

Rouen, and Le Mans (1847-58). His support of D'Orbigny's groups brought Hébert into conflict with his rival, the gifted but rather fiery native of Provence, Henri Coquand.

The south and south-west of France had been Coquand's field of research, Hébert's work had lain in the north of France, and the facies variations of the rocks were undoubtedly chiefly answerable for the want of harmony in the results obtained by the two field geologists. Coquand was engaged for eight years on a survey of the Charente, but his results, published 1858-60, would neither agree with D'Archiac's nor with D'Orbigny's systematic sub-division of the Cretaceous system. Coquand found that the Cretaceous deposits in the south began with the Upper Cenomanian, and that the most natural sub-division would be into eight groups, which were mainly characterised by the abundance of species of the Hippuritid family, whereas in the north of France there were scarcely any Hippuritids.

Coquand erected a number of palæontological zones for the Cretaceous development in the Charente, and traced the continuation of these into Provence and Algeria. To the Cenomanian and Turonian, Coquand ascribed the stages *Rhotomagien*, *Gardonien*, *Carentonien* (zone of *Exogyra columba*), *Angoumien*, and *Provençien*; to the Senonian and Danian he ascribed the stages *Coniacien*, *Santonien*, *Campanien*, and *Dordonien*. In 1862 he added a new stage, *Mornasien*, between the Carentonien and Angoumien for the sandstones of Uchaux and Mornas; and in 1869 he inserted a new stage, *Ligérien*, between the Carentonien and Mornasien. Coquand also added the stage *Barrémien* to the lower Cretaceous between Neocomien and Urgonien for Cephalopod-bearing strata at Barrême and other localities in the Basses Alpes which D'Orbigny had regarded as a facies of the Urgonien.

Coquand's special nomenclature for the southern Cretaceous development was willingly accepted by the geologists in the south of France, but was strongly contested by Hébert. The Parisian stratigrapher also doubted the presence of true equivalents of the White Chalk with *Belemnitellas* in the areas of Touraine, Charente, Dordogne, and Provence; in his opinion, Coquand had erroneously compared the Dordonien and Campanien with the Senonian and Danien of the north; Hébert thought they represented only the lower Senonian.

At the present day the general tendency in France is to