

Observations on the aboriginal monuments of the Mississippi Valley. The character of the ancient earth-works, and the structure, contents, and purposes of the mounds; with notices of the minor remains of ancient art / With illustrations. From the second volume of the Transactions of the American ethnological society.

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AMERICAN ARCHEOLOGY.

AMERICAN ARCHITECTURE

2

OBSERVATIONS
ON THE
ABORIGINAL MONUMENTS
OF THE
MISSISSIPPI VALLEY;

THE CHARACTER OF THE ANCIENT EARTH-WORKS, AND THE STRUCTURE,
CONTENTS, AND PURPOSES OF THE MOUNDS; WITH
NOTICES OF THE MINOR REMAINS
OF ANCIENT ART.

WITH ILLUSTRATIONS.

BY E. G. SQUIER.

FROM THE SECOND VOLUME OF THE TRANSACTIONS OF THE AMERICAN
ETHNOLOGICAL SOCIETY.

NEW-YORK:
BARTLETT & WELFORD.
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OBSERVATIONS

ON THE

ABORIGINAL MONUMENTS

OF THE

MISSISSIPPI VALLEY;

AND THE REMAINS OF THE
ANCIENT CIVILIZATION
OF THE GREAT WESTERN
RIVER.

WITH A HISTORY OF THE

MISSISSIPPI VALLEY.

LEAVITT, TROW & Co., Printers.

33 Ann-street.

ABORIGINAL MONUMENTS OF THE MISSISSIPPI VALLEY.*

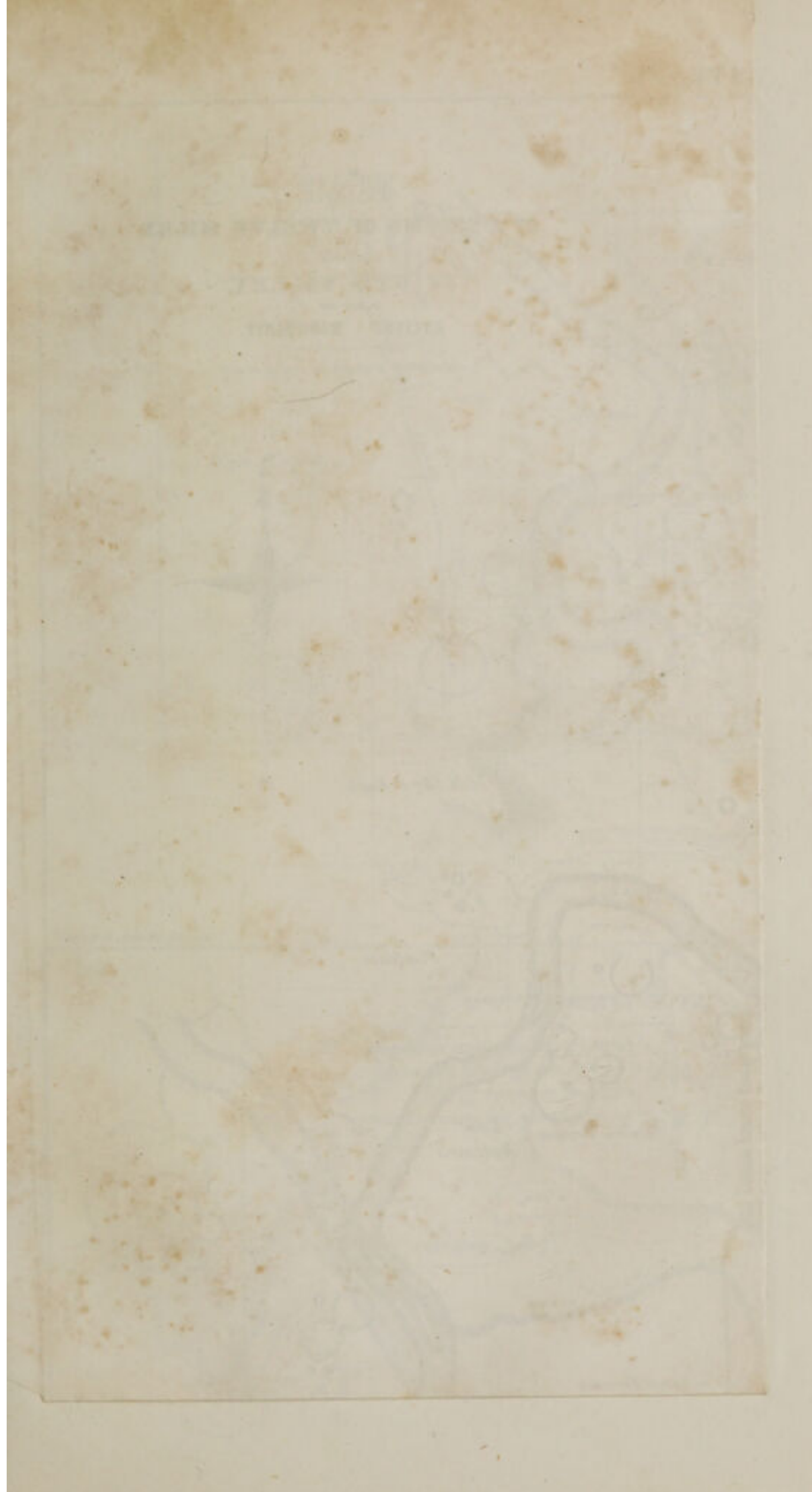
THAT the western portion of the United States, embraced within the great basin of the Mississippi River and its tributaries, abounds with rude but imposing monuments, the origin of which is lost in the obscurity of antiquity, is

* WITHIN the past two years, public attention has several times been directed to the extensive investigations in progress, by Messrs. E. G. SQUIER and E. H. DAVIS, M. D., of Ohio, into the aboriginal remains of the West, and particularly those of the Ohio valley. During this period, these gentlemen were in constant communication with the American Ethnological Society, of which they are members; and it was early proposed, and preparations accordingly made, to embody the results of their inquiries in its published Transactions. Their researches, however, were subsequently so greatly extended, and crowned with such remarkable results, as to place their publication, in an adequate style of illustration, entirely beyond any means at the command of the Society. At this juncture, their MSS. and accompanying illustrations, were submitted to the newly organized Smithsonian Institution, and accepted for publication as the first volume of the "SMITHSONIAN CONTRIBUTIONS TO KNOWLEDGE." This work, greatly surpassing in magnitude, as in the number, importance, and interesting nature of its facts, any publication of the kind ever before undertaken in this country, is now in press, and will be issued some time during the ensuing winter. The paper herewith presented, embraces only such detached general observations as may serve to illustrate the antiquities of our country, without anticipating any of the more important discoveries and interesting details of the prospective great work from the same hands, and must not be taken to exhibit a complete or adequate view of the subject. It only aims to group, and in some degree to generalize, the various ancient remains of the West, so as to furnish some rational conception of their extent variety, and prevailing character.

a fact generally known. Very imperfect notions, however, of the extent, number, and character of these remains are entertained by the world at large. Even where they are most abundant and interesting, the general ignorance, in these respects, appears greatest. It seems strange that hitherto, while every other branch of research has enlisted active and enlightened minds in its elucidation, the archeological field has been left comparatively unoccupied. It is true, isolated and detached observations, and occasional limited explorations, have been made, serving to provoke rather than satisfy inquiry; but nothing like a thorough and systematic investigation, carried on over an extended field, has heretofore been attempted. This has resulted less, perhaps, "because men are incurious about nearer, and intent upon more distant objects,"* than from the lack, among a pioneer population, of the time and money necessary to so laborious and costly an undertaking, and of the inducements which enlightened approbation, in older communities, holds out to original research and development. Account for the fact as we may, there is no doubt that, up to this time, the world has been put in possession of too few well-authenticated facts, relating to the ancient aboriginal monuments of our country, to enable the inquirer to form any satisfactory conclusion as to their extent, number, character, origin, or purposes. Their absence has been poorly supplied by speculations, which, however ingenious they may be, have no firmer foundation than the fancy of their authors, and can serve only further to involve a subject already sufficiently obscure, and which cannot be elucidated except by a strict observance of the rules regulating scientific research.

It was under a vivid impression of the general deficiency, in this respect,—the extreme paucity of facts, and the very loose manner in which they had been presented,—that the writer of this memoir, and his associate, E. H.

* Pliny.



MAP.
OF A SECTION OF TWELVE MILES
of the
SCIOTO VALLEY,
WITH ITS
ANCIENT MONUMENTS.

1770. BY SARONY & WAJEN, 115, FULTON ST. N. Y.



EXPLANATIONS.

- Enclosures.
- Mounds.
- excavated.
- First or latest formed Terraces.
- Second and third Terraces.
- Forests.

A, B, C, &c designate the ancient works,
referred to in the Text.
1, 2, 3, &c indicate Mounds to which
special reference is had in the text.

SCALE, 1 1/2 Miles to the Inch.

DAVIS, M. D., of Ohio, commenced the series of investigations, a brief and very general statement of some of the results of which is herewith presented. It is proper to remark, that these investigations were set on foot, with no view to ulterior publication, but to satisfy individual inquiry. At the outset, all preconceived notions were abandoned, and the work of research commenced, as if no speculations had been indulged in, nor any thing before been known, respecting the singular remains of antiquity scattered so profusely around us. It was concluded that, either the field should be entirely abandoned to the poet and the romancer, or, if these monuments were capable of reflecting any certain light upon the grand archeological questions connected with the primitive history of the American continent, the origin, migration, and early state of the American race, that then they should be carefully and minutely, and above all, systematically investigated.

