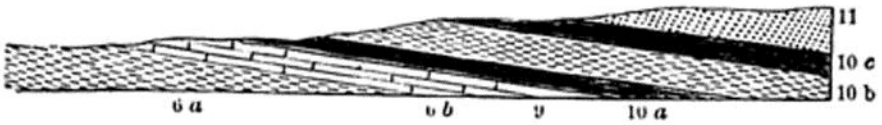
Michigan, and thin out in Wisconsin. They also cross Pennsylvania southwestward. They have not been observed in Missouri, Iowa, or elsewhere in the Mississippi valley. They are absent from the Black Hills of Dakota,

790.

791.



Sections illustrating the relations of the Onondaga beds. Hall.

and nothing definite is known of their occurrence over the Rocky Mountain region, or the Great Basin, or in California, or any part of the Pacific Coast region.

The group is 100 to 200 feet thick south of Albany in the Helderberg Mountains, 800 in Onondaga County, central New York, 1500 at Ithaca, 1600 in central Pennsylvania, 600 in northern Ohio, and only 100 in southern Ohio.

The two formations, the Salina and Water-lime, are not consecutive strata, but more or less cotemporaneous, the Water-lime being thin where the Salina beds are thickest.

Salina Group.

The rocks of the Salina group are mostly reddish shales or marlytes, with little limestone, which is usually dolomyte; or alternations of shales with thick beds of limestone. In either case, gypsum and rock salt are often present.

The outcrop of the formation extends as a narrow belt across New York State, extending from the Helderberg Mountains south of Albany, westward, passing just north of Sharon Springs, Syracuse, and Batavia to the Niagara River above the Falls, where the thickness is but 300 feet. From this belt it dips southward beneath the higher beds of the Upper Silurian and Devonian, becoming 1000 feet below the surface in 25 miles nearly south of Batavia, and 1500 feet in 33 miles. At Syracuse the thickness of the formation is about 600 feet; at Ithaca, 30 miles south of the belt, it is 1230 feet. In western Ontario, Canada, on Lake Huron, about Goderich, the thickness is over 1400 feet, the lower 600 feet consisting of limestone, shale, and salt, and the rest of dolomyte; and to the south, near Cleveland, Ohio, there are 750 feet of shale, limestone, and rock salt beneath 800 feet of dolomyte.

Salt springs occur in many parts of New York, west of Syracuse and Tully. Those around Onondaga Lake led, first in 1825, to the sinking of wells 70 feet to 75 feet deep at Salina, for the manufacture of salt by evaporation. Rock salt appears to have been first discovered in New York, in Bristol, Ontario County, at a depth of 1200 to 1300 feet; but the discovery