







SMITHSONIAN CONTRIBUTIONS TO KNOWLEDGE.

DESCRIPTIONS

OF

ANCIENT WORKS IN OHIO.

BY

CHARLES WHITTLESEY,

OF THE LATE GEOLOGICAL CORPS OF OHIO.

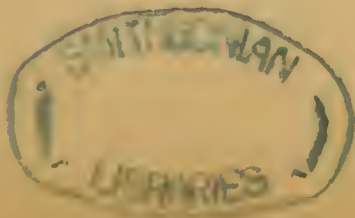
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INTRODUCTORY REMARKS.

MY first critical examinations of the ancient tumuli, forts, excavations, ditches, and lines of embankment that abound in Ohio, were made during the years 1837 and 1838, while engaged as a member of the Geological Survey of the State.

The first and second geological reports of the Corps show what progress had been made in the work of describing these venerable ruins, when the Survey was suspended for want of funds.

Long before that time plans and descriptions of many of them had been made, some of which are quite accurate; while others, particularly those described in the travels of Ashe, and the compilation of Priest, are often fictitious. The plan of the great work at Marietta, by the Rev. S. Harris, made in 1802; the Papers of the Ohio Company, edited and published by Dr. S. P. Hildreth; and the surveys of Dr. John Locke and Mr. James McBride, are worthy of reliance. The "Antiquities of Ohio," published in 1819 by Caleb Atwater, is by far the most complete of the early publications on this subject; and considering the new and inaccessible state of the country at that time, and the discouragements and difficulties of making detailed examinations, his plans are in general as correct as could be reasonably expected.

The course which I have pursued has been to visit in person all the known ruins, and if any one had previously examined and correctly described them, to give him credit for the plan, adding, if necessary, some written explanations. When the Geological Survey terminated, about one-third of the works had been examined, and Mr. Joseph Sullivant, of Columbus, Ohio, who took a deep interest in these mysterious remains, proposed that I should continue their survey with a view to a joint publication, he bearing the actual expenses. Under this arrangement, in 1839 and 1840, I made examinations of nearly all the remaining works then discovered, but nothing was effected towards their publication.

In 1845-6 Messrs. E. G. Squier and E. H. Davis, of Chillicothe, commenced a systematic exploration of the numerous earth-works in the rich valley of the Scioto, and finally extended their researches throughout the State of Ohio, and the West.

The results of their labors are extensively and creditably known as composing the first volume of the Smithsonian Contributions. At the request of these gentlemen, I furnished them with such memoranda and plans as they desired, which may be seen in their work, duly credited to me.

Such of my Surveys as were repeated and published by Messrs. Squier and Davis, were, of course, superseded, and became useless; for I find, on comparison, that their plans in general agree exactly with mine, and the exceptions are such as could

scarcely be avoided where low walls, almost obliterated by time, or concealed by thickets and standing grain, are to be delineated.

There remained, however, several works not yet described, and it is to this class, with one exception, that the present communication relates.

This memoir may therefore be regarded as a supplement to the descriptive part of the first volume of the Smithsonian Contributions; and so far as Ohio is concerned, the two may be said to present the *descriptive* part of the whole subject of ancient mounds, forts, pyramids, and similar constructions.

Those who choose to speculate upon the objects for which these works were made, the character of the people who built them, and the relation the latter held to races at present known, may rest assured that they have reliable facts on which to proceed.

My object has been throughout merely to present additional facts for the use of the antiquarian, performing the part of a common laborer, who brings together materials wherewith some master workman may raise a perfect edifice. Though the ancient works of Ohio may not all be described, because they are probably not all discovered, yet it can scarcely be doubted that a type or sample of every variety must now be in the possession of the public.

A number of the works described in this paper are of a remarkable character. They consist of heavy excavations, ditches, and moats, without the usual exhibition of walls and embankments.

With regard to the geographical range of artificial mounds and other ancient structures to the northward, I have seen them as far as Point au Chêne, on the Mississippi, in Minnesota, about latitude 47° N. Those of Wisconsin are very numerous, but they are low and of small dimensions. They are about to be described by I. A. Lapham, Esq., of Milwaukee, and I think it will appear that they belong to a different race or a different era from those of Southern Ohio. In fact, those found near the south shore of Lake Erie differ from both, and are probably due to a different age or people.

I do not feel inclined to attribute the great works of Central and Southern Ohio to the progenitors of our Aborigines; but in regard to those of Wisconsin and Minnesota there is room for doubts and ample discussion on this point.

CLEVELAND, O., *April 3*, 1850.

P L A T E I.

ANCIENT EXCAVATION, BIG BOTTOM, PIKE COUNTY.

THE works here represented are situated on the west bank of the Scioto River near the line between Pike and Ross Counties. The design appears to have been to form a cut or passage from the bottom land above "Switzer's Point," to the bottom land below; but what necessity there was for so expensive a road, is beyond conjecture. The Point (as it is called) is only eighteen or twenty feet above the bottom, and is easy of ascent and descent. Only a very small portion of the earth removed is now to be seen; having been transported to some spot which I did not discover. The banks *E, E, E*, along a part of the edge of the cut, are light; only one and a half feet high and ten broad.

The sections or profiles *a b*, and *c d*, give the dimensions of this ditch, along which the engineers of the Ohio Canal located a portion of their work. If there were any signs of this passage having been acted upon by running water, we might conclude that it had been used for hydraulic purposes; but its sides and bed are very little injured, or worn away; no more so than we might expect from the effect of rains, frost, &c. There are probably other remains in the vicinity, although I could hear of none. At the north-eastern end of the east bank, *E*, is an artificial mound five feet high and thirty broad; and near the termination of the western embankment is a natural one, disconnected with the bank. A little to the west and north-west, is a natural ridge which appears to have been trimmed by art, and to have been used in connection with the lower portion of the western line of embankment. The second bluff is elevated from forty to sixty feet above the river, and is generally under cultivation, as well as the rich bottoms, which are very extensive.

This work has not the appearance of a drain for swampy land or ponds; for it is not on the most direct course to the river. If designed as a work of defence, it has rendered the Point by no means inaccessible; for the bottom land on the other side is comparatively solid ground, and the low bluff presents no natural obstacle. The trench itself, unless filled with water, would be but a slight impediment. It is situated within twelve miles of the "Graded Way," near Piketon, described in the Smithsonian Contributions, I. p. 88. The mass of earth removed is here greater than at Piketon; where a large portion, though not all, is used in forming the bank at the sides.

I think it probable that this class of works was connected with religious or superstitious ceremonies.

P L A T E II.

ANCIENT WORK, NEAR TODD'S FORK, WARREN COUNTY, OHIO.

THIS sketch exhibits very little that is different from the works commonly seen in Ohio, and heretofore described, except the raised part, D, which is analogous to the effigy-mounds described by Dr. Locke, Mr. Taylor, and others, in the north-west. The land had been some years under cultivation (1839), and possibly the full figure was wanting; but, as it was when surveyed, the resemblance to an animal or even a monster was not very striking. If the semblance of legs had been seen on the eastern side, it would be easy to imagine it intended for a living creature, or a caricature of one; but even then, what animal the constructors wished to exhibit would be very doubtful. The western edge is the highest, being four feet, and the eastern about two feet. At *i*, is a small mound within the boundary of the figure, D.

The wall of the rectangular part of C, is low, and without ditches. The semicircle or "sickle," B, has a wall a little heavier, being two feet high by twenty broad, and is better defined. The more northerly of the two segments of small circles, E, with wide openings, is partially obliterated.

At *n*, is a very distinct road, or graded way, from the plain of the work down to the river bottom, a descent of about twenty feet, and steeper than is usual with the roads of the mound-builders.

The embankments at A are low and narrow, but distinct. It is very seldom that lines of embankment descend to the first bottom, as is the case at the north-east corner of the part, C. M is a small mound.

The pits *a, a, a*, are evidently artificial; but are not capacious enough to have furnished much earth for the walls, and there are no excavations in the vicinity from which the material of these appear to have been taken.

With the high limestone bluff overlooking it on the south, and in the absence of ditches, this work can hardly be considered as one of a military kind. The river is everywhere fordable, and the walls in their best days were slight.

The survey was made under circumstances that did not allow of a minute measurement of all parts of the work. Some of the details are given from an eye sketch, and this obstructed occasionally by a snow-storm.

It is situated about six miles below the great fortification, described in Smithsonian Contributions to Knowledge, I. 18, Pl. 7.

The great number of remains on the Little Miami, between this work and the mouth of the river, indicate a very dense population, in the days of the mound-builders.

PLATE III. No. 1.

WORK, NEAR NEWTOWN, CLERMONT COUNTY, OHIO.

AMONG the curious structures of the mound-builders, there are none more difficult to explain than this. On a detached ridge, composed of limestone gravel, covered with a clay loam, is a low wall, averaging two feet high, and fifteen feet broad, nearly in the form of a circle; although its north and south diameter is about twenty-five feet the longer. The average diameter of the circle is four hundred and seventy feet. The flat ridge on which the figure A is situated, is about twenty-five feet higher than the adjacent plain; which is from twenty-five to thirty-five feet above the Little Miami River. Outside of the circular figure, there is a space from twenty to thirty feet wide, on the natural surface of the ground. On the two opposite sides of the circle, where it occupies the height of the ridge, is an external ditch, or excavation, enclosing about half the figure. It is from seventy to eighty-five feet broad at the top, and from twelve to eighteen feet deep. The bottom of this trench is not smooth, and is from seven to ten feet higher than the adjacent plain. Its sides are as steep as the gravel and earth will lie. On the east, in the direction *c g*, is an embankment or grade, extending by a gradual slope, from the enclosure A to the plain. It is one hundred and sixty-eight feet wide at the neck, where it joins A, and has, at the edges, raised side-walls, like those made for pavements in cities, with a drain or gutter inside. The space between the side-ways is rounded like a turnpike, as represented in the section *d e*. Its length is six hundred feet, and the side-ways are connected with a low and now almost obliterated wall, turning outwards each way at *i, i*. Some distance to the north-east is another traceable fragment *f, f*; and this may, with *i, i*, have been portions of a large ellipse, now destroyed by time and cultivation.

