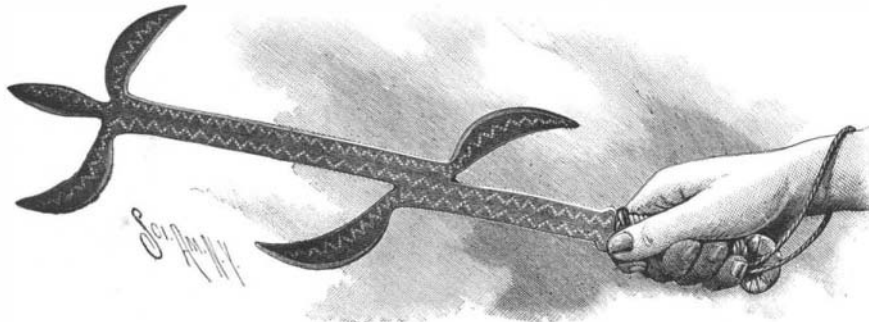


A NUBIAN KNIFE.

One of the most interesting sights in the Midway Plaisance of the World's Columbian Exposition at Chicago is the Cairo street, which is situated near the Ferris wheel. The street is very popular, and, as the admission is only ten cents, it enjoys rather more patronage than its neighbors which charge twenty-five cents. The street is extremely picturesque, the houses being tall and the windows having carved wood screens in front. A lofty minaret towers above them all. The brick-paved street teems with life and Copts, Cairenes, Nubians and Soudanese jostle each other in their anxiety to let their donkeys and camels. Egyptian



THE COLUMBIAN EXPOSITION—A NUBIAN KNIFE.

women with their faces partly covered enact the part of flower maidens and attempt to dispose of faded pinks at fabulous prices. Under the houses are open shops in which are disposed a variety of Oriental articles which appear to meet with a ready sale. In one of these little shops the Nubian knife which we illustrate herewith was purchased.

The knife is made of steel and is nineteen inches long, and the points of the two upper blades are six inches apart. It will be noticed by reference to the cut that, whichever side or part of the knife were used, a serious wound would result. The axes of the blades are not parallel, and it would be interesting to know if there is any reason for this. The knife in the condition as sold is fairly sharp and bears fine file marks. The ornament might be described as simple barbaric dog tooth decoration. The handle is covered with leather and a twisted leather cord is provided to encircle the wrist. It is very doubtful if this weapon would prove as serviceable for actual use as a sword or dagger, but in the hands of a native skilled in its use it would probably prove very effective.

INTAGLIO EFFIGIES OF WISCONSIN.

BY T. H. LEWIS.

Besides the uncounted hundreds of mounds of earth,



INTAGLIO EFFIGY NEAR FOREST HOME CEMETERY.

shaped to represent animals and other figures, which were constructed in prehistoric times in the southern part of Wisconsin, a few—very few—imitations were framed on the opposite principle. That is to say, that instead of earth being heaped up on the surface of the ground two or three feet in height, with a base shaped to resemble in outline some object of nature or art, the figure was formed by excavating a certain amount of earth, from within such a boundary line, a part of the dug-out earth being deposited around the margin of the excavation, in order to even up the irregularities of the natural surface.

The valuable explorations and surveys of the antiquities of Wisconsin made by I. A. Lapham in 1850 and 1851, which gave him the means of delineating hundreds of raised effigies, only brought to light in all some nine of the reversed kind, which for distinction may well be called *intaglio* effigies. These were all situated within 50 miles of Lake Michigan, in five localities, specified as follows:

No. 1.—A few rods east of the (old) Forest Home cemetery, about two and a half miles southwest of the mouth of the Milwaukee River, was a "lizard"-shaped

excavation, at least 145 feet long, judging from his diagram.

No. 2.—On the west side of the Milwaukee River, six miles north of the center of the city, on "Indian Prairie," were four "lizard" excavations together. The largest of these was apparently some 290 feet in length; and there was another excavation a few hundred feet away nearly fifty feet long, and in shape as much like an outstretched hide as anything else.

No. 3.—On the school section, about a mile and a half southeast from the village of Pewaukee, was a "lizard" excavation about 133 feet long.

No. 4.—At Theresa, forty-three miles northwest from Milwaukee, were some curved embankments surrounding three separated ovoid or curleue excavations that were in size from 20 to 28 feet long.

No. 5.—A little southwest of Fort Atkinson, and distant forty-eight miles west-southwest from Milwaukee, was a lizard excavation 130 feet long.

Now these are all the *intaglios* certainly known to have existed in Wisconsin, and with probably the exception of one locality, they no longer

exist. But among them, one specimen at least is yet in good condition and fit to survey.

