

grown on extensive banks, like our modern oyster. They appear in successive species on the different stages of the Cretaceous system, and can be used for marking palæontological horizons, as the cephalopods are employed elsewhere. But while these lamellibranchs played so important a part throughout the Cretaceous period in the south of France, the numerous ammonites and belemnites, so characteristic of the Chalk in the Anglo-Parisian basin, were comparatively rare there. The very distinctive type of hippurite limestone has so much wider an extension than the northern or Chalk type of the upper Cretaceous system that it should be regarded as really the normal development. It ranges through the Alps into Dalmatia, and round the great Mediterranean basin far into Asia.

Cenomanian (Craie glauconieuse).—According to the classification of M. Hébert this stage is composed of two sub-stages: 1st, Lower or Rouen Chalk, equivalent to the Upper Greensand and Gray Chalk of England. In the northern region of France and Belgium this sub-stage consists of the following subdivisions: *a*, a lower assise of glauconitic beds like the English Upper Greensand, containing *Ammonites inflatus* below and *Pecten asper* above (Rothomagian sub-stage); *b*, Middle glauconitic chalk with *Turrilites tuberculatus*, *Holaster carinatus*, etc., probably equivalent to the English Glauconitic Marl and Chalk Marl; *c*, Upper hard, somewhat argillaceous, gray chalk with *Holaster subglobosus*; the threefold subdivision of this assise, already given, is well developed in the north of France; *d*, Calcareous marls with *Belemnitella plena* (Carentonian sub-stage). 2d, Upper or marine sandstone; according to M. Hébert this sub-stage is wanting in the northern region of France, England, and Belgium. In the old province of Maine it consists of sands and marls with *Anorthopygus orbicularis*, *Exogyra* (*Ostrea*) *columba*, *Trigonia*, and *Ostrea*. Further south these strata are replaced by limestones with hippurites (*Caprina adversa*), which extend up into the Pyrenees and eastward across the Rhone into Provence.¹⁶¹

Turonian (Craie marneuse).¹⁶²—This stage presents a

¹⁶¹ See a memoir on the Upper Cretaceous Rocks of the basin of Uchaux (Provence) by Hébert and Toucas, *Ann. Sciences Geol.* vi. 1875.

¹⁶² For a review and parallelism of the Turonian, Senonian, and Danian stages in the north and south of Europe see Toucas, *Bull. Soc. Geol. France*, 3me ser. x. 1882, p. 154; xi. p. 344; xix. p. 506; for a general description of the formations in the southeast of France, see Fallot, *Ann. Sci. Geol.* xviii. 1, 1885, and *Bull. Soc. Geol. France* (3), xiv. 1886, p. 1.