The locality chosen for the commencement of operations, is a section of the Scioto River and Paint Creek valleys, of which the city of Chillicothe is the centre, and which possesses a deserved celebrity for its beauty, unexampled fertility, and the great number, size, and variety of its ancient remains. Situated in the middle of Southern Ohio, and possessing a mild and salubrious climate, this seems to have been one of the centres of ancient population; and, probably, no other equal portion of the Mississippi basin furnishes so rich and interesting a field for the antiquary. A glance at the accompanying "*Map of a Section of Twelve Miles of the Scioto Valley, with its Ancient Monuments,*" will fully illustrate this remark.

The plan of operations was agreed upon, and the field-work commenced, early in the spring of 1845. Subsequently, the plan was greatly extended, and the investigations were carried on, with slight interruption, up to the summer of 1847. The scope of this paper will not admit of a detailed account of the mode in which the explorations were con-

ducted, nor of their extent. It is perhaps sufficient to say, that the surveys were, for the most part, made by the writer and his associate *in person*, and that the excavations were all of them conducted under their *personal direction and supervision*. Great care was exercised in noting down, on the spot, every fact, however minute, which might be of value, in the solution of the problems of the origin and purposes of the remains under notice; and particular attention was bestowed in observing the dependencies of the position, structure, and contents of the various works in respect to each other and the general features of the country. Indeed, no exertion was spared to ensure entire accuracy, and the compass and line, the rule and the spade, were alone relied upon, in matters too often left to an approximate estimate or to conjecture.

The ancient earth-works (enclosures) personally examined and surveyed are upwards of *one hundred*, and the mounds excavated not far from *two hundred*, in number. Several thousand remains of ancient art were also collected in the progress of the investigations, chiefly from the mounds themselves. These constitute a cabinet, as valuable in its extent, as interesting in the great variety and the singular character of the illustrations which it furnishes of the condition of the domestic and minor arts of the people by whom these monuments were erected. A description of these would alone fill a volume. The most, therefore, which can be done, in the compass of this paper, is to give a brief general view of the extent of the aboriginal monuments of the West, with a few examples of certain classes, in which their predominant features are presented.

Extent and General Character of the Aboriginal Monuments of the West.

The aboriginal monuments of the Western United States, consist, for the most part, of elevations and em-

bankments of earth and stone, erected with great labor and manifest design. In connection with these, more or less intimate, are found various minor relics of art, consisting of ornaments and implements of many kinds, some of them composed of metal, but most of stone. They spread over a vast extent of country. They are found on the sources of the Alleghany, in the western part of the State of New-York, on the east; and extend thence westwardly along the southern shore of Lake Erie, and through Michigan and Wisconsin to Iowa and the Nebraska territory, on the west.* We have no record of their occurrence above the lakes, nor higher than the falls of the Mississippi. Carver mentions some on the shores of Lake Pepin; and Lewis and Clarke saw them on the Missouri river, 1000 miles above its junction with the Mississippi. They are found all over the intermediate country, and along the valley of the Mississippi to the Gulf of Mexico. They line the shores of the Gulf from Texas to Florida, and extend, in diminished numbers, into South Carolina. They occur in great numbers in Ohio, Indiana, Illinois, Wisconsin, Missouri, Arkansas, Kentucky, Tennessee, Louisiana, Mississippi, Alabama, Georgia, Florida, and Texas. They are found, in less numbers, in the western portions of New-York, Pennsylvania, and Virginia; as well as in Michigan,

* It is a fact not generally known, that there is an abundance of tumuli or mounds in the Territory of Oregon. We are not informed, however, that there are any enclosures or other works of like character with those usually accompanying the mounds of the Mississippi valley, nor whether the mounds of Oregon are generally disseminated over that territory. The only reference we have to them is contained in a paragraph in the Narrative of the United States Exploring Expedition:

"We soon reached the Bute Prairies, which are extensive and covered with tumuli or small mounds, at regular distances asunder. As far as I can learn, there is no tradition among the natives concerning them. They are conical mounds, thirty feet in diameter, about six or seven feet above the level, and *many thousands in number*. Being anxious to ascertain if they contained any relics, I subsequently visited these prairies, and opened three of the mounds, but found nothing in them but a pavement of round stones."—*U. S. E. E.*, Vol. iv. p. 313.

Iowa, North and South Carolina, and in the Mexican territory, beyond the Rio Grande del Norte. In short, they occupy the entire basin of the Mississippi and its tributaries, as also the fertile plains along the Gulf.

It is not to be understood that these remains are dispersed equally over the area here defined. They are mainly confined to the valleys of the streams, occupying the level, fertile terraces, and seldom occurring very far back from them.

Their number is well calculated to excite surprise, and has been adduced in support of the hypothesis—which has not been without its advocates—that they are most, if not all of them, natural formations, “the results of diluvial action,” modified perhaps, in a few instances, but never erected by man. Of course no such hypothesis was ever advanced by any individual who had enjoyed the opportunity of examining these remains for himself.

Some estimate may be formed of their great abundance, in certain portions of the country, by an inspection of the accompanying *Map*, which exhibits a section of twelve miles of the Scioto valley. It will be observed that not less than *ten* large groups of earth-works occur within the space designated, besides which there is a large number of mounds and lesser monuments. Twenty-four of these mounds are found within a single enclosure, *E*, three miles above the city of Chillicothe. The large works, *H* and *K*, have each not far from two miles of embankment, and enclose little less than one hundred acres. Not far from one hundred enclosures and five hundred mounds are found in Ross county, Ohio, alone; and the remains of the State may be safely estimated at ten thousand mounds and one thousand or fifteen hundred enclosures, of all sizes. Many of them are, of course, small, but cannot be omitted in an enumeration.

Nor is their magnitude less a matter of surprise than their numbers. Lines of embankment, varying in height from five to fifteen feet, and enclosing areas of from one to

fifty acres, are common ; while enclosures of one hundred or two hundred acres area are far from infrequent. Occasional works are found, embracing not less than five or six hundred acres.* The magnitude of the area enclosed is not, however, always an index of the amount of the labor expended in the construction of these works, or of the length of the embankment raised. A fortified hill, in Highland county, Ohio, has one mile and five-eighths of heavy embankment; yet it encloses an area of only about *forty acres*. A similar work, on the Little Miami river, in Warren county, Ohio, has upwards of four miles of embankment yet encloses but little upwards of one hundred acres. The group of works at the mouth of the Scioto river has an aggregate of at least twenty miles of embankment ; yet the amount of land embraced within the walls does not exceed two hundred acres.

The mounds are of every conceivable dimension, from those of but a few feet in height and a few yards in diameter, to those which, like the celebrated one at the mouth of Grave Creek, in Virginia, measure one thousand feet in circumference by seventy feet in height ; or, like the truncated pyramid at Cahokia, in Illinois, rise to the altitude of nearly one hundred feet, and measure half a mile in circumference at the base, with a level summit of several acres area. Their usual dimensions are, however, considerably less than in the examples here given. The larger number range from six to thirty feet in height, by forty to one hundred feet base.

These constructions are composed of earth or stone, taken up on the spot, or brought from localities more or less remote ; though a combination of these materials, in the same work, is by no means rare. In the absence of ditches interior or exterior to the embankments, *pits* or dug holes, from which the earth for their construction was taken, are generally visible near by. These are sometimes very

* Lewis and Clarke describe one on the Missouri river which they estimated to contain six hundred acres.

broad and deep, and occasionally quite symmetrical in shape. In the vicinity of large mounds, such excavations are also common.*

A large, perhaps the larger, portion of these works are regular in outline, the square and the circle predominating. Some are parallelograms, some ellipses, others polygons, regular and irregular. The regular works are almost invariably erected on level river-terraces, great care having evidently been taken to select those least broken. The irregular works are those which partake most of the character of defences, and are usually made to conform to the nature of the ground upon which they are situated—running along the brows of hills, or cutting off the approaches to strong natural positions. The square and the circle often occur in combination, frequently communicating with each other or with irregular works, directly or by avenues consisting of parallel lines of embankment. Detached parallels are frequent. The mounds are usually simple cones in form, but they are sometimes truncated, and occasionally terraced, with graded or winding ascents to their summits. Some are elliptical, others peariform, and others squares or parallelograms, with flanking terraces. Besides these there are others, most common in the extreme northwest, which assume the forms of animals and reptiles. Another variety of remains are the causeways or "roads," and the graded descents to rivers and streams, or from one terrace to another.

As already remarked, these remains occur mainly in the valleys of the Western rivers and streams. The alluvial terraces, or "river bottoms," as they are popularly termed, were the favorite sites of the builders. The principal monuments are found where these "bottoms" are most extended, and where the soil is most fertile and easy

* These are the "wells" of Mr. Atwater and other writers on American Antiquities. It is barely possible that a few were really wells, or *secondarily* designed for reservoirs.

of cultivation. At the junction of streams, where the valleys are usually broadest and most favorable for their erection, some of the largest and most singular remains are found. The works at Marietta, at the junction of the Muskingum with the Ohio; at the mouth of Grave Creek; at Portsmouth, the mouth of the Scioto; and at the mouth of the Great Miami, are instances in point. Occasional works are found on the hill tops, overlooking the valleys, or at a little distance from them; but these are manifestly, in most instances, works of defence or last resort, or in some way connected with warlike purposes. And it is worthy of remark, that the sites selected for settlements, towns, and cities, by the invading Europeans, are often those which were the especial favorites of the mound-builders, and the seats of their heaviest population. Marietta, Newark, Portsmouth, Chillicothe, Circleville, and Cincinnati, in Ohio; Frankfort in Kentucky; and St. Louis in Missouri, may be mentioned in confirmation of the remark. The centres of population are now, where they were at the period when the mysterious race of the mounds flourished.*

The monuments throughout the entire Mississippi valley possess certain grand points of resemblance, going to establish a common origin. Whether they were contemporaneous in their erection, or constructed by a people slowly migrating from one portion of the valley to the other, under the pressure of hostile neighbors or the inducements of a more genial climate, are questions open to inquiry, and which proper investigations may satisfactorily answer. It is quite certain, however, and this fact is of importance in the consideration of these questions, that the mounds increase in magnitude and regularity, if not in numbers, as

* "The most dense ancient population existed in precisely the places where the most crowded future population will exist in ages to come. The appearance of a series of mounds generally indicates the contiguity of rich and level lands, easy communications, fish, game, and the most favorable adjacent positions."—*Flint*.

we go down the Mississippi towards the Gulf. And although between the monuments of the North and the South there is a marked contrast, in many respects; yet it would be impossible to tell, so gradually do they merge into each other, where one series terminates and the other begins. It is not impossible that future investigations may show an imperceptible transition from the more regular earth-structures of the lower Mississippi, to the symmetrical and imposing stone *teocalli* of Mexico.

