

Between the Hempstead beds above described and those next below them, there is no break, as before stated, p. 187. The freshwater, brackish, and marine limestones and marls of the underlying or Bembridge group are in conformable stratification, and contain *Cyrena semistriata*, fig. 171, *Melania muricata*, *Paludina lenta*, fig. 175, and several other shells belonging to the Hempstead beds. Prof. Forbes therefore classes both of them in the same Upper Eocene division. I have called the Bembridge beds Middle Eocene, for convenience sake, as already explained (pp. 183, 187.)

UPPER EOCENE STRATA OF FRANCE.

(*Lower Miocene of many French authors.*)

The Grès de Fontainebleau, or sandstone of the Forest of Fontainebleau, has been frequently alluded to in the preceding pages, as corresponding in age to the Limburg or Hempstead beds. It is associated in the suburbs of Paris with a set of strata, very varied in their composition, and containing in their lower portion a green clay with abundance of small oysters (*Ostrea cyathula*, Lam.) which are spread over a wide area. The marine sands and sandstone which overlie this clay include *Cytherea incrassata* and many other Limburg fossils, the finest collections of which have been made at Etampes, south of Paris, where they occur in loose sand. The Grès de Fontainebleau is sometimes called the "Upper marine sands" to distinguish it from the "Middle sands" or Grès de Beauchamp, a Middle Eocene group.

*Calcaire lacustre supérieur.*—Above the Grès de Fontainebleau is seen the upper freshwater limestone and marl, sometimes called Calcaire de la Beauce, which with its accompanying marls and siliceous beds seem to have been formed in marshes and shallow lakes, such as frequently overspread the newest parts of great deltas. Beds of flint, continuous or in nodules, accumulated in these lakes, and *Charæ*, aquatic plants, already alluded to, left their stems and seed-vessels imbedded both in the marl and flint, together with freshwater and land-shells. Some of the siliceous rocks of this formation are used extensively for millstones. The flat summits or platforms of the hills round Paris—large areas in the forest of Fontainebleau, and the Plateau de la Beauce, between the Seine and the Loire, are chiefly composed of these upper freshwater strata. When they reach the valley of the Loire, they occasionally underlie and form the boundary of the marine Miocene faluns, fragments of the older freshwater limestone having been broken off and rolled on the shores and in the bed of the Miocene sea, as at Pontlevoy, on the Cher, where the perforating marine shells of the Miocene period still remain in hollows drilled in the blocks of Eocene limestone.

*Central France.*—Lacustrine strata, belonging, for the most part, to the same Upper Eocene series, are again met with in Auvergne, Cantal, and Velay, the sites of which may be seen in the annexed map. They appear to be the monuments of ancient lakes, which, like some of those now existing in Switzerland, once occupied the depressions in a mountainous region, and have been each fed by one or more rivers and torrents.