

like our chalk downs, or is covered exclusively by the *Juniperus Virginiana*, as certain chalk districts in England by the yew-tree and juniper.

Some of the shells of this limestone are common to the Claiborne beds, but many of them are peculiar.

It will be seen in the section (fig. 244, p. 232) that the strata of Nos. 1, 2, 3 are, for the most part, overlaid by a dense formation of sand or clay without fossils. In some points of the bluff or cliff of the Alabama river, at Claiborne, the beds Nos. 1, 2 are exposed nearly from top to bottom, whereas at other points the newer formation, No. 4, occupies the face of nearly the whole cliff. The age of this overlying mass has not yet been determined, as it has hitherto proved destitute of organic remains.

The burr-stone strata of the Southern States contain so many fossils agreeing with those of Claiborne, that it doubtless belongs to the same part of the Eocene group, though I was not fortunate enough to see the relations of the two deposits in a continuous section. Mr. Tuomey considers it as the lower portion of the series. It may, perhaps, be a form of the Claiborne beds in places where lime was wanting, and where silex, derived from the decomposition of felspar, predominated. It consists chiefly of slaty clays, quartzose sands, and loam, of a brick-red color, with layers of chert or burr-stone, used in some places for mill-stones.

CHAPTER XVII.

CRETACEOUS GROUP.

Lapse of time between the Cretaceous and Eocene periods—Whether certain formations in Belgium and France are of intermediate age—Pisolithic limestone—Divisions of the Cretaceous series in Northwestern Europe—Maestricht beds—Chalk of Faxe—White chalk—Its geographical extent and origin—Formed in an open and deep sea—How far derived from shells and corals—Single pebbles in chalk—Chalk flints—Potstones of Horstead—Fossils of the Upper Cretaceous rocks—Echinoderms, Mollusca, Bryozoa, Sponges—Upper Greensand and Gault—Chalk of South of Europe—Hippurite limestone—Cretaceous rocks of the United States.

HAVING treated in the preceding chapters of the tertiary strata, we have next to speak of the uppermost of the secondary groups, commonly called the chalk, or the cretaceous strata, from *creta*, the Latin name for that remarkable white earthy limestone, which constitutes an upper member of the group in these parts of Europe, where it was first studied. The marked discordance in the fossils of the tertiary, as compared with the cretaceous formations, has long induced many geologists to suspect that an indefinite series of ages elapsed between the respective periods of their origin. Measured, indeed, by such a standard, that is to say, by the amount of change in the Fauna and Flora of the earth effected in the interval, the time between the cretaceous and Eocene may have been as great as that