The earth from the outside ditches of A was used to form the embankment, *c, g*, through which a rivulet has cut its way near the eastern extremity. The small circle at *c* represents a mound eight feet high, a little out of the centre of the work. The group of mounds *m, m, m*, are from two to fourteen feet in height. B is a circle, with a slight inside ditch, and a broad opening for an entrance.

The section, *a, b*, gives the position of the ditch, *n*, the bank, *o*, and the space of thirty feet between them, called a berme.

There are some examples of graded ways among the ancient works of Ohio, but none resembling this. The grade at Marietta leads from a strong work down to the Muskingum River, and had an evident purpose, that of access to water. It is principally an excavation and not an embankment. There is also a grade, partly in excavation and partly in bank, from a portion of the Newark works in Licking County, leading to a branch of Licking, or Pataskala River.

The great excavated road at Piketown, likewise descended to water. But here,

a grade that might with as little labor have been constructed in a direct line to the Miami River, is made in the opposite direction, away from water. I should judge that the rivulet was not a permanent stream, and therefore could not furnish a constant supply of water. Besides, the graded way instead of terminating at this rivulet, crosses it, and probably by an ancient culvert or sluice, allowed the water to pass under the road.

Without taking such measurements as would be sufficient to estimate the contents of the ditch in cubic yards, it appeared to be about equal to the embankment in capacity. The section *a, b*, gives its form, and the position of the low interior wall.

It is not improbable that there may have been outworks connected with this remarkable group that were not seen, or which have been destroyed by the plough.

PLATE III. No. 2.

MOUND NEAR NEWTOWN.

FIGURE A, of the separate sketch, represents the base of an irregular mound, forty feet high, two hundred and fifty feet on the longer axis, and one hundred and fifty on the shorter. It appears to be composed of the light loamy soil of the vicinity, and is the only instance within my observations of a mound with an irregular outline. Where the road ascends the low gravel bluff, from the first to the second bottom, immense numbers of human bones were found in comparative preservation, imbedded in limestone gravel. There is another mound fifteen feet high near the village of Newtown, standing on the *first* bottom. A good notice of the ancient works about Newtown appeared in the "Cincinnati Chronicle," in September, 1839, by Mr. Timothy Day, of Cincinnati, Ohio.

PLATE III. No. 3.

WORK NEAR COLUMBUS, OHIO.

THESE structures are simply circles, or figures approaching to circles, with occasional irregularities. There is a difference of fifty feet in the diameters of the larger one, and the outline bends each way from the curve of a true circle, a few feet, making short straight portions, not capable of representation on our scale. The ditches are at present very slight, and not uniform in depth or breadth. From the top of the bank to the bottom of the ditch, the difference in no place exceeds

two and a half feet. On all sides, for miles, is a low clayey plane, inclined to be wet, with very slight undulations. This is the only remarkable fact connected with this work. Its ditch being *external*, and its openings narrow, indicate a work of defence; and if it were known that the ancient inhabitants of the Scioto used palisades, we might safely conclude this to be a place of defence, relying solely on artificial strength. There is no running water in the vicinity.

PLATE IV.

ANCIENT WORKS AT CINCINNATI (NOW OBLITERATED).

FIGURE A is nearly elliptical, the major axis being eight hundred and thirty, and the minor seven hundred and thirty feet; the height of bank two feet; the breadth of base thirty. The entrance on the east is ninety feet wide, guarded by two low oblong mounds, *a, a*. From the entrance, to *b*, is a low wall, or high road, one foot high, and nine broad, and *b* is a mound eight feet high, sixty feet broad, and one hundred and twenty feet long. When, in the progress of city improvement, this mound was removed, a large number of trinkets were found at its base. D is a circular bank, one foot high, fifteen feet broad, and sixty feet in diameter.

C appears to be a portion of an unfinished, or obliterated work, which must have been large, perhaps including the works at A. At B is an enclosure, the parallel sides of which are forty to forty-six feet asunder, seven hundred and sixty feet long, about two feet high, with an opening on the south, thirty feet wide.

F represents an oblong mound, thirty-five feet high, which, until 1843, was not entirely obliterated. General Wayne, whose army encamped near it in 1793, cut off the summit, in order to erect a sentry-box. It was in this mound that the curious carved stone was found, which is described by Squier and Davis, in the first volume of Contributions, page 275. P is an excavation, two feet deep, and fifty feet across; and *m* is a mound nine feet high. The high ridges to the east of Duck Creek are about four hundred feet above low water, and composed of the "Blue Limestone," a member of the Silurian system.

The first bench is within range of high water, that is, sixty-one feet above extreme low water. The second bench is composed of gravel, with strips of sand, into which wells have been sunk at the work, A, ninety feet, to the level of the river, before procuring water.

The plateau rises towards the rear to one hundred and twenty-seven feet, at the foot of the mountains, a mile and a quarter from the river.

It is remarkable that the mound-builders of old, and the city builders of our own times, selected in a great many cases the same sites. Portsmouth, Marietta, Circleville, Chillicothe, Alexandersville, Frankfort, Piketon, and Newark, are on or near the sites of the ancient cities.

Among many mounds and embankments, this people have left very few excavations; thus indicating a want of metallic implements, of the size and kind necessary to remove solid earth. This is likewise manifest, from the fact that no quarries of rock have been discovered which can be referred to their labors. The mounds and walls of stone which they have left, are formed of loose and small stones, such as a man, or at most two men, could lift, and thrown together loosely, without being trimmed or cut.

PLATE V. No. 1.

WORKS IN ADAMS, WASHINGTON COUNTY, OHIO.

A VERY few words will supply what is wanting in the figure, to give a proper idea of this work. The lines are low and almost destroyed by the plough, being, at the time of survey, at most only two feet high. The situation is dry and pleasant, an agreeable place for a village, convenient to water; the soil consists of sand and gravel. The figures 4, 8, 10, &c., indicate the position and height of mounds. These are of earth, excepting two, marked *m, m*, which are of sandstone and limestone.

PLATE V. No. 2.

WORK NEAR JACKTOWN, LICKING COUNTY, OHIO.

THIS work is situated eighty rods north of the National Road, and two miles east of Jacktown, Licking County, Ohio.

The ground here is elevated, the enclosure surrounding the summit of a hill, not very abrupt; the soil is a mass of broken sand-rock. From the top of the inner wall, *e*, in the section *a b*, to the bottom of the ditch between the walls, the distance is three feet, generally less; both the height of the wall and depth of the ditch, varying at different points. Of the entrances, *c, c, c*, the northern is the widest, being forty feet; the eastern twenty-eight, and the other twenty-two feet, and without mounds or barriers. The circles at figures 1, 2, 3, 4, represent mounds of stones, such as one, or at most, two men might carry, loosely thrown together. No. 1 was eighteen feet high, with a base of ninety feet diameter. No. 2, fifteen feet height and seventy feet base. No. 3, the same. Their bases are not regular circles, and all of them are now (May, 1838) much injured by the inhabitants of

Jacktown, who use the stone for cellar walls. This consists of the coarse-grained sandstone of the coal series, and constitutes an excellent material for rough walls.

I did not observe any permanent supply of water in the neighborhood, or any reservoirs within the enclosures, which might otherwise be regarded as defensive work. The largest diameter is seven hundred and fifty feet; the shorter six hundred. The interior space rises above the well and ditch several feet, in an oval or rounded form. One-fourth of a mile to the north-east is another stone mound, like those within the work, which is fifteen feet high, and composed of loose sandstone.

About one mile and a half to the south-west, and on the south side of the National Road, on sec. 10, T. 19, R. 17, is a very large stone mound, originally forty feet high; with a base, one hundred and eighty feet in diameter.

Fifteen feet of the apex was removed, many years since, by a believer in *Robert Kid's* treasures, and a cavity sunk nearly to the bottom with much labor. It is even now a commanding object, rising among the trees of a thrifty western forest. The stones are thrown together promiscuously, but in the general form of a regular cone. Some of them have been carried away for masonry. Stone mounds were doubtless made for the same purposes as the earthen ones, the loose fragments of rocks being convenient, and more easily carried into place than earth. Walls of the same material are sometimes found, as well as some of earth and stone mixed.

I have nowhere seen, nor ever heard of, the mark of a tool on any of these stones.

PLATE V. No. 3.

STONE WORK, PERRY COUNTY, OHIO.

THIS is found in Perry County, five miles north-west of Somerset, Sec. 21, T. 16, R. 17.

The wall is, and must have been very slight, not, on an average, as large as the stone fence of the New England farmer. The stones may have been heaped together with more regularity than they now present, but were not dressed. At the points, *a, a, a*, the wall increases in volume, like a mound or tower; but, in general, it is not above one foot high and ten feet broad; its greatest height does not exceed four feet. The ground is not strictly inaccessible, but difficult of approach, and at the steepest places the wall is built close to the edge of the bluff.

At *b, b*, the rock, a coarse conglomerate, is bare, and a perpendicular fall, of several feet, is exhibited, with large detached blocks, and here there is no wall. At several other points, large detached blocks, not transported, but in place, form part of the wall. The builders do not appear to have employed great mechanical forces, for detached rocks, and such as two or three yoke of oxen could move,

are left within a few feet of the wall, while smaller stones from a distance are used. The rough stones of the wall were found convenient, having fallen from the rocky cliffs, on which the work is built.