The remains of which we are speaking may be divided into two grand classes, viz., ENCLOSURES, bounded by parapets, circumvallations or walls, and simple *Tumuli* or MOUNDS.* They constitute together a single system of works; but, for purposes which will satisfactorily appear, it is preferred to classify them as above. These grand classes resolve themselves into other minor divisions: *Enclosures* are for *defence*, for *sacred* or *superstitious* and for other purposes not easily explained; and the *Mounds* are places of *sepulture*, of *sacrifice*, &c.

Enclosures.

The Enclosures, or, as they are familiarly known throughout the West, "Forts," constitute a very important and interesting class of remains. Their dimensions, and the popular opinion as to their purposes, attract to them more particularly the attention of observers. As a consequence, most that has been written upon our antiquities relates to them. Quite a number have been surveyed and described by different individuals, at different times; but no systematic examination of a sufficient number to justify any general conclusion as to their origin and purposes has hitherto been made. Accordingly we have had presented as many different conclusions as

* The term *mound* is used in this paper, for obvious reasons, in a technical sense, as synonymous with *tumulus* or *barrow*, and as distinct from embankment, rampart, etc.

there have been individual explorers ; one maintaining that all the enclosures were intended for defence, while another persists that none could possibly have been designed for any such purpose. A sufficiently extended investigation would have shown, however, that while certain works possess features demonstrating incontestably a warlike origin, others were connected with the superstitions of the builders, or designed for purposes not readily apparent in our present state of knowledge concerning them.

It has already been remarked that the square and the circle, separate or in combination, were favorite figures with the mound-builders ; and a large proportion of their works in the Scioto valley and in Ohio are of these forms. Most of the circular works are small, varying from 250 to 300 feet in diameter, while others are a mile or more in circuit. Some stand isolated, but most in connection with one or more mounds, of greater or less dimensions, or in connection with other more complicated works. Wherever the circles occur, if there be a fosse or ditch, it is almost invariably *interior* to the parapet. Instances are frequent where no ditch is discernible, and where it is evident that the earth composing the parapet was brought from a distance or taken up evenly from the surface. In the square or irregular works, if there be a fosse at all, it is *exterior* to the embankment, except in the case of fortified hills, when the earth, for the best of reasons, is usually thrown from the interior. These facts are not without their importance in determining the character and purpose of these remains. Another fact bearing directly upon the degree of knowledge possessed by the builders is, that many if not most of the circular works are *perfect circles*, and that many of the rectangular works are *accurate squares*. This fact has been demonstrated, in numerous instances, by careful admeasurements, and has been remarked in cases where the works embrace an area of many acres, and where the embankments or circumvallations are a mile or upwards in extent.

WORKS OF DEFENCE.—Those works, which are incontestably defensive, usually occupy strong natural positions. To understand fully their character and capacity for the purpose assigned to them, it is necessary to notice briefly the predominant features of the country in which they occur.

The valley of the Mississippi, from the base of the Alleghanies to the ranges of the Rocky Mountains, is a vast sedimentary basin, and owes its general aspect to the powerful action of water. Its rivers have worn their valleys deep in a vast original plain, leaving in their gradual subsidence broad terraces, marking the different eras of their history. The edges of the table lands, bordering on the valleys, are cut by a thousand ravines, presenting bluff headlands and high hills with level summits, sometimes connected by narrow isthmuses with the original table, and sometimes entirely detached. The sides of these elevations are always steep and difficult of ascent in some cases precipitous and absolutely inaccessible. The natural strength of such positions, and their susceptibility of defence, would certainly suggest them as the citadels of a rude people, having hostile neighbors or pressed by foreign invaders. Accordingly, we are not surprised at often finding these heights occupied by strong and complicated works, the design of which is indicated no less by their position than by their peculiarities of construction. In such cases it is always to be observed that great care has been exercised in their selection, and that they possess peculiar strength and adaptation for the purposes to which they were applied. While rugged and steep on most sides, they have one or more points of comparatively easy approach, in the protection of which the utmost skill of the builders has been expended. They are guarded by double overlapping walls, or a series of them, having sometimes an accompanying mound, designed perhaps as a "look-out," and corresponding to the *barbican* in the British system of

defence, of the middle ages. The usual defence is a simple parapet thrown up along and a little below the brow of the hill, varying in height and solidity as the declivity is more or less steep and difficult of access.

Other defensive works occupy the peninsulas formed by the streams, or cut off the bluff points formed by their junction with each other. In such cases a fosse and wall are carried across the isthmus, or diagonally from the bank of one stream to that of the other. In certain instances the wall is double, and extends along the bank of the stream for some distance inwardly, as if designed to prevent an enemy from turning the flank of the defence.

To understand clearly the nature of the works last mentioned, it should be remembered that the banks of the Western rivers are always steep, and, where these works are located, invariably high; the banks of the various terraces are also steep, ranging from ten to thirty and more feet in height. The rivers are constantly shifting their channels, and frequently cut their way through all the intermediate up to the earliest formed or highest terrace, presenting bold banks, inaccessibly steep, and from fifty to one hundred feet high. At such points, from which the river has in some instances receded to the distance of half a mile or more, works of this description are oftenest found.

And it is a fact of much importance and worthy of special note, that within the scope of a pretty extended observation, no work of any kind has been found occupying the latest formed terrace.* This terrace alone, except at periods of extraordinary freshets, is subject to overflow. The formation of each terrace constitutes a sort of semi-geological era in the history of the valley; and the fact that none of the works occur upon the lowest or latest formed

* This observation is confirmed by all who have given attention to the subject in the Ohio and Upper Mississippi valleys. Along the Gulf and at points on the Lower Mississippi, where the entire country is low and subject to inundation, some of the ancient monuments are invaded by the water.

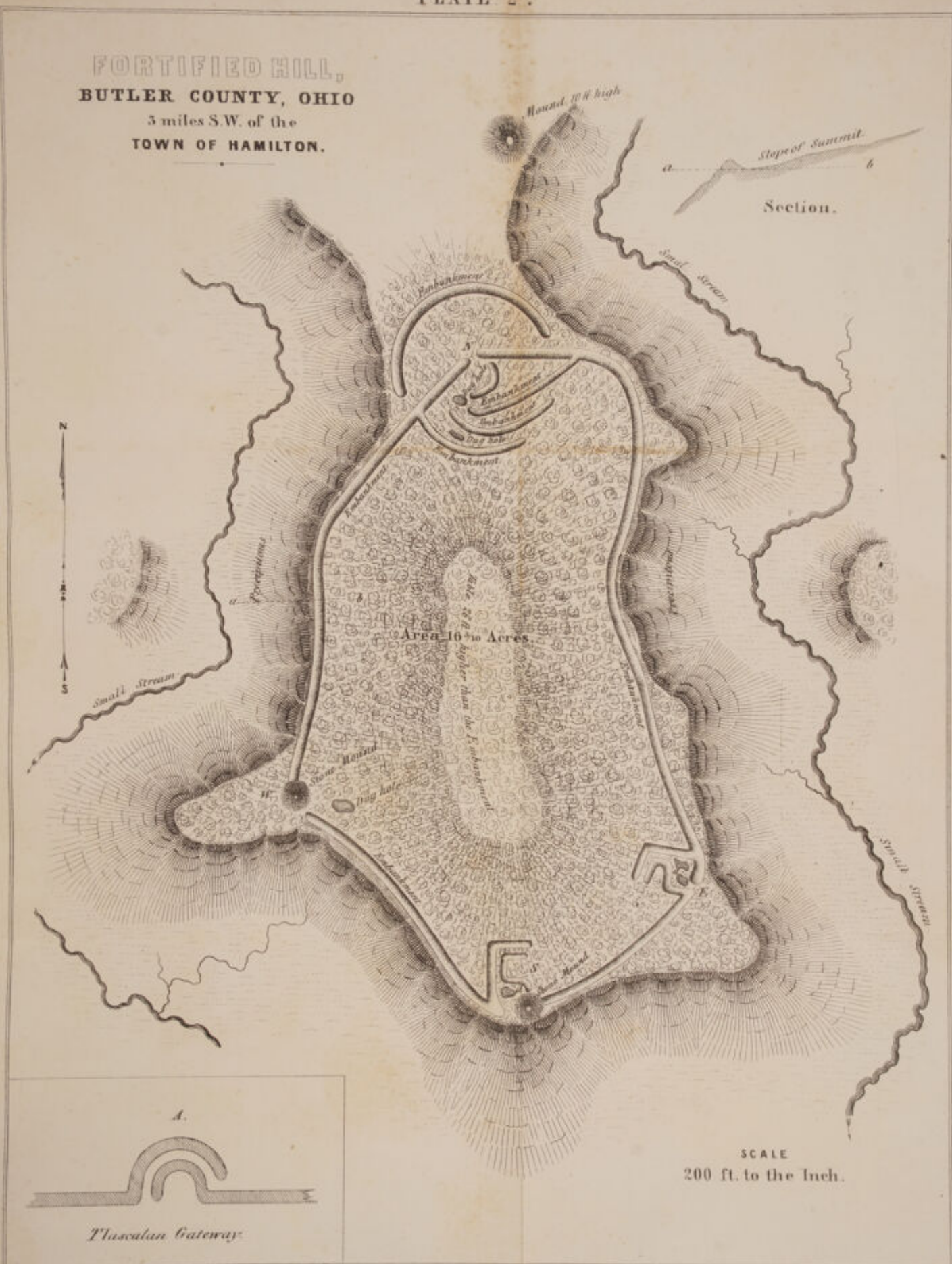
of these, while they are found indiscriminately upon all the others, bears directly upon the question of their antiquity.

