

THE CRAWFORD MOUND. By H. M. STOOBS.

NOTES ON ARCHEOLOGY IN MEXICO. By J. T. SCOVELL.

SOME EFFECTS OF MUTILATION ON THE FORMS OF LEAF AND SEX OF MORUS ALBA
AND MORUS NIGRA. By A. N. SOMERS.

ANCIENT EARTHWORKS NEAR ANDERSON, INDIANA. By FRANCIS A. WALKER.

Near Anderson, Madison county, Indiana, there is a system of earth works consisting of one large and six smaller ones, the small ones lying south and west of the large one. It is on the south half of Section 16, Township 19 north, Range 8 east, and three miles east southeast of the courthouse.

The principal work is a circular embankment with a ditch on the inside next to the embankment, with an enclosed area, and a small mound in the center of the enclosure. A gateway opens to the south 10 degrees 30 minutes west of the center of the mound, 30 feet in width, as the ditch terminates on each side of it. The work is a true circle 360 feet in diameter and 1,131 feet in circumference, with an area of 2.35 acres. The enclosed part within the ditch is 140 feet in diameter, with an area of .35 of an acre.

The ditch is 60 feet wide, and the embankment at its base 50 feet wide. The entire central area has been filled a depth of 3.2 feet, and the central mound, which is 55 feet in diameter, is 3.75 feet above the central area.

The embankment has an average height of 8.4 feet, with a variance of 3.3 feet, the same not being of uniform height, the highest point being 9.5 feet.

The average depth of the ditch is 6.92 feet, the depth not being uniform, it also varying 3.3 feet, and as compared with the central area is 10.12 feet, with a maximum depth of 11.75 feet. The average distance from the top of the embankment to the bottom of the ditch is 14.96 feet.

Of the smaller works, three are northwest, two southwest and one southeast of the large one. The principal one of these is 195 feet north 70 de-

gress 30 minutes west of the center of the large one. It is oblong and irregular in shape, the center constricted, and has an extreme length from outside to outside of 200 feet, the long diameter being at a bearing of north 56 degrees west.

There is an embankment of irregular height, not to exceed 3 feet, and a ditch within from 1 to 3 feet deep, and a small mound at the west end of the central area. It is 146 feet in diameter from outside to outside at each end of the work, and the constricted part is 142 feet in diameter. The central area is 75 feet at the east end, 85 feet at the west end, and the constricted part only 60 feet in diameter.

Northwest of this work, and 552 feet north 75 degrees 50 minutes west of the center of the large work is a circular mound, without ditch or embankment, 60 feet in diameter and about 18 inches high.

The other mound in this group of three is 64 degrees and 30 minutes west of the center of the large one, irregular in shape and outline and is hard to trace. It is almost contiguous to the embankment of the large work, and there now remains but a faint trace of the ditch and embankment.

At a point south 54 degrees 45 minutes west distant 446 feet from the center of the large work is a small one 100 feet in diameter. It is a true circle, with an embankment and ditch within, and a central area of 47 feet in diameter. There is a gateway south 66 degrees 30 minutes east, and from the top of the embankment to the bottom of the ditch it is 2½ feet. This mound is very regular and clearly defined.

South of this one 710 feet south 14 degrees 30 minutes west of the center of the main work is another small work, also 100 feet in diameter. The public road runs through this and has destroyed all but the north embankment, which is about 18 inches from the top of the embankment to the bottom of the ditch within.

Two hundred twenty-five feet south 36 degrees east of the center of the main work is another figure 33 feet in diameter, with gateways at the opposite ends. There is another embankment with a ditch within, and it is about 18 inches from the top of the embankment to the bottom of the ditch.

