

PART VII.

UPPER MESOZOIC STRATA.

CHAPTER XLIV.

GENERAL VIEW OF THE CRETACEOUS SYSTEM.

Mineral Character.—That a peculiar type of mineralogical or lithological character belongs to each system is sufficiently evident through the whole course of our investigation. The gneiss and mica slate of the Cambrian and Silurian systems, the limestones of the Carboniferous series, the coloured marls and Magnesian limestones of the Permian, the Saliferous and Jurassic systems, all strongly impress upon us the distinctive physical features of the several periods at which these different sedimentary rocks were produced or accumulated.

Mineral characters alone, when rightly used, are in many instances sufficient to determine the geological relations of even distant regions; and when conjoined with the evidence of organic remains, they form a secure groundwork for stratigraphical geology.

The Cretaceous system is as definite as any of the others with respect to the distinctness of its prevailing mineral ingredients, and not less characteristically marked by its organic remains. Chalk and Greensand are terms understood by all the geologists of northern Europe; and even on the southern side of the Alps their representatives may be recognised.

Range of the Cretaceous System.—The principal range of the Cretaceous rocks is included within the general boundaries of the European basin, and is not less extensive than the Jurassic system, though, by the spread of Tertiary rocks above it, its course over large tracts of country is wholly covered or hidden.

The Cretaceous system of Ireland is in a depression, on the western side of what is usually understood by the basin of Europe. It consists of chalk 200 or 300 feet thick, more indurated than the ordinary English chalk, but with a similar though less extensive suite of organic remains, and rests on the Upper Greensand or Cenomanian, there called *mulatto*, with the usual characters of that group in England. Lower Lias is found beneath the Chalk at the Giant's Causeway. In Scotland, in addition to the Cretaceous strata of the Western Highlands, only dubious indication of the former extent of the Cretaceous system is afforded by certain flints which rest upon Primary rocks near Peterhead.

Within the natural modern boundaries of the principal basin of European Secondary strata, the Cretaceous system is very largely