These general remarks will serve to introduce one or two examples of Defensive Works, which will best illustrate their general character.

Plate 2.—This fine work is situated in Butler county, Ohio, three miles below the town of Hamilton, on the west side of the Great Miami river. The hill, the summit of which it occupies, is about half a mile distant from the present bed of the river, and is not far from two hundred and fifty feet high, being considerably more elevated than any other in the vicinity. It is surrounded at all points, except a narrow space towards the north, by deep ravines, presenting steep and almost inaccessible declivities. The slope towards the north is very gradual, and from that direction the hill is easy of approach. It is covered by a primitive forest.

Skirting the brow of the hill, and generally conforming to its outline, is a wall of mingled earth and stone, having an average height of five feet by thirty-five base. It has no apparent ditch, the earth composing it, which is a stiff clay, having been for the most part taken up from the surface, without leaving any marked excavations. There are a number of pits or "dug holes," however, at various points within the walls, from which it is evident a portion of the material was obtained. The wall is interrupted by four openings or gateways, each about twenty feet wide; one fronting the north, on the approach above mentioned, and the others occurring where the spurs of the hill are cut off by the parapet, and where the declivity is least abrupt. They are all, with one exception, protected by inner lines of embankment of a most singular and intricate description. These are accurately delineated in the plan, which will best explain their character. It will be observed that the northern or great gateway, in addition to its inner maze of walls,

**FORTIFIED HILL,
BUTLER COUNTY, OHIO**
3 miles S.W. of the
TOWN OF HAMILTON.



1871

THE
TOWN OF
BOSTON



has an outwork of crescent shape, the ends of which approach within a short distance of the brow of the hill.

The excavations are near the gateways: none of them are more than sixty feet over, nor have they any considerable depth. Nevertheless they all, with the exception of the one nearest to gateway *S*, contain water for the greater portion if not the whole of the year. A pole may be thrust eight or ten feet into the soft mud at the bottom of those at *E*.

At *S* and *H*, terminating the parapet, are mounds of stones, thrown loosely together, eight feet in height. Thirty rods distant from gateway *N*, and exterior to the work, is a mound ten feet high, on which trees of the largest size are growing. It was partially excavated a number of years ago, and a quantity of stones taken out, all of which seemed to have undergone the action of fire.

The ground in the interior of the work gradually rises, as indicated in the section, to the height of twenty-six feet above the base of the wall, and overlooks the entire adjacent country. In the vicinity of this work, are a number of others occupying the valley—no less than six, of large size, occurring within a distance of six miles down the river.

The character of this structure is too obvious to admit of doubt. The position which it occupies is naturally strong, and no mean degree of skill is employed in its artificial defences. Every accessible avenue is strongly guarded. The principal approach, the only point of easy access, or capable of successful assault, is rendered doubly secure. A mound, used perhaps as an alarm post, is placed at a short distance in advance, and a crescent wall crosses the isthmus, leaving but narrow passages between its ends and the steeps on either hand. Next comes the principal wall of the enclosure. In event of an attack, even though both these defences were forced, there still remained a series of walls so complicated as inevitably to distract and bewilder the assailants, thus giving a marked advantage to the defenders. This advantage may have been regarded as more consider-

able than we, in our ignorance of the military system of the ancient people, would suppose. From the manifest judgment with which their military positions were chosen, as well as from the character of their entrenchments, so far as we understand them, it is safe to conclude that all parts of this work were the best calculated to secure the objects of the builders, under the mode of attack and defence then practised. On the assumption that the embankments of this work were crowned with palisades, it is easy to comprehend that it afforded entire security against any assault by rude or savage foes.

The coincidences between the guarded entrances of this and similar works throughout the West, and those of the ancient Mexican defences, are singularly striking. The wall on the eastern side of the Tlascallan territories, mentioned by Cortez and other early writers, was six miles long, having a single entrance thirty feet wide, which was formed as shown in the supplementary plan A. The ends of the walls overlapped each other in the form of semicircles, having a common centre.*

The work above described may be taken as a very fair example of this class of structures, although nearly every work has interesting individual features, which can only be exhibited in connection with plans of the works themselves. Many are of vast dimensions; indeed, the works of greatest magnitude are those which are most clearly of defensive

* "On leaving the territory (of Clempoallen) I met with a large wall of dry stone, about nine feet in height, which extended across from one mountain to the other: it was twenty feet in thickness, and surmounted throughout its whole extent by a breastwork a foot and a half thick, to enable them to fight from the top of the wall. There was but one entrance, about ten paces wide, where one portion of the wall was encircled by the other, in the manner of a ravelin, for about forty paces. Thus the entrance was circuitous and not direct. Having inquired into the origin of this wall, I was informed it was erected on account of the place being the frontiers of the province of Tlascalla, whose inhabitants were enemies of Montezuma and always at war with him."
—*Second Letter of Cortez*; see also *Bernal Diaz*, *De Solis*, and *Clavigero*.

origin. A fortified hill in the vicinity of Chillicothe embraces one hundred and forty acres within its walls; and another military work—most probably a fortified village—on the banks of the North Fork of Paint Creek, five miles from Chillicothe, has an area of one hundred and twenty-seven acres. To appreciate fully the judgment displayed in the choice of position, and the skill exhibited in defence, a minute examination of a series of these structures is necessary. No one can rise from such an examination without being convinced that the race by whom they were erected possessed no inconsiderable knowledge of the science of defence—a degree of knowledge much superior to that known to have been possessed by the North American tribes previous to the discovery by Columbus, or indeed, subsequent to that event. Their number and magnitude must also impress the inquirer with enlarged notions of the power of the people commanding the means for their construction, and whose numbers required such extensive works for their protection. It is not impossible that they were, to a certain extent, designed to embrace cultivated fields, so as to furnish the means of sustenance to their defenders in event of a protracted siege. There is no other foundation, however, for this suggestion than that furnished by the size of some of these defensive enclosures. The population finding shelter within their walls must have been exceedingly large, if their dimensions may be taken as the basis of a calculation.

The vast amount of labor necessary to the erection of most of these works precludes the notion that they were hastily constructed to check a single or unexpected invasion. On the contrary there seems to have existed a *system of defences*, extending from the sources of the Alleghany in New-York diagonally across the country, through central Ohio to the Wabash. Within this range, those works which are regarded as defensive are largest and most numerous. If an inference may be drawn from this

fact, it is that the pressure of hostilities was from the northeast; or that, if the tide of migration flowed from the south, it received its final check upon this line. On the other hypothesis, that in this region originated a semi-civilization which subsequently went southward, constantly developing itself in its progress, until it attained its height in Mexico, we may suppose from this direction came the hostile savage hordes, before whose incessant attacks the less warlike mound-builders gradually receded, or beneath whose exterminating cruelty they entirely disappeared—leaving these monuments alone to attest their existence, and the extraordinary skill with which they defended their altars and their homes. Upon either assumption it is clear that the contest was a protracted one, and that the race of the mounds were for a long period constantly exposed to attack. This conclusion finds its support in the fact that, in the vicinity of those localities, where, from the amount of remains, it appears the ancient population was most dense, we almost invariably find one or more works of a defensive character, furnishing ready places of resort in times of danger. We may suppose that a state of things existed somewhat analogous to that which attended the advance of our pioneer population, when every settlement had its little fort, to which the settlers flocked in case of alarm or attack.

It may be suggested that there existed among the mound-builders a state of society something like that which prevailed amongst the Indians; that each tribe had its separate seat, maintaining an almost constant warfare against its neighbors, and, as a consequence, possessing its own "castle," as a place of final resort when invaded by a powerful foe. Apart from the fact, however, that the Indians were hunters, averse to labor, and not known to have constructed any works approaching, in skilfulness of design or in magnitude, those under notice, there is almost positive evidence that the mound-builders were an agricul-

tural people, considerably advanced in the arts, and possessing great uniformity, throughout the whole territory which they occupied, in manners, habits, and religion,—a uniformity sufficiently marked to identify them as a single people, having a common origin, common modes of life, and as a consequence, common sympathies, if not a common and consolidated government.

