are largely Lower Silurian and Cambrian. They are the Taconic series of Emmons. The Eolian limestone of Vermont, and its continuation, the Stockbridge, of Berkshire, Mass., with the intervening ridges of slates and schists, are of this series, and also, the extension of the lines southward, though interruptedly, into New Jersey and Pennsylvania; and it probably comprises the interrupted series of limestone belts and the associated schists which extend from Canaan, Conn., south through Litchfield County, Conn., and Westchester County, N.Y., to New York or Manhattan Island, and part of this island, the rest being probably Archæan.

1. Canadian Period.

1. **Calciferous Epoch.** — The Calciferous formation, along the borders of the Archæan of northern New York and Canada, consists of a grayish limestone which is often arenaceous and cherty, usually magnesian, and rarely fossiliferous. It then extends southwestward through New Jersey and eastern Pennsylvania. It includes in Missouri the *first* or upper of the four Lower Magnesian limestones, with the underlying sandstone called the *first*, or *Saccharoidal* sandstone. Its equivalent is the "Lower Magnesian" of Iowa and Minnesota.

2. **Chazy Epoch.** — The Chazy beds in New York consist mostly of limestone. The formation was so named by E. Emmons, after the village Chazy, in Clinton County, N.Y., where the formation has a thickness of 730 feet. The limestone is gray to black in color, and is often recognizable, when in polished slabs of black marble, by the presence of a large fossil shell three inches or more across — the *Maclurea magna* (Fig. 634). The limestone is mostly dolomyte. It occurs in Canada about the Ottawa basin. On the eastern border of New York and the western of New England it makes part of the Taconic series. The St. Peter's sandstone of the northern part of the Mississippi valley has been referred to the Chazy epoch; but it contains few fossils of any kind, and none are characteristically Chazy.

2. Trenton Period.

The Trenton period is represented in New York, in its earlier part, by limestones, and in its later part by shales; and this division in the rocks is the basis of a subdivision of the period into the Trenton and Utica and Hudson epochs. This succession in the rocks implies that a time of clear open seas first existed, in which Trilobites, Gastropods, and Bryozoans abounded, as well as Brachiopods; but that later, through some unexplained topographical change, the waters lost much of their clearness, and bore along so much sediment that mud deposits were made over the bottom, extinguishing life that could not adapt itself to the new conditions, reducing Trilobites to a few species, favoring the multiplication of Lamellibranchs and other Mollusks, and causing many other changes both by migration and modification. The change, moreover, was one of wide extent and influence.

The name Trenton is derived from Trenton Falls, north of Utica, in