The interior space of the enclosure is higher than the exterior, and the whole thickly covered with timber.

A little west of the centre is a mound of loose stone, *m*, fifteen feet high. The principal entrance is at the north-west angle, *c*, where the ascent along a ridge is less than elsewhere, but is still laborious. The work is at least one-fourth of a mile from water, the hill is from three to four hundred feet above the adjacent valleys, and detached from other hills.

The position indicates it to be a fortress, which was not completed or occupied. With a heavy wall, a resolute garrison, well supplied with water and provisions, could here make a protracted defence. I do not think pallisades could have been inserted in the wall, for it was not strong enough to sustain them; and, in general, they could not have been sunk beneath the surface, for it is solid rock.

If "abattis," or other wooden obstructions were relied upon, the wall would have been of little service; but its outline being traced, a few thousand men, in an emergency, could, from the loose rocks of the cliffs, have made a formidable wall, in one night. To this enlarged work they might have added wooden defences of some kind. This sketch was made by examining the perimeter in detail, and noting its parts by the eye, and short measurements; its dimensions are, therefore, not strictly exact.

PLATE V. No. 4.

FORTIFIED SUMMIT, THREE MILES SOUTH OF NEWARK, LICKING COUNTY, OHIO.

ON the plan of the Newark valley, given by Squier and Davis, S. C. Vol. I., Plate 36, No. IV., this work might be laid down on the hills overlooking the *South Fork*, at an elevation of about two hundred and fifty feet. The stream washes the base of the hill on which the enclosure stands; and runs between the hills and the Ohio Canal. It is, no doubt, part of the great system of works constructed about Newark and Granville. On the west the wall is light, and the ditch shallow, and on the north neither is traceable; probably never made. The manner in which an interior ditch became serviceable to defence, will appear by examining the vertical section, *a*, *b*, showing the two walls as they rise one above the other, on the steep hill-side. The ascent is very difficult from the creek on the north, all the way to the work; so that the open space in the wall on that side could be easily defended. Why there should be so many unprotected openings in the embankment is more than I can account for.

P L A T E VI. No. 1.

ANCIENT EXCAVATION ONE AND A HALF MILES WEST OF MEDINA CENTRE, MEDINA COUNTY, OHIO.

It was with some hesitation that I concluded to regard the ditch represented in Fig. 1 as artificial, and an ancient work, but I am now convinced that it is an excavation, and anterior to the earliest white occupation of this region. To explain its design is more than I shall attempt. If it was intended as a race-way for water power, it need not have been sunk so deep, and should have been connected with the stream at the upper end. It is not low enough at the bottom to allow the water of the river to flow through so as to cut off the bend, if the object was to change the channel without first raising the water above. The ditch itself does not show the action of running water, being remarkably well preserved at the sides and the bottom.

The soil is clayey and retains water.

The trench is not of uniform width, varying from thirty-five to twenty-five at the top; its sides are as steep as such earth will lie.

There is only a slight elevation at the edges of the ditch, showing that the earth taken out was either carried away, or spread evenly over the adjoining surface. In this particular it corresponds with the ditch described heretofore at "Big Bottom."

A part of the ground between this trench and the river is subject to floods, being from nine to fifteen feet above low water. It is commanded by the bluff opposite, which rises twenty-five or thirty feet, so that the place could not have been occupied as a defensive post. The water of the creek is sluggish, and has a muddy bottom; but at ordinary stages it might be passed by men or horses. By damming the stream below its channel, the ditch might be filled with deep water, thus forming a moat difficult of passage, and affording some security, were not the whole overlooked on all sides by higher ground.

The work must, I think, have had some connection with ceremonies, religious or military; but I know of nothing analogous in history or antiquarianism, except those given in these sketches.

P L A T E VI. No. 2.

FORTIFIED POSITION, WEYMOUTH, OHIO.

AT Weymouth, five miles north-east of Medina Centre, Medina County, the east branch of the Rocky River, which is about fifty feet wide, passes rapidly through a narrow gulf in the rocks, from forty to fifty feet deep, with sides nearly vertical, and composed of soapstone, and thin bands of sandstone interstratified. The fall of the stream is estimated at one hundred and twenty-five feet in a mile and a half, along which numerous mills and machinery are placed.

On a narrow point, protected on all sides but one by the precipice and the stream, the mound-builders entrenched themselves behind three walls of earth, with exterior ditches, at present two and three feet deep. The embankments are also from two to three feet high, and are without openings or gateways.

The occupants must have passed in and out of the work by steps, leading over the walls. In excavating, the rock is found at the depth of two and three feet. The space inside the parallels was used by the present occupants as a burying-ground; but is now abandoned, because graves cannot be sunk to the usual depth without cutting away the gritty sandstone beneath.

It would be difficult to find a position more inaccessible to a foe.

From the inner wall to the point of the hill is three hundred feet; across the neck on the outside parallel is two hundred feet. The space inside the work is, therefore, not large. The soil is a stiff clay. On the south and east the ground rises, but not rapidly.

There is a small mound, *m* inside the enclosure, made partly of earth and partly of stone, and also others outside on the north, very small, and filled with bones.

In the crevices of the walls hundreds of yellow rattlesnakes had their winter abode, until the quarries began to be worked, and their retreats were invaded by the workmen, who killed them in great numbers.

P L A T E VI. No. 3.

ENCLOSURE HALF A MILE EAST OF GRANGER, MEDINA COUNTY, OHIO.

ABOUT four miles south-east of Weymouth, in the township of Granger, in the same county, is an enclosure of earth now nearly obliterated. It may be seen by a

close observer, on the east road half a mile from the "Burg," as the centre of the township is called. The soil is dry and gravelly, though the situation is low, nearly on a level with a swamp of several hundred acres on the north-east. The land to the south and east rises very gradually. The figure forms an imperfect circle, having straight portions of two or three rods in length, and is eighteen rods in diameter. The owner has placed a barn over it on the south side, and a house on the west. As usual, the present proprietor appears to have a special grudge against his predecessors; and by dint of much ploughing and scraping, has nearly demolished the ancient monuments of their labor.

Two very fine and constant springs discharge their waters in rivulets on each side, the only perennial ones, as I am told, within a distance of two miles.

There appears to be but one opening, which looks towards the swamp. Where the wall is untouched it is two feet high, and ten broad; and the ditch is of the same dimensions.

It is very doubtful whether this was intended for defence, or at least for protracted resistance. The ground inside is not smooth, but uneven. The location pleasant; though lower than the surrounding country, except on the swamp side. It was probably a place of residence for families, who cultivated the adjacent lands. About a mile north-east, on a knoll overlooking a large tract, is a low mound containing bones and pieces of hardened clay, with small stone ornaments.

PLATE VII. Fig. A.

NORTH FIELD, SUMMIT COUNTY, OHIO.

THE engineers who selected the site of this fortification, understood very well the art of turning natural advantages to good account. Why they did not embrace in their plan the whole of the level space within the crest of the bluff, is not easily explained, unless we presume that their numbers were few, and not sufficient to defend the whole. On all sides, the gulleys are from eighty to one hundred and ten feet deep, worn, by running water, into the blue and yellow hard pan that here forms the bluffs of the valley of the Cuyahoga River. The earth is as steep as it will stand; and, in fact, is subject to slides, that lie in terraces, resembling platforms, made by art. Before the ground was cultivated, the ditches are said by Milton Arthur, Esq., the owner of the land, to have been so deep that a man standing in them could not look over the wall.

The soil is gravel, but at about ten feet depth is the impervious "hard pan," or "upland drift," of this region. In the gully on the north the water is permanent at all seasons, running over green shales and sandstones, on which the drift rests. But the ancient inhabitants appear to have dug wells within the fort, at the points indicated by large black dots, which the old settlers say were stoned up, like our wells.

On the western face of the bluff, near where the road descends, is a small spring, not reliable at all seasons. At the north end of the ditch of the *inner* wall, at the neck, there was a narrow space left as a passage into the work, but none in the outer wall. There are low mounds at *m, m*. The approach is along a sharp ridge called a "hog's back," merely broad enough for a single road track, for the distance of thirty rods, and the sides are as steep as any part of the bluffs adjacent. The points of land across the ravines are on the same level with the work.

It is not very evident why a few rods of ground were cut off by lines at the south-west angle, nor why part of the ditch was made on the inside on the north and west.

It is very remarkable that, while all the works in northern Ohio are of a military character, there are no evidences of attacks by a foe, or of the destruction or overthrow of any of them.

On the west bank of the river, opposite this spot, is another similar work.

PLATE VII. Nos. 1, 2, 3.

FIGURE No. 1, Plate VII., is situated in Lick Township, Jackson County, Ohio, on the west half of the north-east quarter of Sec. 19, T. 7, R. 18, on high ground, about one-fourth of a mile north-west of Salt Creek.

The soil is clayey, the work slight, with only one opening which is on the east, and to my knowledge without running water in the vicinity. The ditch being interior, indicates that the work was built for some other purpose than defence, probably for ceremonial uses.

Figure No. 2, Plate VII., is on the same quarter section on the east half, and lies near the road from Jackson to Richmond, on the left hand. The prospect from this mound is extended and delightful. On the west, between this and No. 1, is a ravine and a small stream. As the soil is sandy, it is certain that the mound, attached to the rectangle on the south-west, was somewhat higher at first than it is at present.

Neither of these works is perfectly square or rectangular, but irregular in form, approaching a square.

No. 2 is clearly not a work of defence, and probably intended as a "high place" for superstitious rites. A more charming spot for such observances could not be chosen, if we admit that external circumstances and scenery had any connection with the sentiments of the worshippers; and we must allow that the mound-builders were alive to the beauty of scenery.