SACRED WORKS.—The structure, no less than the form and position, of a large number of the earth-works of the West, and more particularly of the Scioto valley, render it clear that they were erected for other than defensive purposes.* The small dimensions of most of the circles, the occurrence of the ditch interior to the embankment, and the fact that many of them are completely commanded by adjacent heights, may be mentioned as sustaining this conclusion. We must seek, therefore, in the connection in which these works are found, and in the character and contents of the mounds, if such there be, within their walls for the secret of their origin. And it may be observed, that it is here we find evidence still more satisfactory and conclusive than furnished by the small dimensions of these works, or the position of the ditch, that they were not intended for defence. Thus, when we find enclosures containing a number of mounds, all of which it is capable of demonstration were *religious* in their purposes, or in some way connected with the superstitions of the people who built them, the conclusion is irresistible that the enclosure

* It seems incredible that many well-informed men, who have examined some of the small circular and elliptical works of the West, should have fallen into the palpable error of supposing them defensive in their origin. Major Long (*Second, Exp.* Vol. i., p. 54) describes some petty works in the vicinity of Piqua, Ohio, consisting of a number of small circles, as of undoubted warlike origin, applying to them the terms of military technology. One of these circles, which he regards as a "*redoubt*," is 43 feet in diameter, and has its ditch *interior* to the wall! A famous defence, truly, contrasted with the fortified hills already described!

itself was also deemed sacred, and thus set apart as "*tabooed*" or consecrated ground—especially where it is obvious, at first glance, that it possesses none of the requisites of a military work. But it is not to be concluded that those enclosures alone, which contain mounds of the description here named, were designed for sacred purposes. We have reason to believe that the religious system of the mound-builders, like that of the Mexicans, exercised among them a great, if not a controlling influence. Their government may have been, for aught we know, a government of the priesthood; one in which the priestly and civil functions were jointly exercised, and one sufficiently powerful to have secured in the Mississippi valley, as it did in Mexico, the erection of many of those vast monuments, which for ages will continue to challenge the wonder of men. There may have been certain superstitious ceremonies, having no connection with the purposes of the mounds, carried on in enclosures specially dedicated to them. There are several minor enclosures within the great defensive work already referred to, on the banks of the North Fork of Paint Creek, the purposes of which would scarcely admit of doubt, even though the sacred mounds which they embrace were wanting. It is a conclusion which every day's investigation and observation has tended to confirm, that most, perhaps all the earth-works, not manifestly defensive in their character, were in some way connected with the superstitious rites of the builders, though in what manner, it is, and perhaps ever will be, impossible satisfactorily to determine.

What dim light analogy sheds upon this point goes to sustain this conclusion. The British Islands only afford works with which any comparison can safely be instituted. The "ring forts" of the ancient Celts are nearly identical in form and structure with a large class of remains in our own country; and these are regarded by all well-informed British antiquaries as strictly religious in their origin, or connected with the rites of the ancient Druidical system.

This conclusion is not entirely speculative, but rests in a great degree upon traditional and historical facts. The late Sir R. C. Hoare, author of "Ancient Wiltshire" (the most scientific as also the most splendid antiquarian work ever issued from the British press), regarded the occurrence of the *fosse*, interior to the wall, in a portion of the British works, as precluding the supposition of a military, and establishing their religious origin.

The character of these works has already been briefly indicated. They are generally regular in their structure, and occupy the broad and level river-bottoms, seldom occurring upon the table-lands, or where the surface is undulating or broken. Their usual form is that of the square or the circle; sometimes they are slightly elliptical. Occasionally we find them isolated, but oftenest in groups. The greater number of the circles are of small size, having a nearly uniform diameter of two hundred and fifty or three hundred feet, with the ditch invariably interior to the wall. These have always a single gateway, opening oftenest towards the east, but by no means observing a fixed rule in this respect. It frequently happens that they have one or more small mounds interior to their walls, of the class denominated *sacrificial*. These small circles occasionally occur within larger works of a defensive character. Apart from these, numerous little circles, from thirty to fifty feet in diameter, are observed in the vicinity of large works, consisting of a very light embankment of earth, and destitute of a gateway or entrance. It has been suggested that these are the remains of the ancient lodges or of other buildings. The accounts which we have of the traces left of the huts of the Mandans and other Indian tribes, at their deserted villages, render this supposition not improbable. It sometimes happens that we find small circles around the bases of large mounds; these probably cannot be regarded as of the same character with that numerous class already described.

The larger circles are oftenest found in combination with rectangular works, connecting with them directly or by avenues. Some of these are of large size, embracing fifty or more acres. They seldom have a ditch; but whenever it occurs, it is interior to the wall. As in the case of the squares or rectangular works with which they are attached, (and which, it is believed, *never* have ditches, exterior or interior,) the walls are usually composed of earth taken up evenly from the surface, or from large pits in the neighborhood. Evident care seems in all cases to have been exercised, in procuring the material, to preserve the surface of the adjacent plain smooth, and as far as possible unbroken. This fact is in itself almost conclusive against the supposition of a defensive design, especially as we have abundant evidence that the mound-builders understood perfectly the value of the external fosse in their works of defence. The walls of these works are, for the most part, comparatively slight, varying from three to seven feet in height. Sometimes they are quite imposing; as in the case of the great circle at Newark, Licking county, Ohio, where, at the entrance, the wall from the bottom of the ditch has a vertical height of not far from thirty feet. The square or rectangular works attending these large circles are of various dimensions. It has been observed, however, that certain groups are marked by a great uniformity of size. Five or six of these now occur to the writer, placed at long distances asunder, which are *exact* squares, each measuring one thousand and eighty feet side—a coincidence which could not possibly be accidental, and which must possess some significance. It certainly establishes the existence of some standard of measurement among the ancient people, if not the possession of some means of determining angles. The rectangular works have almost invariably gateways at the angles and midway on each side, each of which is covered by a small interior mound or elevation. In some of the larger structures the openings are

more numerous. A few of this description of remains have been discovered which are octagonal. One of large size, in the vicinity of Chillicothe, has the alternate angles coincident with each other, and the sides equal.

Another description of works, probably akin to those here described, are the parallels, consisting of light embankments, seven or eight hundred feet in length and sixty or eighty apart.

Indeed, so various are these works, and so numerous their combinations, that it is impossible to convey any accurate conception of them, without entering into a minuteness of detail and an extent of illustration utterly beyond the limits of this paper. They are invested with singular interest, alike from their peculiar form and the character and contents of the mounds which they enclose. If we are right in the assumption that they are of sacred origin, and were the temples and consecrated grounds of the ancient people, we can, from their number and extent, form some estimate of the devotional fervor or superstitious zeal which induced their erection, and the predominance of the religious sentiment among their builders.

The magnitude of some of these structures is, perhaps, the strongest objection that can be urged against the position here assigned them. It is difficult to comprehend the existence of religious works, extending, with their attendant avenues, like those near Newark in Ohio, over an area of little less than *four square miles!* We can find their parallels only in the great temples of Abury and Stonehenge in England, and Carnac in Brittany, and associate them with a mysterious worship of the Sun, or an equally mysterious Sabianism. Within the mounds enclosed in many of these sacred works, we find the altars upon which glowed their sacrificial fires, and where the ancient people offered their propitiations to the strange gods of their primitive superstition. These altars also furnish us with the too unequivocal evidence that the ritual of the mound-

builders, like that of the Aztecs, was disfigured by sanguinary observances, and that human sacrifices were not deemed unacceptable to the divinity of their worship. It is of course impossible in this connection to go into the details of the evidence upon this or kindred points of interest.

The Mounds.

Intimately connected with the interesting works already described are the mounds; of these, however, little has hitherto been known. The popular opinion, based, in a great degree, upon the well ascertained purposes of the barrows and tumuli occurring in certain parts of Europe and Asia, is, that they are simple monuments, marking the last resting-place of some great chief or distinguished individual, among the tribes of the builders. Some have supposed them to be the cemeteries, in which were deposited the dead of a tribe or a village, for a certain period, and that the size of the mound is an indication of the number inhumed. Others, that they mark the sites of great battles, and contain the bones of the slain. On all hands the opinion has been entertained, that they were devoted to sepulture alone. This received opinion is not, however, sustained by the investigations set on foot by the writer and his associate. The conclusion to which their observations have led, is, that the mounds were constructed for several grand and dissimilar purposes; or rather, that they are of different classes;—the conditions upon which the classification is founded being three in number—namely: position, structure, and contents. In this classification, we distinguish—

1st. Those mounds which occur in, or in the immediate vicinity of enclosures, which are stratified, and contain altars of burned clay or stone, and which were places of sacrifice, or in some way connected with religious rites and ceremonies.

2d. Those which stand isolated, or in groups, more or

less remote from the enclosures, which are not stratified, which contain human remains, and which were the burial-places and monuments of the dead.

3d. Those which contain neither altars nor human remains, and which were places of observation, or the sites of structures.

These classes are broadly marked in the aggregate; but, in some instances, they seem to run into each other. Mounds of this mixed character, as well as those which, under our present condition of knowledge respecting them, do not seem to indicate any clear purpose, have been denominated *anomalous*. Of one hundred mounds excavated, sixty were altar or sacrificial mounds, twenty sepulchral, and twenty either places of observation or *anomalous* in their character. Such, however, is not the proportion in which they occur. From the fact that the mounds of sacrifice are most interesting and most productive in relics, the largest number excavated has been of that class. In the Scioto valley the mounds are distributed between the three classes specified, in very nearly equal proportions; the mounds of observation and the anomalous mounds constituting together about one third of the whole number.

Mounds of Sacrifice.—The general characteristics of this class of mounds are :

1st. That they occur only within, or in the immediate vicinity of enclosures or sacred places.*

2d. That they are stratified.

3d. That they contain symmetrical altars of burned clay or stone, on which are deposited various remains, which, in all cases, have been more or less subjected to the action of fire.