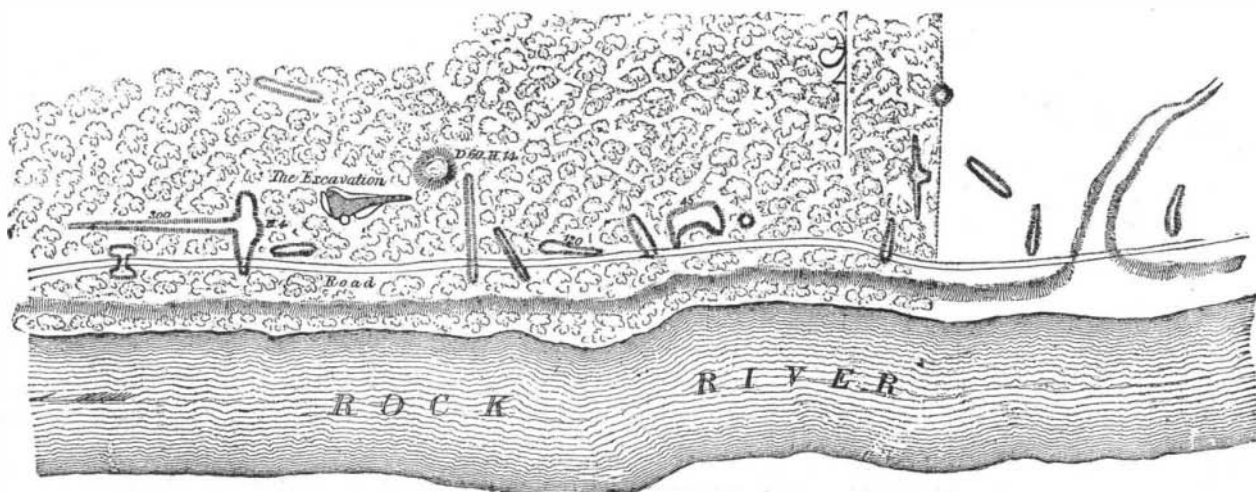
One day last month, during an archaeological examination of the region where the *intaglio* referred to is situated, a careful survey of it was made, together with what remains of the mounds in the group of which it forms a part. This is the group at the locality referred to above as No. 5, near Fort Atkinson, Jefferson County. The length of this *intaglio* is 131 feet, and that portion of it which represents the body is two and a half feet in depth. A small portion of the earth taken from the excavation was distributed along the margin to make the immediate surrounding surface more even and symmetrical.

It may here be appropriately remarked that the term "lizard" applied by Mr. Lapham to those effigies which present head, legs, body, and an extraordinary long tail, shown in profile, should now be abandoned, for, since his time, it has been fully shown that saurians when imitated in earth are invariably in plan, as if looked down upon, never from a side view. The builders of the effigy mounds had most decided conventional methods of delineation, and this way of distinguishing reptiles from other animals was one of them.

It would be an interesting question to know whether the *intaglios* were built subsequently to the *relievos* or *vice versa*, but there seems to be no criterion at present by which the riddle can be guessed. If, however, at some future time, an *intaglio* should be discovered across which a leg, tail or wing of a *relievo* should be carried, thus filling part of its hollow; or, on the other hand, one whose excavation is continuous through any part of a raised mound, the relative priority would then be unmistakably obvious—at least as regard the specimens found.—*The American Antiquarian*.

The Economy of Gas or Electricity for Illumination.

Dr. R. A. Witthaus, who conducts the chemical department of *The Engineering Magazine*, writes: It is curious to note the controversies regarding the relative value of the electric light and of manufactured gas for illuminating purposes which appear in each issue of the journals devoted to these respective industries. But while such controversy is necessarily futile in itself, undoubtedly it is productive of good results on both sides, resulting in the study of shortcomings and, where possible, in the remedy of the same. In



GROUP OF EFFIGIES NEAR FORT ATKINSON WISCONSIN.

Indianapolis the other day the current from a trolley wire went wandering and descended the hollow iron supporting pole until it made contact with a "dead" gas main. After burning a hole in this, it continued on along the dead main until it reached a point where this crossed a main carrying gas, and here burned a second hole. The gas now escaped through into the dead main, and finally, passing up the pole, was set on fire, the wires were burned and traffic stopped. On the one hand, of course, this is proof that such a dangerous commodity as gas should not be allowed on the main thoroughfares, while on the other hand it clearly shows that the pressure of a powerful current of the electric fluid is a constant menace to human life. We do not intend to argue whether it was the match or the gunpowder which did the damage, but merely to speak of the relations of these too frequent accidents to chemistry, over that bridge between chemistry and electricity, namely, electrolysis.

A CURIOUS TREE GROWTH.

To the Editor of the Scientific American:

The beautiful picture which appears in the issue of May 13 of the SCIENTIFIC AMERICAN, showing a remarkable tree growth at Saratoga, leads me to send



A CURIOUS TREE GROWTH.

you a photograph of one of these "freaks," which seems quite as curious.

The trees are in a piece of wild woods on the side of Mount Meenahga, near Ellenville, N. Y. They are beech trees. The one at the left makes nearly a right angle at about seven feet from the ground, and at a distance of three feet enters the side of the other and larger tree. The bark is perfectly smooth all around, and the junction resembles the springing of a natural branch. There are other oddly contorted trees near, one of which appears in the photograph.

Another pair is composed of a hemlock and an oak, perfectly joined at the height of about ten feet.

E. E. S.

The Largest Cave.

Under the dome of the Horticultural building at the Chicago Exposition there is an exhibit that will direct the steps of many tourists to North Dakota. There are several underground rooms decorated with stalactites and stalagmites taken from the great cave discovered in the Black Hills region. This cave is 52 miles long, and nearly 1,500 rooms, some of them 200 feet high, have been opened. There are streams, waterfalls, and 37 lakes, one of which is an acre in extent. The cave is 6,000 feet above sea level and 400 feet below the earth's surface. Petrified bones, snakes, and wood are taken from it. The theory is that these pieces of wood were washed in through the opening. A piece of pitch pine was placed in the water three years ago, and now it is shown in a petrified state.

The *Northern Lumberman* suggests the exhibit is an advertisement which will attract many to visit the natural cave.