Sketch No. 3, is in Franklin township, Ross County, Ohio, on the land of Mr. George Johnson, about one mile west of the Scioto River. Entry No. 488. The soil is clayey, and the work is pleasantly situated, though the ground is not high.

The work is not more than half a mile from the rich bottom lands of the Scioto, which its builders probably cultivated.

A very large *Pyrula perversa*, about eight inches long, now in the State Cabinet at Columbus, was found near Mr. Johnson's house, about two feet below the surface, on the bottoms. There were two of them, which lay touching each other at the apex; the one in the cabinet being entire. This shell-fish is said to exist in the Gulf of Mexico, and on the coast of the Southern States; and has been found in many places at the West, in and about the ancient works. At Portsmouth, Ohio, six or seven were found buried in the soil, beneath the parallels of the great work described in the Smithsonian Contributions. They were at a depth of twenty-five feet in river alluvium. In Kentucky, the same shell has been frequently found, adjacent to old walls and mounds. They were probably used by the ancient race for religious and other ceremonies, as is said to be still the case among the Hindoos.

P L A T E VII. Fig. B.

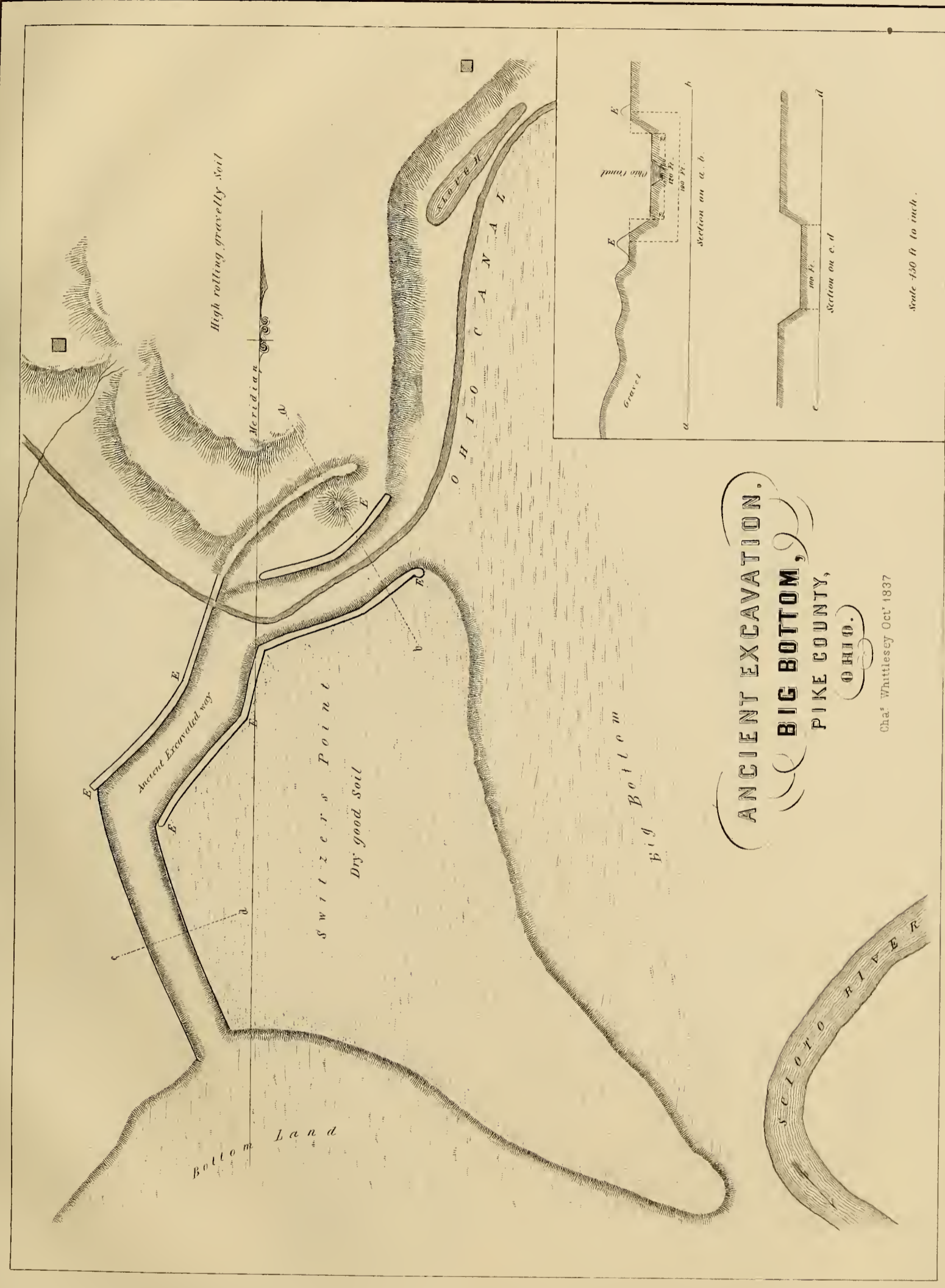
THREE MILES AND A HALF EAST OF PAINESVILLE, LAKE COUNTY, OHIO.

THIS drawing represents a "stronghold" admirably situated for security and resistance. A long, narrow, natural wall of slate, or shale rock, is left standing between the creek and the river; its direction east and west; its elevation above the water is from eighty to ninety feet; and its faces as nearly perpendicular as the soft shale will allow. Except at the western extremity, a person might leap from the top to the bottom; though it is so steep as to be absolutely inaccessible, without ropes or bushes, or something by which to drag one's self up. The decomposing shale, or "soapstone," is very slippery, forming a greasy clay, always wet. The distance is two hundred and thirty feet from the point A to the first parallel, which is low, being only one and a half to two feet above the natural surface; its ditch about one foot deep, but like all the walls and ditches it varies at different points. Just in rear of this wall the ground rises gently four or five feet, and thence the plateau is nearly level for four hundred feet to the next parallel, and as far as a rise of land about three hundred feet to the east, where the promontory joins the main land. On each side back of the parallels are low bottom lands; but from thence forward to the point on the north is a water-washed bluff, and on the south a flat, through which the creek wanders very irregularly. The Grand River is about two chains wide, but fordable in ordinary stages. Over the whole promontory is a thick growth of hemlock, causing a perpetual shade within the area of the work.

The outer parallels at B are much stronger and better defined than the others, ranging from eight to ten feet in height from the bottom of the ditch. They are not straight or parallel, but irregular in direction as well as height, and are remarkably well preserved. There is an appearance of slight openings, but I think them due

to travel in more recent times, wearing down the walls where they are crossed by paths; for although there is no road through the works, there are very old paths and trails, used not only by visitors, but by cattle running at large in the woods. This work appears upon the whole to have been without apertures, being in this respect like the one at Weymouth, Medina County, where the entrance of the occupants was probably by temporary wood work over the walls.

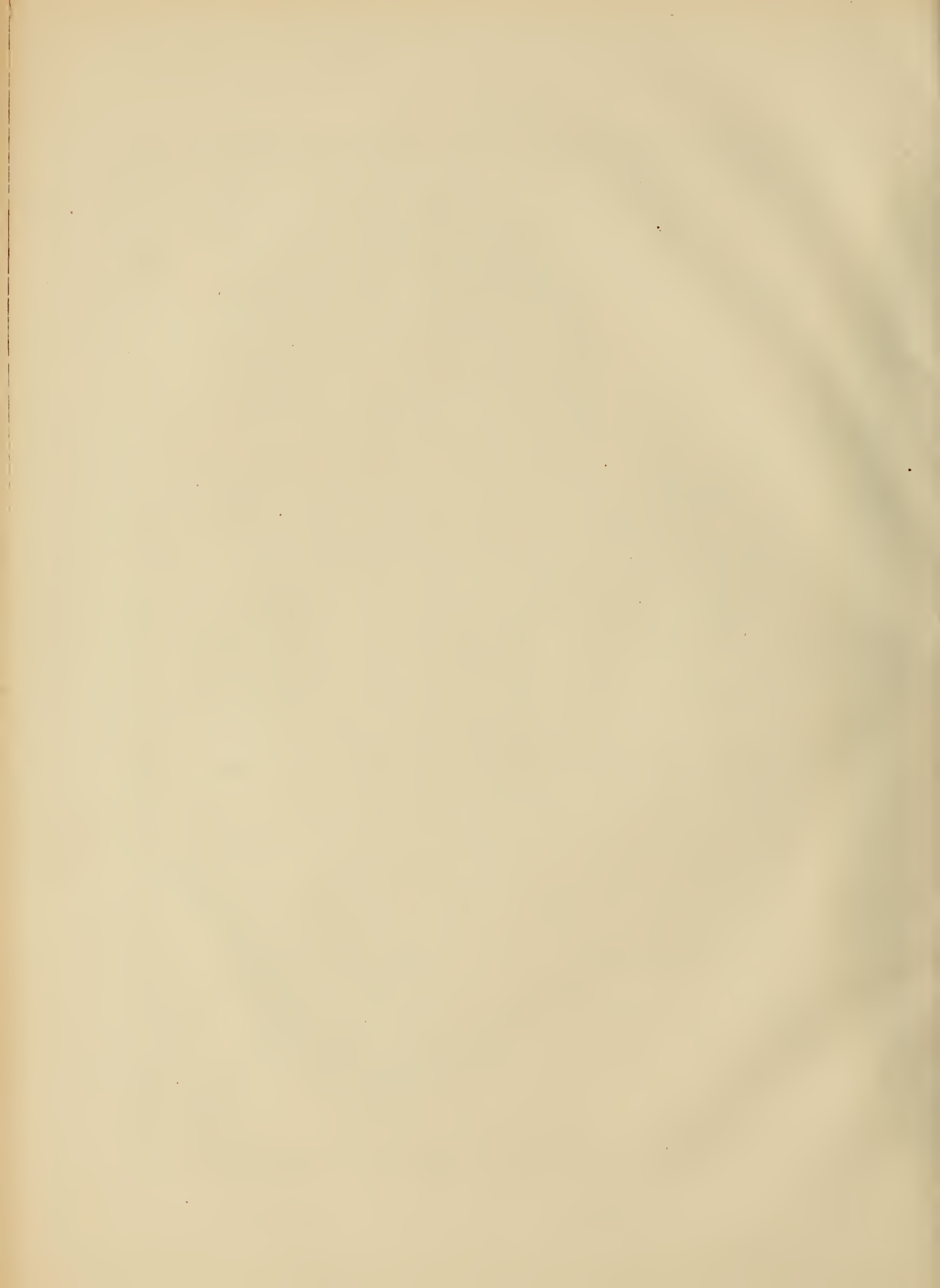
In a direct line, this work is about three miles from Lake Erie. The outer parallels are from fifteen to eighteen feet broad at the base, and from four to four and a half feet high, as shown in the section *a, b*.