Of the whole number of mounds of this class which

* It is not assumed to say that *all* the mounds occurring within enclosures are altar or sacrificial mounds. On the contrary, some are found which, to say the least, are *anomalous*, while others were clearly the *sites of structures*.

were examined, *four* only were found to be exterior to the walls of enclosures, and these were but a few rods distant from the ramparts.

The fact of stratification, in these mounds, is one of great interest and importance. This feature has heretofore been remarked, but not described with proper accuracy; and has consequently proved an impediment to the recognition of the artificial origin of the mounds, by those who have never seen them. The stratification, so far as observed, is not horizontal, but always conforms to the convex outline of the mound.* Nor does it resemble the stratification produced by the action of water, where the layers run into each other, but is defined with the utmost distinctness, and always terminates upon reaching the level of the surrounding earth. That it is artificial will, however, need no argument to prove, after an examination of one of the mounds in which the feature occurs; for, it would be difficult to explain, by what singular combination of "igneous and aqueous" action, stratified mounds were always raised over symmetrical monuments of burned clay or of stone.

The altars, or basins, found in these mounds, are almost invariably of burned clay, though one or two of stone have been discovered. They are symmetrical, but not of uniform size and shape. Some are round, others elliptical, and others square, or parallelograms. Some are small, measuring barely two feet across, while others are fifty feet

* Some of the mounds, on the lower Mississippi, are horizontally stratified, exhibiting alternate layers, from base to summit. These mounds differ in form from the conical structures here referred to, and were doubtless constructed for a different purpose. Some are represented as composed of layers of earth, two or three feet thick, each one of which is surmounted by a burned surface, which has been mistaken for a rude brick pavement. Others are composed of alternate layers of earth and human remains. Their origin is doubtless to be found in the annual bone burials of the Cherokees and other southern Indians, of which accounts are given by Bartram and other early writers. It is not impossible that, in rare instances, natural elevations have been modified by art so as to serve some of the purposes for which mounds were erected. In such the natural stratification would be preserved.

long by twelve and fifteen wide. The usual dimensions are from five to eight feet. All appear to have been modelled of fine clay, brought to the spot from a distance, and rest upon the original surface of the earth. In a few instances, a layer or small elevation of sand had been laid down, upon which the altar was formed. The elevation of the altars, nevertheless, seldom exceeds a foot or twenty inches, above the adjacent level. The clay of which they are composed is usually burned hard, sometimes to the depth of ten, fifteen, and even twenty inches. This is hardly to be explained, by any degree or continuance of heat, though it is manifest that in some cases the heat was intense. On the other hand, a number of these altars have been noticed, which are very slightly burned; and such, it is a remarkable fact, are destitute of remains.

The characteristics of this class of mounds will be best explained, by reference to the accompanying illustrations. It should be remarked, however, that no two are alike in all their details.

The mound, a section of which is here given, occurs in "Mound City," a name given to a group of *twenty-six* mounds, embraced in one enclosure, on the banks of the Scioto river, three miles above the town of Chillicothe. It is seven feet high by fifty-five feet base. A shaft, five feet square, was sunk from its apex, with the following results:—

1st. Occurred a layer of coarse gravel and pebbles, which appeared to have been taken from deep pits, surrounding the enclosure, or from the bank of the river. This layer was one foot in thickness.

2d. Beneath this layer of gravel and pebbles, to the depth of two feet, the earth was homogeneous, though slightly mottled, as if taken up and deposited in small loads, from different localities. In one place appeared a deposit of dark colored, surface loam, and by its side, or covering it, there was a mass of the clayey soil of greater depth.

The outlines of these various deposits could be distinctly traced.

3d. Below this deposit of earth, occurred a thin and even layer of fine sand, a little over an inch in thickness.

4th. A deposit of earth, as above, eighteen inches in depth.

5th. Another stratum of sand, somewhat thinner than the one above mentioned.

6th. Another deposit of earth, one foot thick; beneath which was—

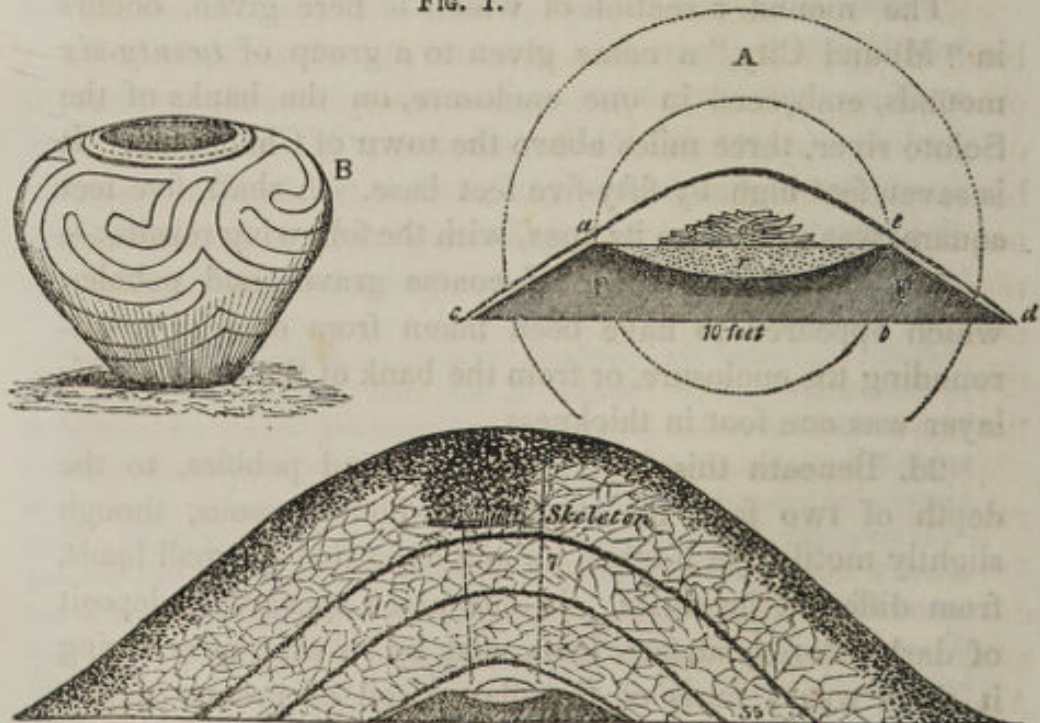
7th. A third stratum of sand; below which was—

8th. Still another layer of earth, a few inches in thickness; which rested on—

9th. An altar, or basin, of burned clay.

This altar was perfectly round. Its form and dimensions are best shown by the supplementary plan, and section A. F F, is the altar, measuring from *c* to *d*, nine feet;

FIG. 1.



Horizontal scale of section *fifteen* feet, and the vertical *six* feet, to the inch.

from *a* to *e*, five feet; height from *b* to *e*, twenty inches; dip of curve *a r e*, nine inches. The sides *c a*, *e d*, slope regularly, at a given angle. The body of the altar is burned throughout, though in a greater degree within the basin, where it was so hard as to resist the blows of a heavy hatchet, the instrument rebounding as if struck upon a rock. The basin, or hollow of the altar, was filled even full with fine dry ashes, intermixed with which were some fragments of pottery, of an excellent finish and elegant model, ornamented with tasteful carvings on the exterior. One of the vases, taken in fragments from this mound, has been very nearly restored. The sketch B, presents its outlines, and the character of its ornaments. Its height is six, its greatest diameter eight inches. The material is hardly distinguishable from that composing the pottery of the ancient Peruvians; and in respect of finish, it is fully equal to the best Peruvian specimens. A few convex copper discs, much resembling the bosses used upon harnesses, were also found.

Above the deposit of ashes, and covering the entire basin, was a layer of silvery or opaque mica, in sheets, overlapping each other; and, immediately over the centre of the basin, was heaped a quantity of burned human bones, probably the amount of a single skeleton, in fragments. The position of these is indicated by *o* in the section. The layer of mica and calcined bones, it should be remarked, to prevent misapprehension, were peculiar to this individual mound, and were not found in any other of the class.

It will be seen, by the section, that at a point about two feet below the surface of the mound, a human skeleton was found. It was placed a little to the left of the centre, with the head to the east, and was so much decayed as to render it impossible to extract a single bone entire. Above the skeleton, as shown in the section, the earth and outer layer of gravel and pebbles were broken up and

intermixed. Thus while on one side of the shaft the strata were clearly marked, on the other they were confused. And, as this was the first mound of the class excavated, it was supposed, from this circumstance, that it had previously been opened by some explorer, and it had been decided to abandon it when the skeleton was discovered. Afterwards the matter came to be fully understood. No relics were found with this skeleton.

It is a fact well known, that the modern Indians, though possessing no knowledge of the origin or objects of the mounds, were accustomed to regard them with some degree of veneration. It is also known, that they sometimes buried their dead in them, in accordance with the almost invariable custom which leads them to select elevated points, and the brows of hills, as their cemeteries. That their remains should be found in the mounds, is therefore a matter of no surprise. They are never discovered at any great depth, not often more than eighteen inches or three feet below the surface. Their position varies in almost every case: most are extended at length, others have a sitting posture, while others again seem to have been rudely thrust into their shallow graves without care or arrangement. Rude implements of bone and stone, and coarse vessels of pottery, such as are known to have been in use among the Indians at the period of the earliest European intercourse, occur with some of them, particularly with those of a more ancient date; while modern implements and ornaments, in some cases of European origin, are found with the recent burials. The necessity therefore of a careful and rigid discrimination, between these deposits and those of the mound-builders, will be apparent. From the lack of such discrimination, much misapprehension and confusion have resulted. Silver crosses, gun-barrels, and French dial-plates, have been found with skeletons in the mounds; yet it is not to be concluded that the mound-builders were Catholics, or used

fire-arms, or understood French. Such a conclusion would, nevertheless, be quite as well warranted, as some which have been deduced from the absolute identity of certain relics, taken from the mounds, with articles known to be common among the existing tribes of Indians. The fact of remains occurring in the mounds, is in itself hardly presumptive evidence that they pertained to the builders. The conditions attending them can alone determine their true character. As a general rule, to which there are few exceptions, the only authentic and undoubted remains of the mound-builders, are found directly beneath the apex of the mound, on a level with the original surface of the earth; and it may be safely assumed, that whatever deposits occur near the surface of the mounds are of a date subsequent to their erection.

