

In Illinois, the limestone underlies the city of Chicago and constitutes the gray "Athens Marble" and the gray and buff "Joliet" building-stone. In the Mississippi valley it often contains flint or chert in nodules and is dolomite. In Wisconsin, it has distinctly the features, in some places, of an old coral-reef. Forty species of Corals have been described from it. Some large coral masses "stand erect in the rock, precisely as they grew," making up, along with fragments and sand derived from broken corals, shells, and Crinoids, the coral reef-like limestone bed. Between and about what look like true barrier reefs, there are accumulations of coral fragments, becoming finer and finer on receding from the reef, and thus the rock graduates into ordinary limestone. (Chamberlin.)

In New England, the St. Lawrence Bay of the Niagara period extended far south along the Connecticut valley; for Niagara beds, with their fossils, occur at Littleton, N.H., resting unconformably on older beds. They occur also in northern Maine and New Brunswick; and on the coast of Maine in Penobscot Bay, near Machiasport, in Cobscook Bay; along the Acadian trough; they exist also in Nova Scotia. In Anticosti, a thick limestone ranges continuously from the Hudson to the Clinton groups.

The Rocky Mountain region has few outcrops of Upper Silurian rocks. The Niagara beds have been observed in the Black Hills of South Dakota, near Deadwood, but not in the Wasatch Mountains; and they have not been identified in Arizona at the Colorado Cañon, nor over the Great Basin. They are doubtfully identified in the Eureka district, Nevada, in the upper part of a limestone stratum which is Trenton at base — a *Halysites* occurring in the beds. The formation has a wide range in Arctic seas, and occurs on some islands in Hudson Bay.

Mineral oil exists in large quantities in the Niagara limestone at Chicago, though not capable of being collected to advantage. Worthen says that a portion of the limestone is "completely saturated with oil."

The distribution of the rocks of the Niagara period sustains the conclusions presented on a preceding page with regard to American geography at the opening of the Upper Silurian. They show that the waters over the state of New York shallowed toward the Hudson River, and thickened westward, thus according with other evidence as to the emergence of the Green Mountain region in connection with the making of the Taconic Mountains. The shallowing was toward the emerged mountain belt. They prove also, through the abundant arenaceous deposits, that while in the earlier part of the period the region of the Eastern Interior Sea was shallow, at a later date deeper and clearer seas prevailed, even from Hudson River to and beyond the Mississippi, in which Corals and Crinoids were growing abundantly; yet they were not necessarily deep seas, since 150 feet of depth is enough for all the work of the modern reef-making Polyyps.

1. **MEDINA GROUP.** — The *Oneida conglomerate* is a thick-bedded formation, and the rock so hard as to stand out boldly in rocky ledges and ridges. The Shawangunk grit was