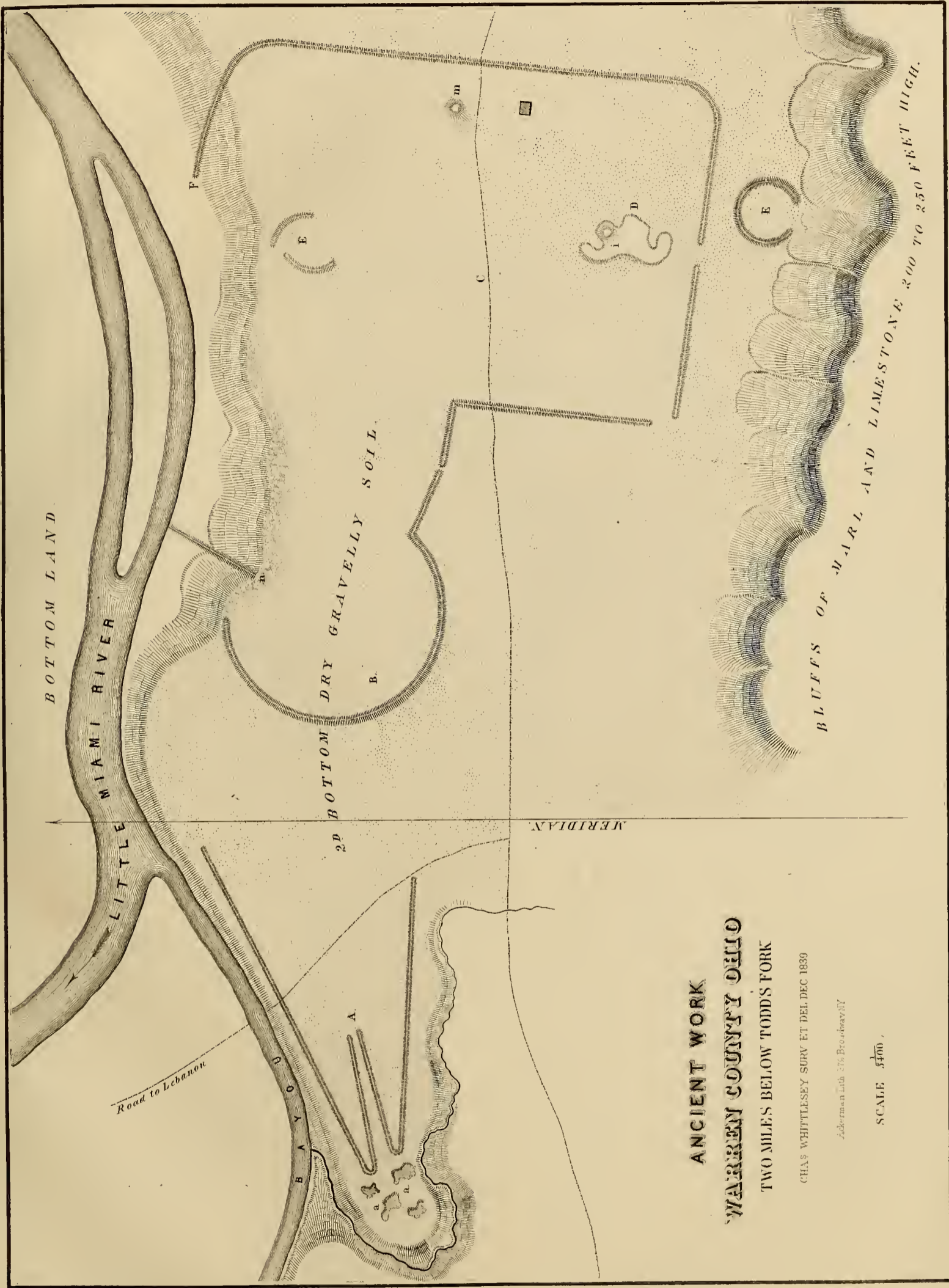


ANCIENT EXCAVATION.
 BIG BOTTOM,
 PIKE COUNTY,
 OHIO.

Chas. Whittlesey Oct' 1837

Scale 450 ft to inch.





**ANCIENT WORK
WARREN COUNTY OHIO**

TWO MILES BELOW TODD'S FORK

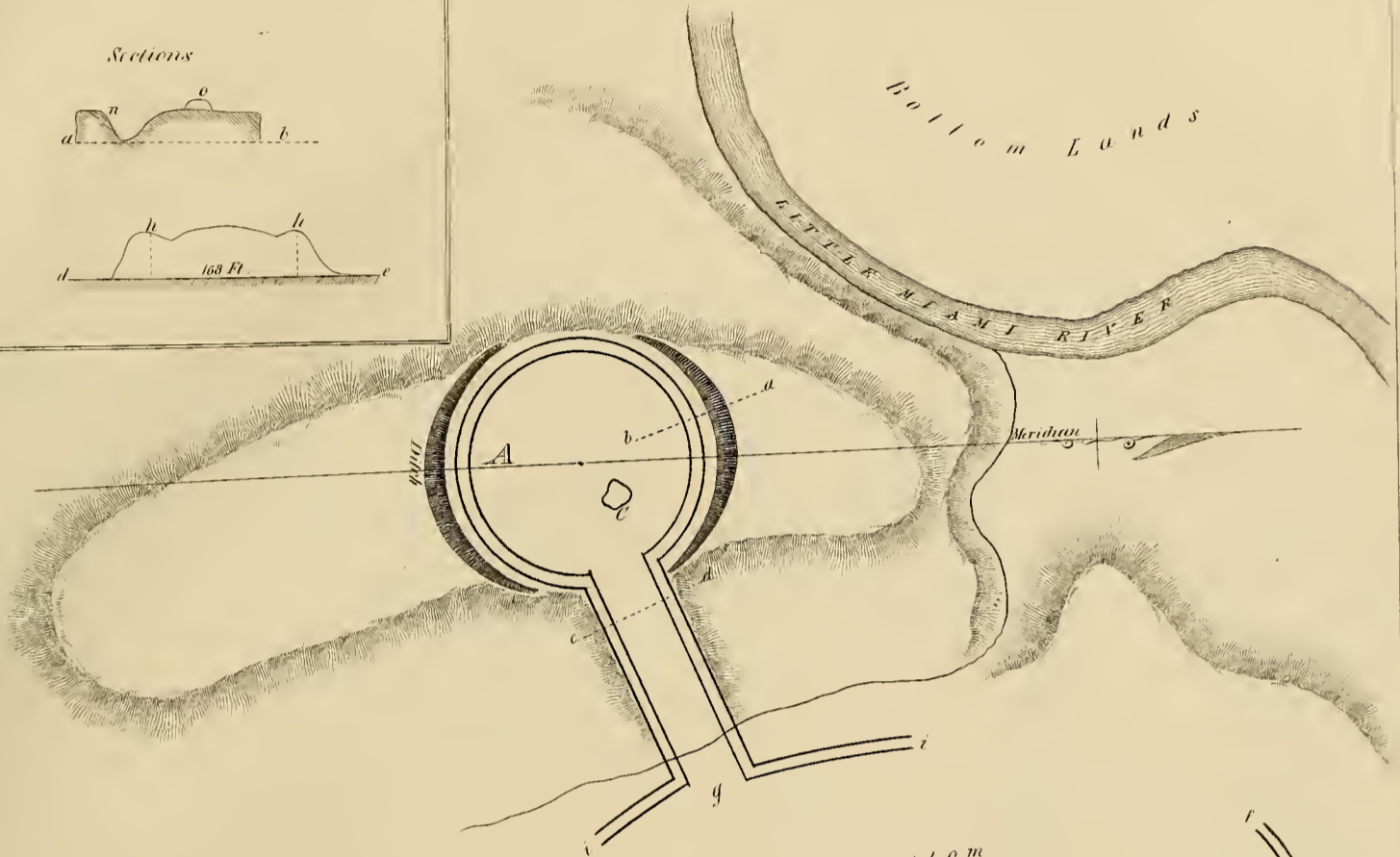
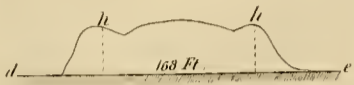
CHAS WHITTLESEY SURV ET DEL DEC 1839

Adherman Lith 276 Broadway NY

SCALE 5400

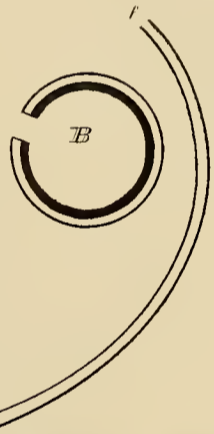
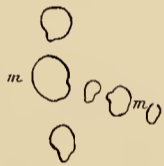