In the class of mounds now under consideration we have data which will admit of no doubt, whereby to judge of the origin, as well as the relative periods, of the various deposits found in them. If the stratification already mentioned as characterizing them, is unbroken and undisturbed, if the strata are regular and entire, it is certain that whatever occurs beneath them, was placed there at the period of the construction of the mound. And if, on the other hand, these strata are broken up, it is equally certain that the mound has been disturbed, and new deposits made, subsequent to its erection. It is in this view, that the fact of stratification is seen to be important, as well as interesting; for it will serve to fix, beyond all dispute, the origin of many singular relics, having a decisive bearing on some of the leading questions connected with American Archæology. The thickness of the exterior layer of gravel, &c., in mounds of this class, varies with the dimensions of the mound, from eight to twenty inches. In a very few instances, the layer, which may have been designed to protect the form of the mound, and which purpose it admirably subserves, is entirely wanting. The number and

relative position of the sand strata are variable; in some of the larger mounds, there are as many as six of them, in no case less than one, most usually two or three.

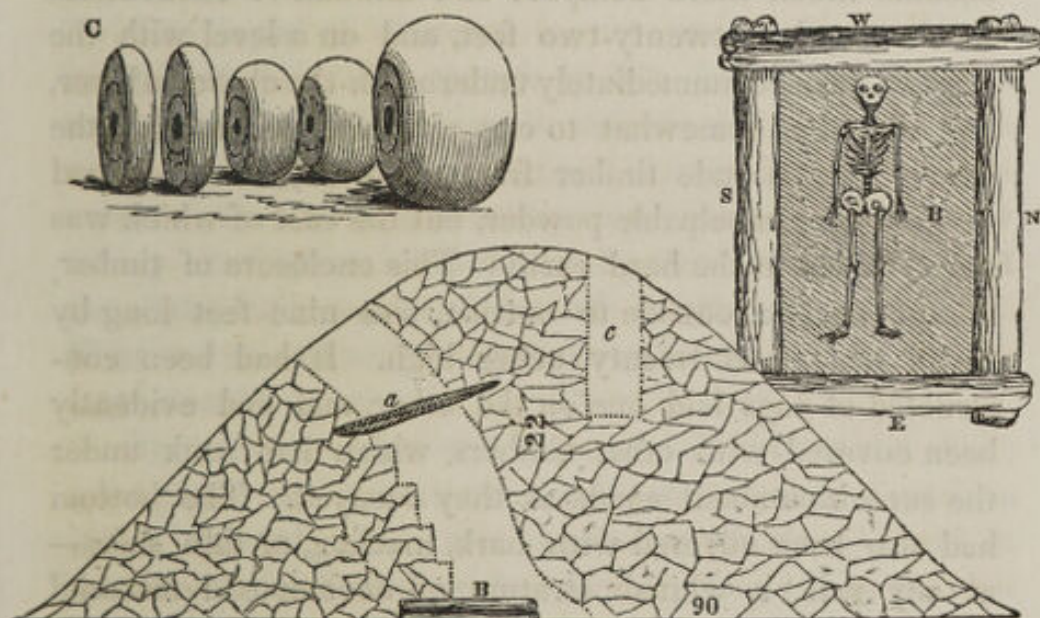
In one case which fell under our observation, and in another, of which we have an account from the person who discovered it, the altar was of stone. This altar was elevated two and one-half feet above the original surface of the earth, and was five feet long by four broad. It was a simple elevation of earth packed hard, and was faced, on every side and on top, with slabs of stone of regular form, and nearly uniform thickness. They were laid evenly, and, as a mason would say, "with close joints;" and though uncut by any instrument, the edges were straight and smooth. The stone is "the Waverly sandstone," underlying the coal series, thin strata of which cap every hill. This stone breaks readily, with a rectangular fracture, and hence the regularity of the slabs is not so much a matter of surprise. This altar bore the marks of fire, and fragments of the mound-builders' ornaments were found on and around it. What had originally been deposited there was probably removed by the modern Indians, who had opened the mound and buried one of their dead on the altar.

Mounds of this class are most fruitful in relics of the builders. On the altars have been found, though much injured and broken up by the action of fire, instruments and ornaments of *silver, copper, stone, and bone*; beads of silver, copper, *pearls*, and shell; spear and arrow heads of flint, quartz, garnet, and *obsidian*; fossil teeth of the shark; teeth of the alligator; marine shells; galena; sculptures of the human head, and of numerous animals; pottery of various kinds, and a large number of interesting articles, some of which evince great skill in art. No description of these can be given here.

Mounds of Sepulture.—The mounds of sepulture

stand apart from the enclosures, and, in their average dimensions, greatly exceed those of the first class. The celebrated mound at Grave Creek is of this class. They lack the gravel and sand strata, which characterize those already described, and are destitute of "altars." They invariably cover a skeleton (sometimes more than one, as at Grave Creek), which, at the time of its interment, was enclosed in a rude framework of timber, or enveloped in bark or coarse matting, the traces, in some instances the very *casts* of which, remain. The structure of a single mound of this class will serve to exhibit their peculiarities.

FIG. 2.



The mound, of which the above is a section,* stands on the third "bottom" or terrace of the Scioto river, six miles below the town of Chillicothe. There are no enclosures nearer than a mile; though there are three or four other mounds, of smaller size, on the same terrace, within a few hundred yards. The mound is twenty-two feet high, by ninety feet base. The principal excavation was made

* Horizontal scale *thirty* feet, and vertical *fifteen* feet, to the inch.

(as represented by the dotted lines in the section), from the west side, commencing at about one-third of the height of the mound from the top. At ten feet below the surface, occurred a layer of charcoal (*a*), not far from ten feet square, and from two to six inches in thickness, slightly inclined from the horizontal, and lying mostly to the left of the centre of the mound. The coal was coarse and clear, and seemed to have been formed by the sudden covering up of the wood while burning, inasmuch as the trunks and branches retained their form, though entirely carbonized, and the earth immediately above as well as below, was burned of a reddish color. Below this layer the earth became much more compact and difficult of excavation. At the depth of twenty-two feet, and on a level with the original surface, immediately underneath the charcoal layer, and, like that, somewhat to one side of the centre of the mound, was a rude timber framework (*B*), now reduced to an almost impalpable powder, but the *cast* of which was still retained in the hard earth. This enclosure of timber, measured from outside to outside, was nine feet long by seven wide, and twenty inches high. It had been constructed of logs laid one on the other, and had evidently been covered with other timbers, which had sunk under the superincumbent earth, as they decayed. The bottom had also been covered with bark, matting, or thin slabs—at any rate, a whitish stratum of decomposed material remained, covering the bottom of the parallelogram. Within this rude coffin, with its head to the west, was found a human skeleton, or rather the remains of one; for scarcely a fragment as long as one's finger could be recovered. It was so much decayed that it crumbled to powder under the slightest touch. Around the neck of the skeleton, forming a triple row, and retaining their position, as originally strung and deposited with the dead, were several hundred beads, made of ivory, or the tusks of some animal (*C*). Several of these still retain their polish, and bear

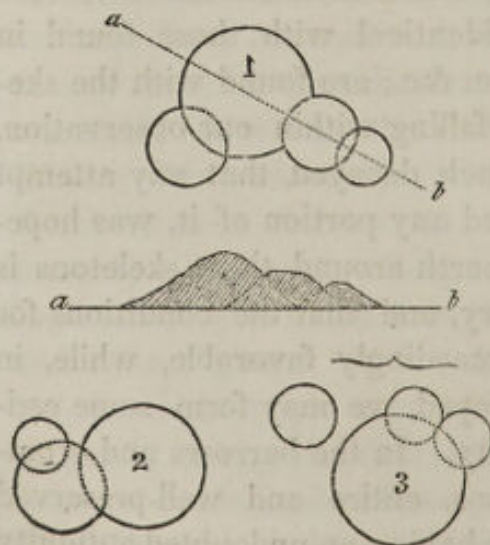
marks which seem to indicate that they were turned in some machine, instead of being carved by hand. A few laminae of mica were also discovered, which completed the list of articles found with this skeleton. The feet of the skeleton were nearly in the centre of the mound. A drift beyond it developed nothing new, nor was a corresponding layer of charcoal found on the opposite side of the mound. It is clear, therefore, that the tumulus was raised over this single skeleton. In the case of a mound of this class, opened at Gallipolis, on the Ohio river, the chamber enclosing the skeleton was found just below the original surface,—which can always be detected by a strongly marked line and the uniform drab color of the earth beneath it.

The layer of charcoal is not uniformly found in mounds of this class, though it is a feature of frequent occurrence. It would seem to indicate that sacrifices were made for the dead, or that funeral rites of some kind were celebrated. The fire, in every case, was kept burning for a very brief space, as is shown by the lack of ashes, and the slight traces of its action left on the adjacent earth. That it was suddenly heaped over, is also proved by the facts already presented.

