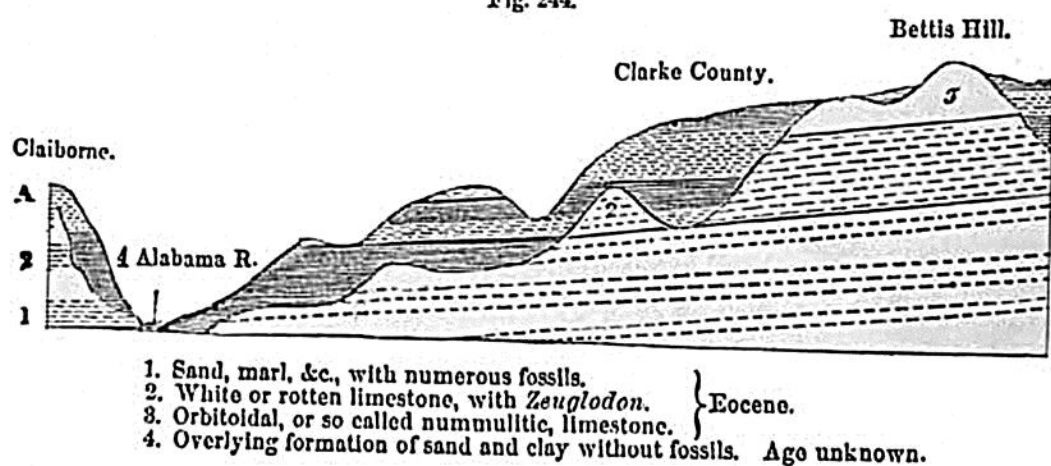


Alabama. They also occur in Louisiana and other states both east and west of the valley of the Mississippi. At Claiborne in Alabama no less than 400 species of marine shells, with many echinoderms and teeth of fish, characterize one member of this system. Among the shells, the *Cardita planicosta*, before mentioned (fig. 216, p. 214), is in abundance; and this fossil, and some others identical with European species, or very nearly allied to them, make it highly probable that the Claiborne beds agree in age with the central or Bracklesham group of England, and with the calcaire grossier of Paris.\*

Higher in the series is a remarkable calcareous rock, formerly called "the nummulite limestone," from the great number of discoid bodies resembling nummulites which it contains, fossils now referred by A. d'Orbigny to the genus *Orbitoides*, which has been demonstrated by Dr. Carpenter to belong to the foraminifera.† That naturalist moreover is of opinion that the *Orbitoides* alluded to (*O. Mantelli*) is of the same species as one found in Cutch in the Middle Eocene or nummulitic formation of India. The following section will enable the reader to understand the position of three subdivisions of the Eocene series, Nos. 1, 2, and 3, the relations of which I ascertained in Clarke County, between the rivers Alabama and Tombeckbee.

Fig. 244.



The lowest set of strata, No. 1, having a thickness of more than 100 feet, comprise marly beds, in which the *Ostrea sellaeformis* occurs, a shell ranging from Alabama to Virginia, and being a representative form of the *Ostrea flabellula* of the Eocene group of Europe. In other beds of No. 1, two European shells, *Cardita planicosta*, before mentioned, and *Solarium canaliculatum*, are found, with a great many other species peculiar to America. Numerous corals, also, and the remains of placoid fish and of rays, occur, and the "swords," as they are called, of sword fishes, all bearing a great generic likeness to those of the Eocene strata of England and France.

No. 2 (fig. 244) is a white limestone, sometimes soft and argillaceous,

\* See paper by the author, Quart. Journ. Geol. Soc. vol. iv. p. 12; and Second Visit to the U. S. vol. ii. p. 59.

† Quart. Journ. Geol. Soc. vol. vi. p. 32.