Sections



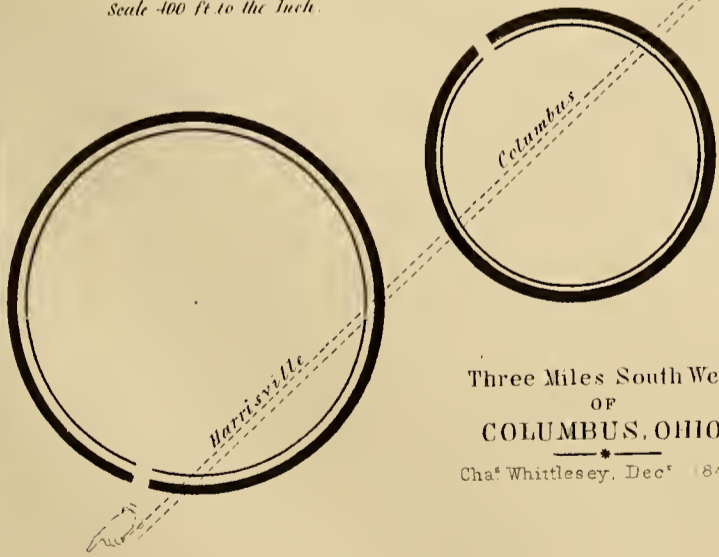
CLERMONT COUNTY, OHIO.
Three Miles above
NEWTOWN.

Rich soil 2nd Bottom

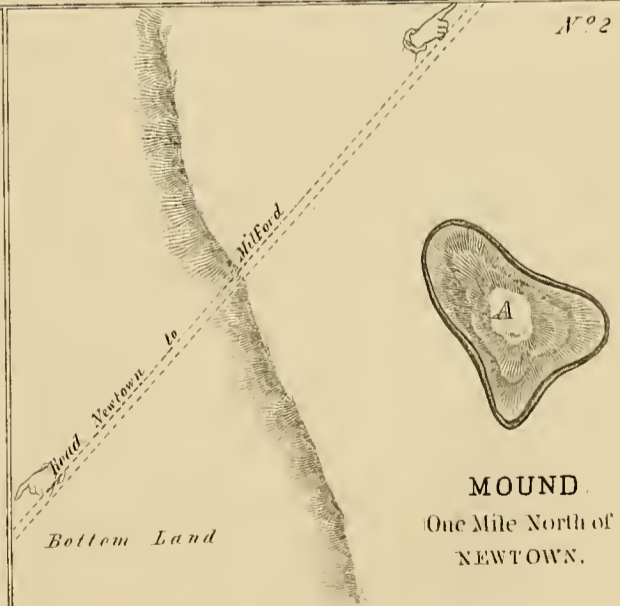


Scale 330 Ft. to the Inch.

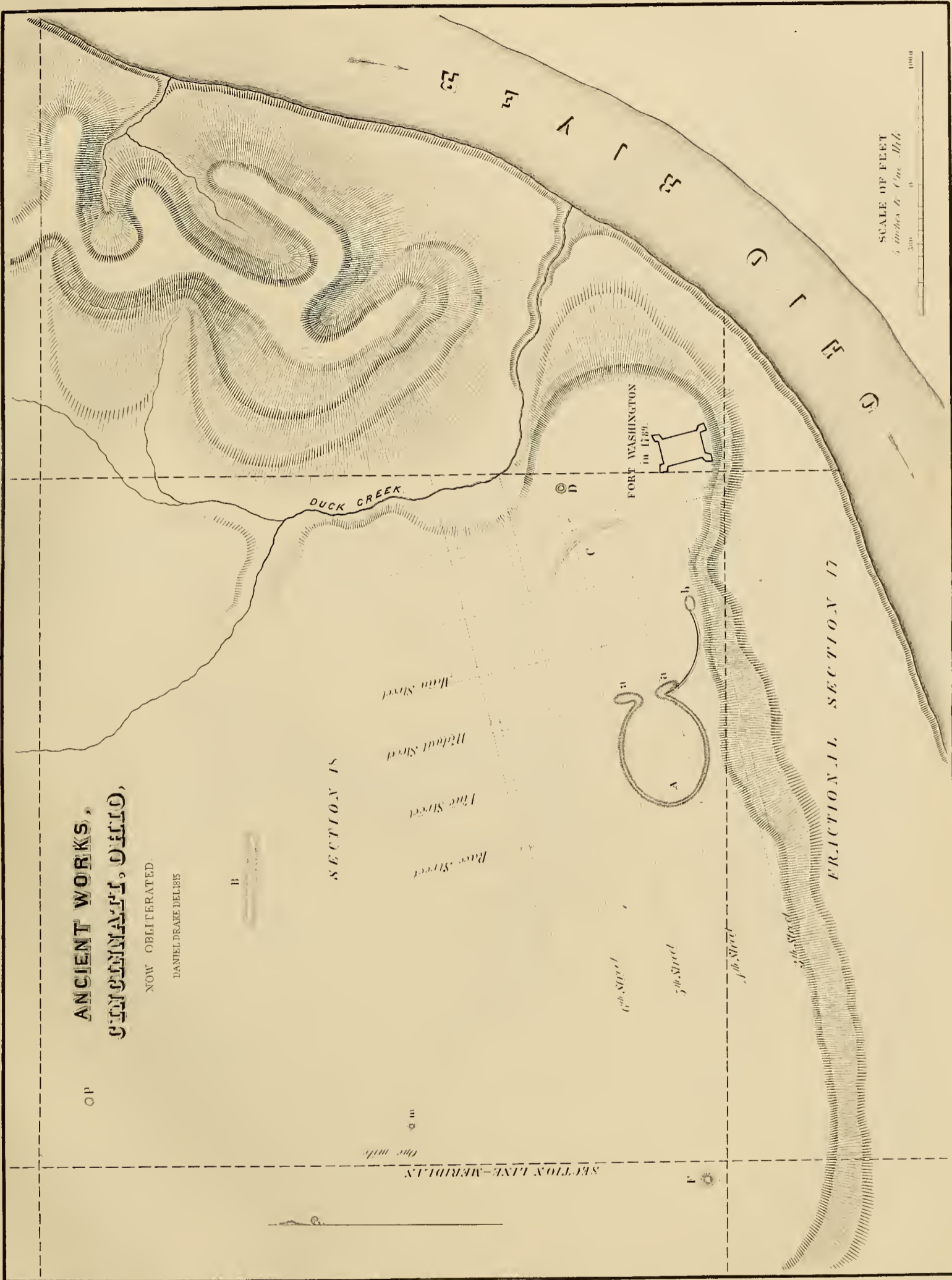
Scale 400 Ft. to the Inch.