This group, known throughout the adjoining country as "The Mounds," is on the south bank of White River, on a bluff 75 feet in height. The point of location is the highest in this vicinity, and commands a view of the surrounding country. There is a deep ravine on the west, and one

also east of the works which is about half way between them, the ravines being one quarter of a mile apart. The large work is about 200 feet south of the brink of the river bluff, and one arm of a small ravine north of it comes up close to the west side of the principal work in the group of three. At the base of the bluff and in the east and smaller ravine there are a number of large, bold, running springs of chalybeate water. The bluff is composed of clay, sand and gravel, the sand and gravel being at the base, and out of this the water flows.

"The Mounds," as they are usually called, are in a forest of oak, beech, walnut and ash timber. Some very large trees grew on the embankments; among others, several walnut, which have been cut off. One, four feet in diameter, the stump of which is now gone, grew on the work first described, lying northwest of the large one.

The works still remain covered with a growth of timber in no respects differing from the adjoining forest.

In the bottom of the ditch on the east side of the large work there lies a granite boulder about three feet in diameter, apparently where left when the ditch was being dug.

The river and the ravines on each side afford excellent drainage, and the thick layer of leaves protect the embankment from erosion. The embankments being so heavy, the water that gathers within is not able to force its way through, and no gullies or washes have occurred; in fact, the whole system, especially the large work, is in an excellent state of preservation and seemingly as perfect as when abandoned by the Builders.

About ten years ago, the writer, in company with Dr. Joseph Tingley, then of Asbury University, made an excavation in the center of the mound in the main works. At a depth of about four feet we found a bed of ashes, charcoal, and burned bones, the bones crumbling on exposure to the atmosphere. Dr. Tingley claimed they were not human bones, but of some small animal. We found no stone or any arrangement of the earth in the form of an altar, and the fire seemed to have been there before the mound was built above it. The earth was baked and reddened by the action of the intense heat of the same. Over this the mound was then built as indicated. We dug down about two feet below this stratum, but found no further evidence of fire or any unusual arrangement of earth, nor any evidence that the same had been disturbed, further than in the construction of the central area, which had been filled as before mentioned.

Directly north of the main work on the side of the bluff, about ten feet above low water mark, is an outcropping of hard pan, under which one can enter for a short distance through an opening.

In the neighborhood of the Mounds there is a tradition that there is a cave underneath this hard pan, connected with the works. The writer has not been able to find any one who has any definite knowledge about it, and upon examination of the same himself, this opening seemed to be nothing more than a fox hole in the gravel underneath this outcropping.

These earth works have an excellent location as a pleasure resort. They are located in a forest of about 100 acres. On the north side of this forest flows White River, and on the south is the road leading from Anderson to Muncie. The Big 4 Railroad runs about a quarter of a mile south of the forest, and in the summer time there are frequently excursions from Anderson, Muncie and points along the Big 4.

The real estate on which these works are located belongs to parties who have no knowledge of their worth as pre-historic remains, and who value them solely from a commercial standpoint.

The city of Anderson has extended in this direction about one and one-half miles, and the purchase of this real estate has been in contemplation by parties who proposed converting the same into a pleasure resort, and there is a possibility, as it is located so near the city, of the grounds passing into other hands, the forest being cleared away and changes made in the original outlines, and the value of these works, as pre-historic remains, destroyed.

It is not the object to advance any theory or to speculate upon the purpose of the builders of this system of earth works, but to give data and facts as to their form, size and location, so that should anything occur by which they would be changed or destroyed, these facts might be preserved.

In addition to the measurements above given, drawings, maps and cross sections have been made and photographs taken.

The writer, with Dr. J. M. Coulter and W. S. Ellis, visited these works, and while there, Dr. Coulter suggested that such action be taken, and it was done at his suggestion.

There is a further purpose in this paper that facts may be presented to this body and an interest created, and if these works are found of sufficient importance, steps be taken, looking to their preservation. In their locality, they are looked upon simply as a curiosity, with little thought of

their real worth. A few, however, are manifesting an interest, and are ready to co-operate with this body in anything that may be done, either in the way of securing further facts or preventing their destruction.

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