

## SILURIAN ROCKS IN ILLINOIS.

T. E. SAVAGE, UNIVERSITY OF ILLINOIS.

(ABSTRACT.)

The Silurian rocks of Illinois belong to two great series. The lower, known as the Alexandrian series, was named from Alexander County, Illinois, where marine rocks of this age were first distinguished. They are better developed in Illinois than in any other part of the United States. Middle Silurian rocks are known as the Niagaran series, from the fact that strata of this age are exposed along Niagara River in the region of Niagara falls.

The strata of the Alexandrian series were deposited in a sea that advanced up the lower Mississippi embayment from the Gulf of Mexico region, and so these rocks belong to the southern province. This series includes the Orchard Creek shale and Girardeau limestone which outcrop near Thebes, Illinois, and Cape Girardeau, Missouri, and which do not extend as far north as Chester, Illinois. Above the Girardeau occur the Edgewood, and Sexton Creek (Brassfield) limestones. The Edgewood is exposed near Thebes, Oswego, Channahom, Essex and Savanna, Illinois; and the Sexton Creek (Brassfield) limestone outcrops along a creek of that name in Alexander County, near Harrisburg, west of Joliet, and near Elgin, and Savanna, Illinois. Both are known to extend as far north as Belvidere, near the north border of the state. These strata yield oil in McDonough county, and gas in Pike county in the western part of Illinois.

The Niagaran series of rocks were deposited in an arm of the sea that during Middle Silurian time advanced towards the south reaching as far south as St. Louis. This series includes four different formations named from below upward as follows: The Joliet formation to which belongs the limestone quarried at Graf-ton, in the vicinity of Joliet, and at many other places in northern Illinois. The Joliet is overlain by the Waukesha limestone which outcrops in the vicinity of Lemont, Illinois, and Waukesha, Wisconsin. Above the

Waukesha there occurs the Racine limestone which is exposed in the quarries near Fulton, and Chicago, Illinois, and near Racine, Wisconsin. The youngest Niagaran strata in the state called the Port Byron limestone, outcrop in the Thornton quarry, near Chicago, and in the quarry at Port Byron, Illinois, from which place the name was taken. From the latter locality more than fifty species of cephalopod mollusks, related to the chambered nautilus, were collected. The Racine and Port Byron limestones contain numerous ancient coral reef structures.