

can be recognized; but Gmbel has proposed a further grouping into three great regions: (1) the northern province, or area of White Chalk with *Belemnitella*, comprising England, northern France, Belgium, Denmark, Westphalia, etc.; (2) the Hercynian province, or area of *Exogyra columba*, embracing Bohemia, Moravia, Saxony, Silesia, and central Bavaria; and (3) the southern province, or area of *Hippurites*, including the regions of France south of the basin of the Seine, the Alps, and southern Europe.¹²³

Britain.¹²⁴—The Purbeck beds bring before us evidence of a great change in the geography of England toward the close of the Jurassic period. They show how the floor of the sea, in which the thick and varied formations of that period were deposited, came to be gradually elevated, and how into pools of fresh and brackish water the leaves, insects, and small marsupials of the adjacent land were washed down. These evidences of terrestrial conditions are followed in the same region by a vast delta-formation, that of the Weald, which accumulated over the south of England, while marine strata were being deposited in the north. Hence two types of Lower Cretaceous sedimentation occur, one where the strata are fluviatile (Wealden), the other where they are marine (Neocomian). The Upper Cretaceous groups, extending continuously from the coasts of Dorsetshire to those of Yorkshire, show that the diversities of sedimentation in Lower Cretaceous time were effaced by a general submergence of the whole area beneath the sea in which the Chalk was deposited. Arranged in descending order, the following are the subdivisions of the English Cretaceous rocks:

¹²³ "Geognost. Beschreib. Ostbayer, Grenzgebirg."

¹²⁴ Consult Conybeare and Phillips, "Geology of England and Wales," 1822; Fitton, *Ann. Philos.* 2d ser. viii. 379; *Trans. Geol. Soc.* 2d ser. iv. 103; Dixon's "Geology of Sussex," edit. T. Rupert Jones, 1878; Phillips' "Geology of Oxford and the Thames Valley"; H. B. Woodward's "Geology of England and Wales," 2d edit. Special papers on the English Cretaceous formations are quoted in subsequent footnotes.