Three Miles South West
OF
COLUMBUS, OHIO.
Cha^s Whittlesey, Dec^r 1840

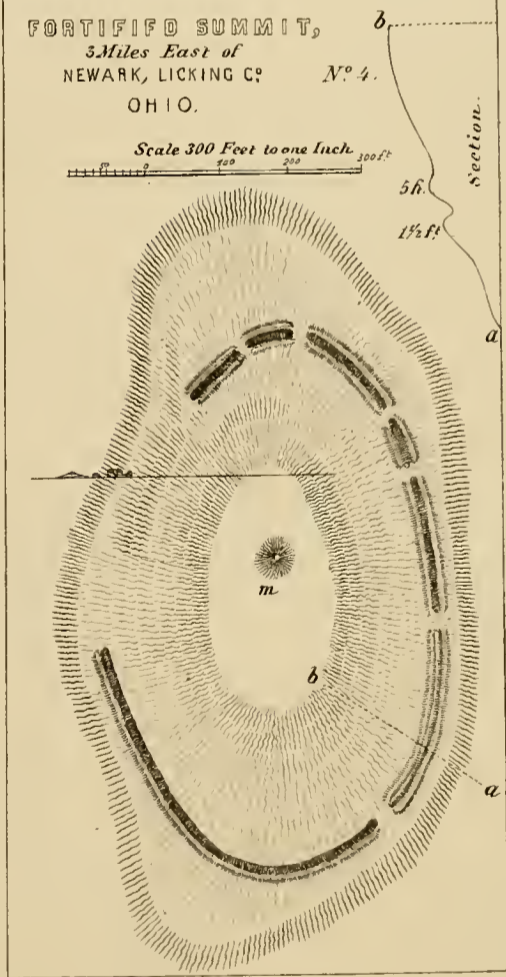
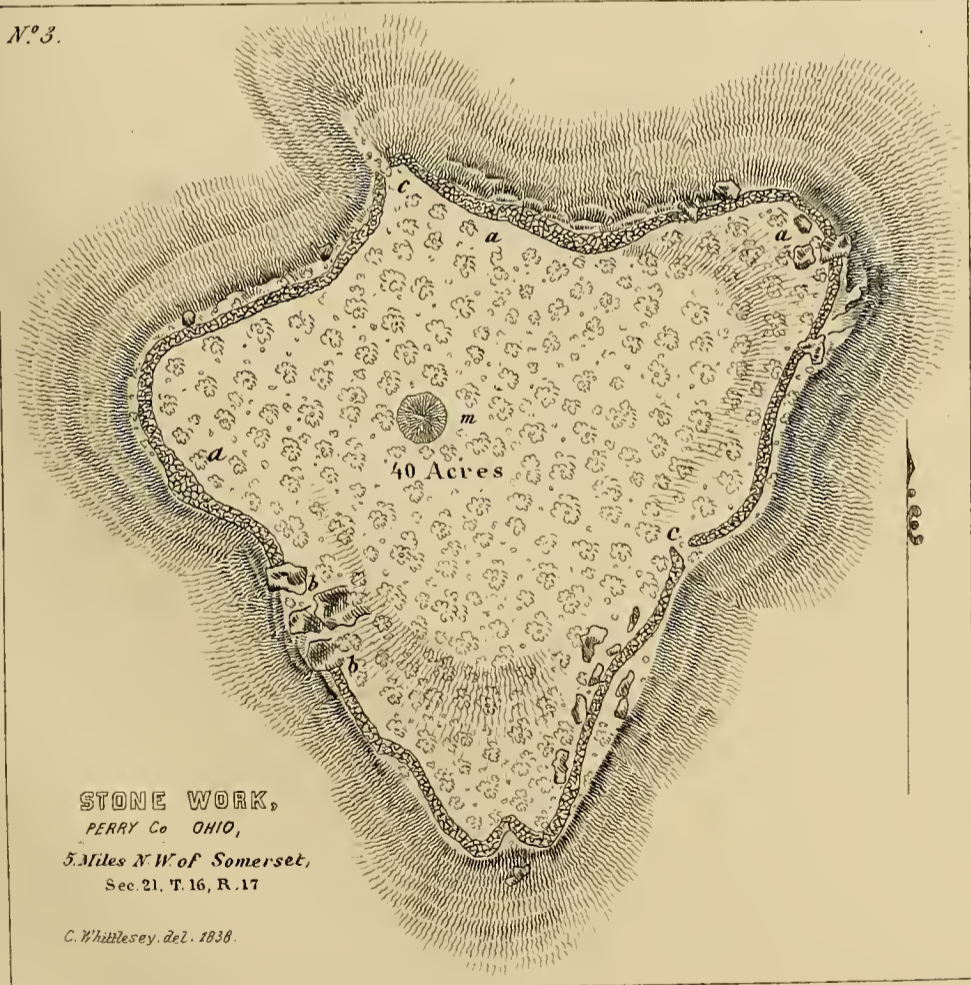
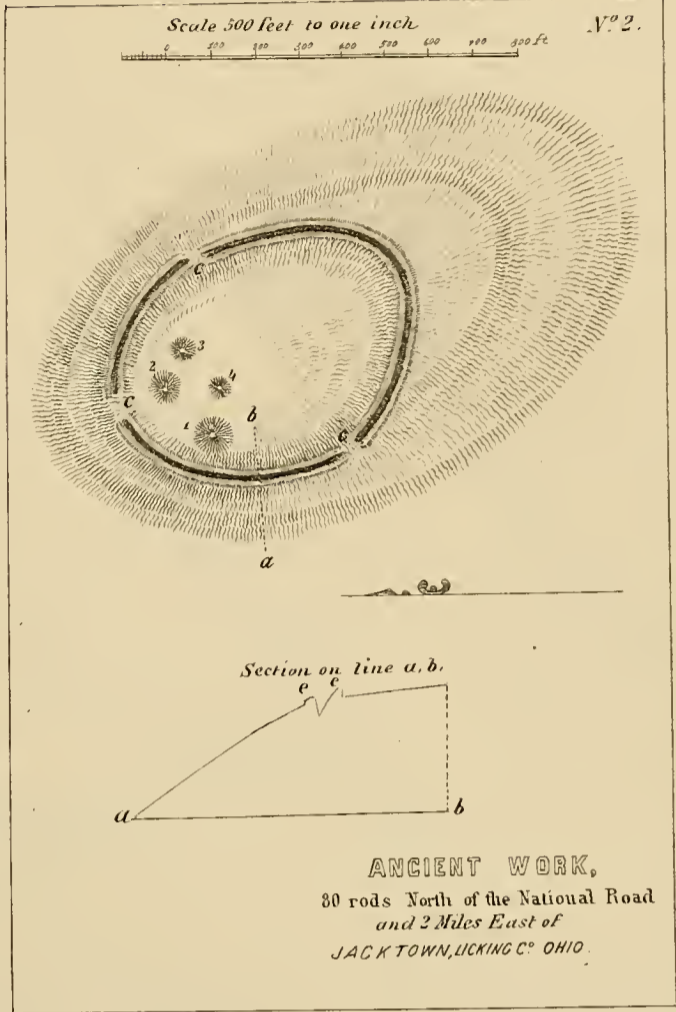
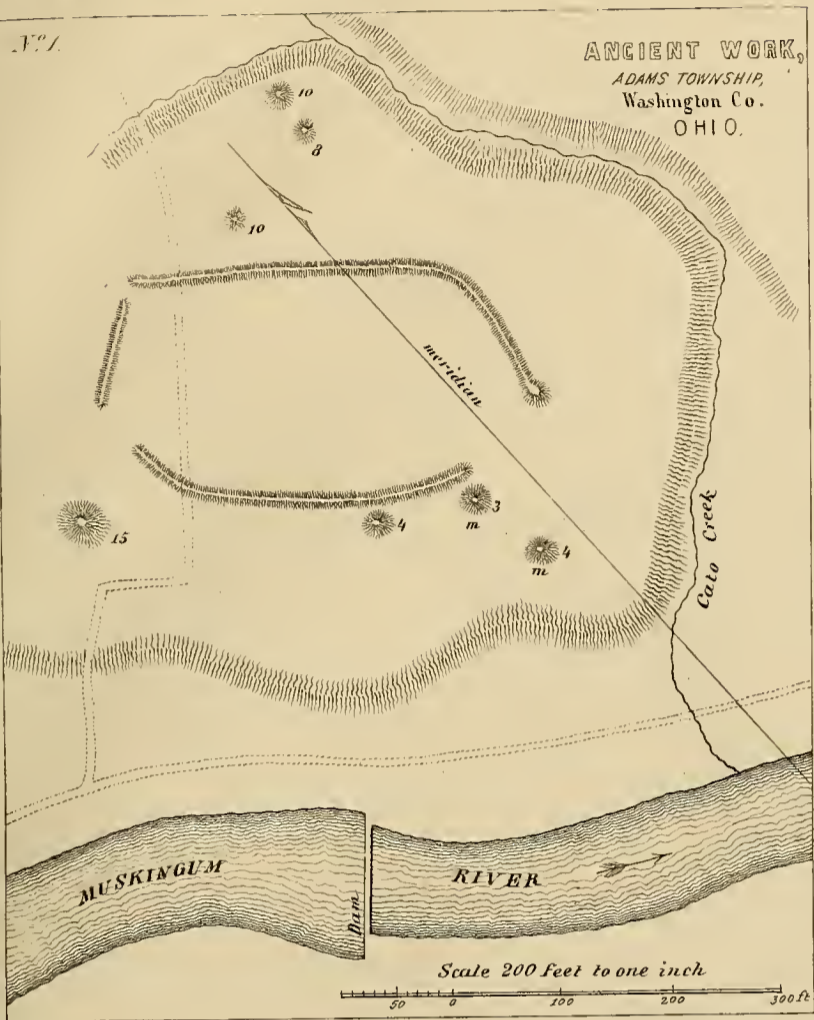


