

the lower Cretaceous formations of the south-eastern part of the Paris basin. Cornuel described deposits in the Haute-Marne which he identified partly as Gault (Marnes à Plicatules), partly as lower Greensand, partly as Neocomian. The localities Bassy and St. Dizier have been regarded since that time as types of the lower Cretaceous development in the north-east of France.

Leymerie's memoir on the Cretaceous deposits of the Aube Department was published by the French Geological Society in 1841. It still ranks as a classic in the geological literature of the Paris basin. Leymerie distinguished three sub-divisions in the Cretaceous system: Neocomian, Greensand and Brick-clays, White Chalk. Each horizon was accurately described, and the distribution of the fossils was indicated with scrupulous care and detail. According to Leymerie, the horizon of the *White Chalk* contains the same organic remains as the Upper and Lower Chalk and the Chalk Marl of England. The *Brick-clays* (Argile téguline) and *Greensand* group comprises two sub-groups, the younger of which corresponds to the Gault, the older contains fossils which are known to occur in the Upper and Lower Greensand as well as in the Gault of the English area; this is the group which D'Orbigny afterwards called *Aptien*.

The Neocomian reposes upon the Upper Jurassic rocks, and consists of three sub-groups: Marls with variegated sandy deposits; Marls and limestones with *Exogyra subplicata*, *harpa*, etc.; Spatangus limestone (the name being given on account of the abundant occurrence of tests of *Echinospatangus cordiformis*). An accurate comparison of the Neocomian in the north of France with the Lower Cretaceous formations of England led Leymerie to the conclusion that the French Neocomian was *not* the equivalent of the Lower Greensand of England, but, as had already been said by D'Archiac, it represented the Wealden formation of England. The palæontological part of Leymerie's work appeared in 1843, and included a description of one hundred and thirteen new species from the Neocomian horizon.

In 1842, a mineralogical and geological description and a geological map of the Ardennes Department was published by C. Sauvage and A. Buvignier. The two authors demonstrated that the Cretaceous system was here represented by the White Chalk, the Greensand or the Chalk Marl (Gaize), highly