordingly as Heersien, Landenien, Yprésien, Panisélien, Bruxellien, Laekenien, Tongrien, Rupélien, Bolderien, Diestien, Scaldisien. Sir Charles Lyell afterwards showed that the first six of Dumont's "Stages" correspond to the Lower and Middle Eocene; Tongrien and Rupélien represent Upper Eocene; Bolderien represents the Miocene; and Diestien and Scaldisien are the equivalents