

cus, *Ananchytes*, *Micraster tercensis*, etc. Eastward, however, in Provence there is evidence of a gradual shallowing of the Upper Cretaceous sea in Cenomanian and Turonian time, until that area had become a fluviatile or lacustrine tract, in which during the later stages of the Cretaceous period a mass of fresh-water strata more than 2600 feet thick was accumulated. This enormous development of strata consists of limestones, marls, and lignites.

**Germany.**—The Cretaceous deposits of Germany, Denmark, and the south of Sweden were accumulated in the same northern province with those of Britain, the north of France, and Belgium, for they present on the whole the same palæontological succession, and even to a considerable extent the same lithological characters. It would appear that the western part of this region began to subside before the eastern, and attained a greater amount of depression beneath the sea. In proof of this statement, it may be mentioned that the Neocomian clays of the north of England extend as far as the Teutoburger Wald, but are absent from the base of the Cretaceous system in Saxony and Bohemia. In northwest Germany, Neocomian strata, under the name of Hils, appear at many points between the Isle of Heligoland (where representatives of part of the Speeton Clay and the Hunstanton Red Chalk occur) and the east of Brunswick, indicative of what was, doubtless, originally a continuous deposit. In Hanover, they consist of a lower series of conglomerates (Hils-conglomerat), and an upper group of clays (Hils-thon). Appearing on the flanks of the hills which rise out of the great drift-covered plains, they attain their completest development in Brunswick, where they attain a total thickness of 450 feet, and consist of a lower group of limestone and sandy marls, with *Toxaster complanatus*, *Exogyra Couloni* (*sinuata*), *Ammonites bidichotomus*, *A. astierianus*, and many other fossils; a middle group of dark blue clays with *Belemnites brunsvicensis*, *Ammonites Nisus*, *Crioceras* (*Ancycloceras*) *Emerici*, *Exogyra Couloni* (*sinuata*), etc., and an upper group of dark and whitish marly clays with *Ammonites Martini*, *A. Deshayesi*, *A. Nisus*, *Belemnites Ewaldi*, *Toxoceras royerianum*, *Crioceras*, etc.<sup>165</sup> Below the Hils-thon in Westphalia, the Harz, and Hanover, the lower parts

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<sup>165</sup> A. von Strombeck, *Zeitsch. Deutsch. Geol. Ges.* i. p. 462; xii. 20; *N. Jahrb.* 1855, pp. 159, 644; Judd, *Q. J. Geol. Soc.* xxvi. p. 343; Vacek, *Jahrb. Geol. Reichsanst.* 1880, p. 493.