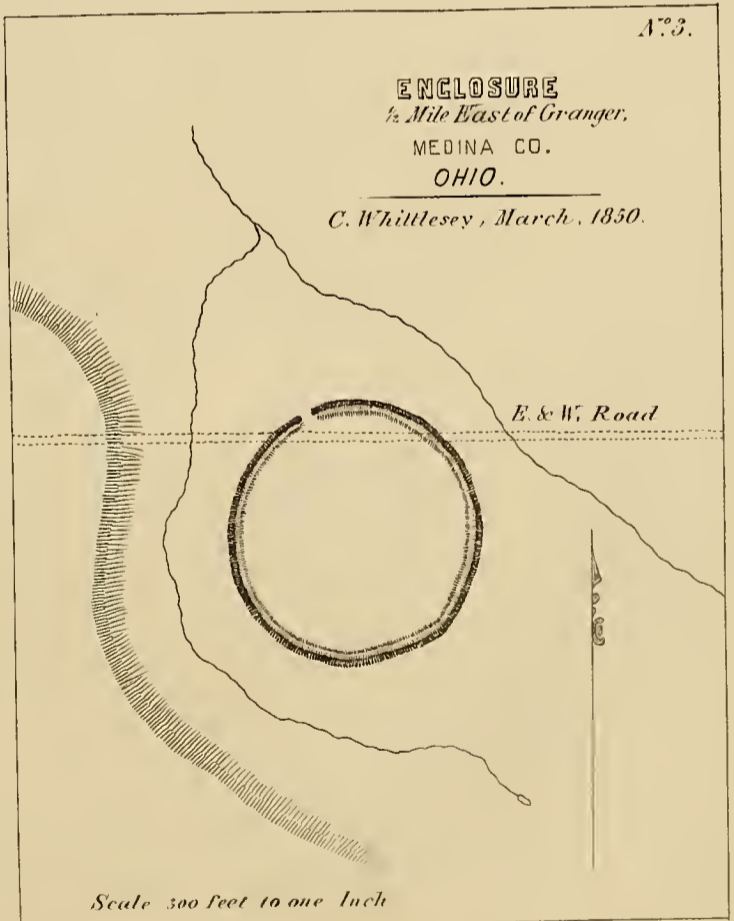
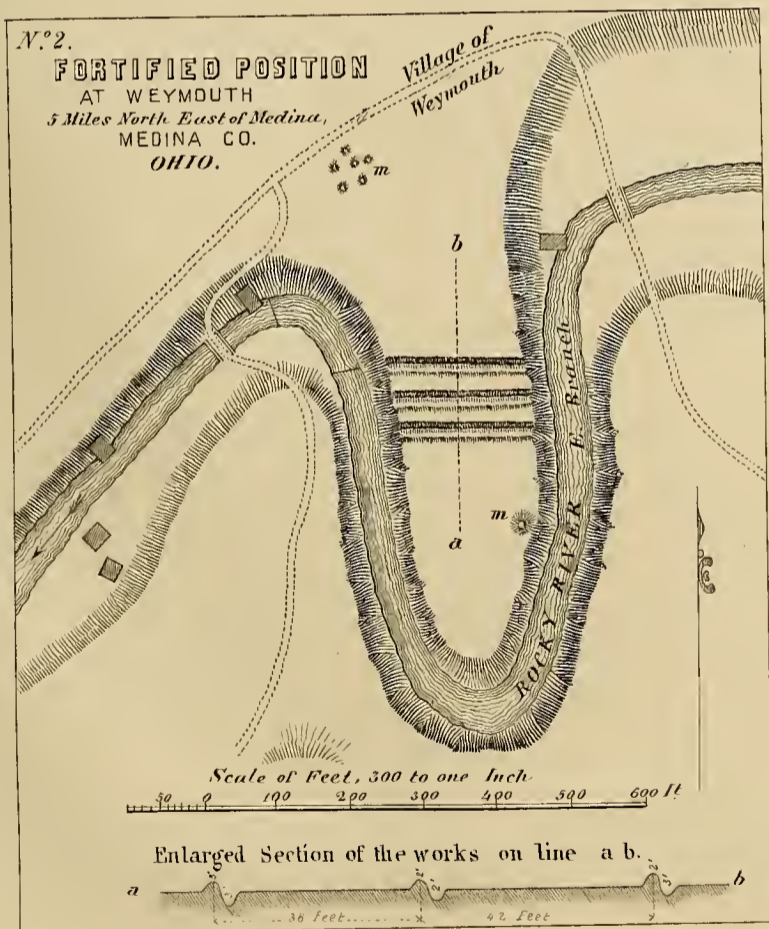
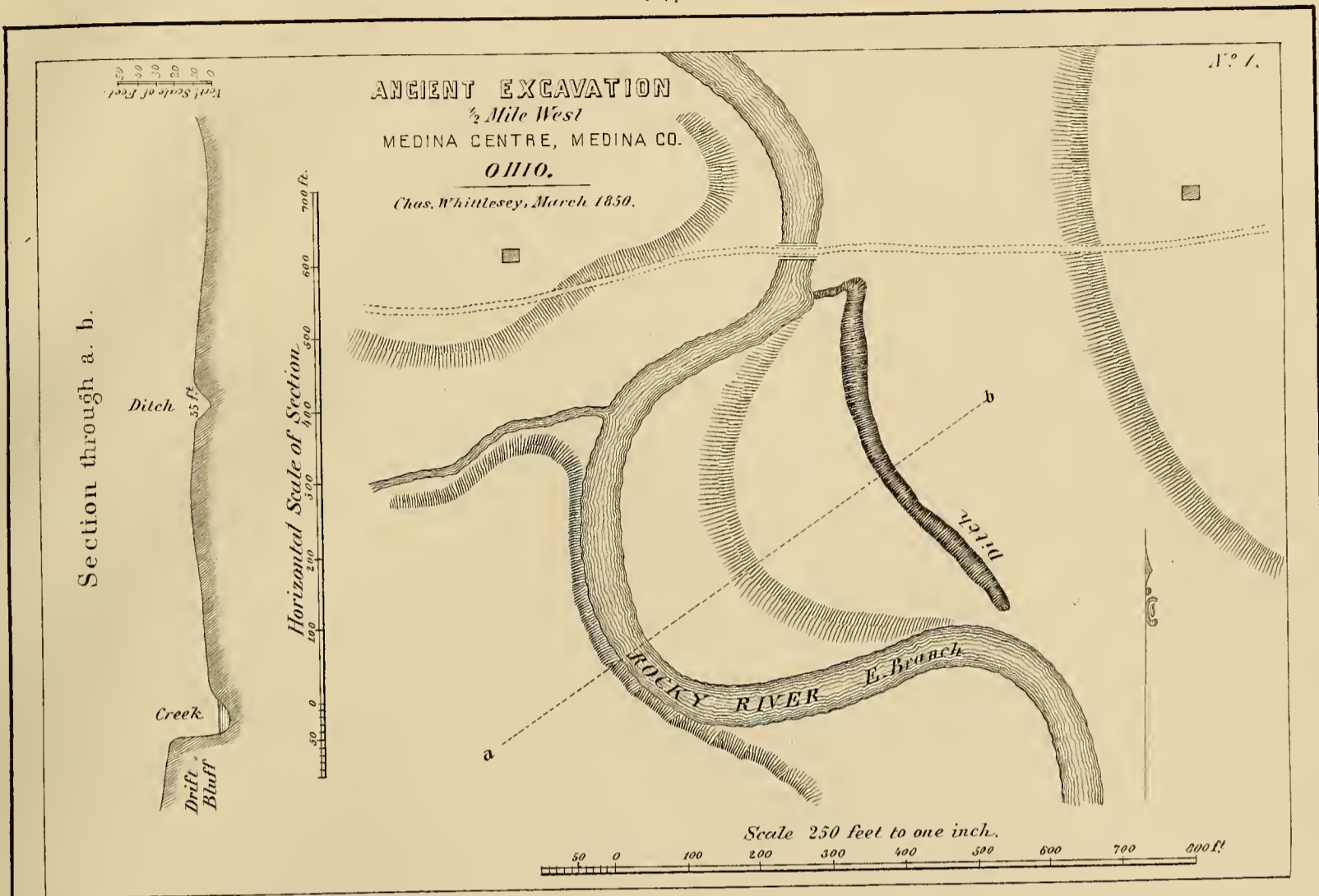
MOUND
One Mile North of
NEWTOWN.



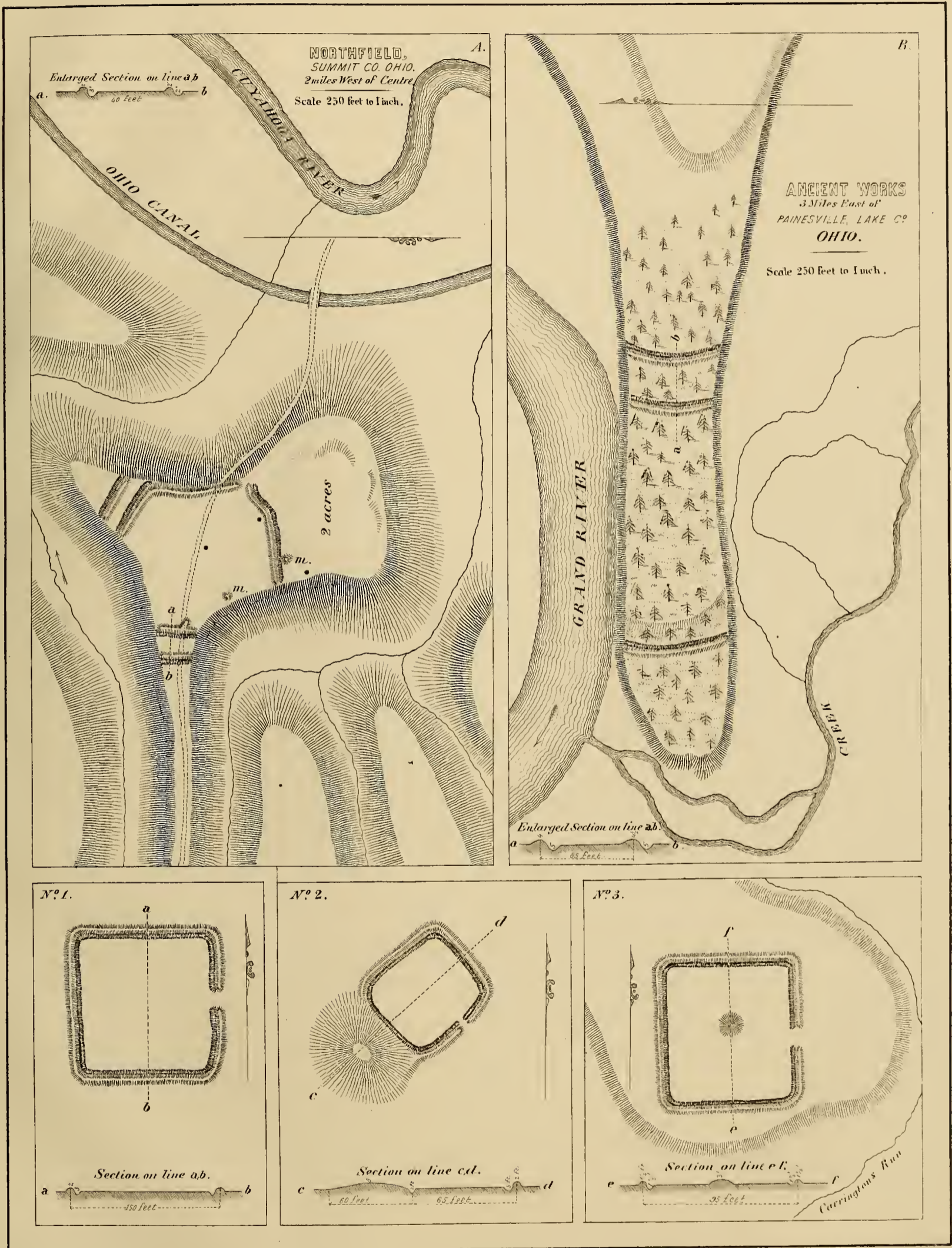
ANCIENT WORKS,
CINCINNATI, OHIO,
 NOW OBLITERATED.
 DANIEL DRAKE DELLSIS

SCALE OF FEET
 5 inches to One Mile
 1000
 500
 0







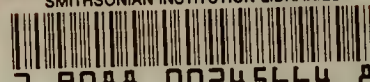








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