Bracelets of copper and silver ; beads of bone and shell ; mica plates and ornaments ; stone instruments of various kinds, some of which are identical with those found in mounds of the first class, &c. &c., are found with the skeletons. In every instance falling within our observation, the skeleton has been so much decayed, that any attempt to restore the skull, or indeed any portion of it, was hopeless. Considering that the earth around these skeletons is wonderfully compact and dry, and that the conditions for their preservation were exceedingly favorable, while, in fact, they are so much decayed, we may form some estimate of their remote antiquity. In the barrows and cromlechs of the ancient Britons, entire and well-preserved skeletons are found, although having an undoubted antiquity of 1800 years.

In some of the sepulchral mounds, as has already been stated, the sarcophagus, if we so please to term it, was omitted by the builders, the dead body having been simply enveloped in bark or matting. Perhaps this course was most frequently pursued. In these cases the original surface appears to have been carefully smoothed and levelled, for a space ten or twenty feet square, which space was covered with bark. Upon this was deposited the dead body, and, by its side, such personal ornaments or implements as were deemed proper, the whole being covered with another layer of bark, and the tumulus raised above. Instances have occurred in which it is clear that burial by *incremation* was made, but these are comparatively rare. In the celebrated mound at Grave Creek, *two* sepulchral chambers were discovered, one at the base, another at a higher point. The lower one contained two skeletons, and the upper but one. The mound, in this respect, is somewhat extraordinary. It may be conjectured, with some appearance of reason, that it contained the bones of the family of a chieftain, or distinguished individual, among the builders. It is common to find two or three, sometimes four or five, sepulchral mounds, in a group. In such cases, it is always to be remarked, that one of the group is much the

FIG. 3.



largest, twice or three times the dimensions of any of the others, and that the smaller ones are arranged around its base, generally joining it, thus evincing an intended dependence and close connection between them. Plans of three groups of this description are given in the annexed figures. May we not conclude that such a group is the tomb

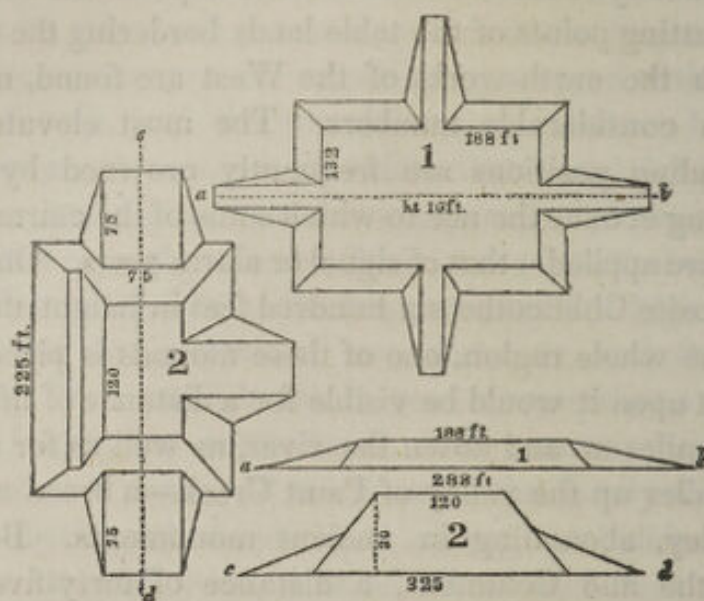
of a family—the principal mound covering the head of the same, the smaller ones its various members? In the Grave Creek mound, it is possible that, instead of building a new mound, an additional chamber was constructed upon the summit of the one already raised—a single mound being thus made to occupy the place of a group.

Mounds of Observation.—On the tops of the hills and on the jutting points of the table lands bordering the valleys in which the earth-works of the West are found, mounds occur in considerable numbers. The most elevated and commanding positions are frequently crowned by them, suggesting at once the use to which some of the cairns of the Celts were applied—that of signal or alarm posts. On a high hill, opposite Chillicothe, six hundred feet in height, the loftiest in the whole region, one of these mounds is placed. A fire built upon it would be visible for a distance of fifteen or twenty miles up and down the river, as well as for a number of miles up the valley of Paint Creek—a broad and fertile valley, abounding in ancient monuments. Between Chillicothe and Columbus, a distance of forty-five miles, there are about twenty mounds, so placed that, it is believed, if the country were cleared of forests, signals by fire could be transmitted along the whole line in a few minutes. Our examination of this description of mounds, from a variety of causes, has been comparatively limited. So far as our personal observation goes, they contain few of the remains found in the two classes of mounds just described; and, although there are traces of fire around many of them, the marks are not sufficiently strong to justify fully the inferences that they were *lookouts* and fires used as the signals. Indeed, it is certain that, in some cases, they contain human remains, undoubtedly those of the mound-builders. It is possible that a portion, perhaps all, were devoted to sepulture, another portion to observation, or that some answered a double purpose. This is

a point which remains to be settled by more extended observations.*

There is another description of mounds which should properly be here mentioned. Their purposes admit of no doubt. They consist of pyramidal structures, or "elevated squares," and are found almost invariably within enclosures.

FIG. 4.



They are sometimes of large dimensions. Those at Marietta are fair examples of the class, and No. 1, Fig. 4, exhibits their structure and dimensions. No. 2, is an ele-

* Upon many prominent and commanding points of the hills, are to be observed traces of large and long-continued fires. These are vulgarly supposed to be the remains of "furnaces," from the amount of *scoriaceous* material scattered upon the surface. The fires appear to have been built upon heaps of stones, which are broken up, and sometimes partially vitrified, and in all cases exhibit the marks of intense and protracted heat.

Lighting fires as signals, upon elevated positions, is an old and almost universal practice. When Lieut. Fremont penetrated into the fastnesses of Upper California, where his appearance created great alarm among the Indians, he observed this primitive telegraph system in operation. "Columns of smoke rose over the country at scattered intervals—signals by which the Indians here, as elsewhere, communicate to each other that enemies are in the country. It is a signal of ancient and very universal application among barbarians."—*Fremont's Second Expedition*, p. 220.

vation of a similar mound, on the banks of Walnut Bayou, Madison Parish, Louisiana, and is introduced incidentally, to show the connection between the monuments of the lower Mississippi and Mexico, and those of the Ohio valley. None of these, so far as examined, contain remains. They were obviously designed as the sites of temples or of structures which have passed away, or as "high places" for the performance of certain ceremonies. Perhaps they deserve to occupy a place by themselves, in the classification here attempted.

Anomalous Mounds.—It will be impossible, within the compass of this paper, to enter into the details which a proper notice of these mounds would require. Such a notice would necessarily involve a description of almost every one thus characterized. A single mound was examined which contained an altar, and also a skeleton with its rude enclosure of wood. It was elliptical in shape, measuring one hundred and sixty feet in length, sixty in width and twenty-five in height. The altar occupied one centre of the ellipse, the chamber of the skeleton the other. Of the twenty-six mounds embraced in "Mound City," *six* are of very small dimensions, not exceeding three feet in height. Within each of these was deposited a quantity of burned human bones in fragments, not exceeding in any case the amount of a single skeleton. No relics were found with these, though in one instance a fragment of an altar, a couple of inches square, was observed with the bones, leading to the conclusion that they were taken up from the altars, in the adjacent larger mounds, and afterwards finally deposited here.

General Observations.—Whether these classes are maintained throughout the West, is a question which a systematic examination, carried on over a wide field, alone can determine. In almost every case falling within our knowledge, where mounds have been thoroughly examined by competent persons, some of the features here marked

have been noticed. It is conjectured, that the "brick hearths," of which mention has occasionally been made, were the "altars," already described as belonging to a certain class of mounds. Nothing is more likely than that some of them were left uncovered by the builders, and subsequently hidden by natural accumulations, to be again exposed by the invading plough, or the recession of the banks of streams. The indentations occasioned by the passage of roots across them, or by other causes, would naturally suggest the notion of rude brick hearths.

REMAINS FOUND IN THE MOUNDS: *Implements, Ornaments, Sculptures, &c.*—The condition of the ordinary arts of life, amongst the people which constructed the singular and often imposing monuments we have been contemplating, furnishes a prominent and interesting subject of inquiry. How far the conclusion, already hypothetically advanced, that the vast amount of labor expended upon these works, their number, and the regularity and design which they exhibit, denote a numerous people, considerably advanced from the nomadic, hunter, or radically savage state,—how far this conclusion is sustained by the character of the minor remains, of which we shall now speak, remains to be seen.

It has already been remarked that the mounds are the principal depositories of ancient art, and that in them we must seek for the only authentic remains of the builders. In the observance of a practice almost universal among barbarous or semi-civilized nations, the mound-builders deposited various articles of use and ornament with their dead. They also, under the prescriptions of their religion, or in accordance with customs unknown to us, and to which perhaps no direct analogy is afforded by those of any other people, placed upon their altars numerous ornaments and implements,—probably those most valued by their possessors,—which remain there to this day, attesting at once the religious zeal of the depositors, and their skill in

the minor arts. From these original sources the illustrations which follow were chiefly derived.

The necessity of a careful discrimination between the various remains found in the mounds, resulting from the fact that the races succeeding the builders in occupation of the country often buried their dead in them, has probably been dwelt upon with sufficient force, in another connection. Aside from the distinctive features of the relics themselves, attention to the conditions under which they are discovered, and to the simple rules which seem to have governed the mound-builders in making their deposits, can hardly fail to fix, with great certainty, their date and origin. Their true position satisfactorily determined, we proceed with confidence to comparisons and deductions, which otherwise, however accurate and ingenious they might be, would nevertheless be invested with painful uncertainty. From want of proper care in this respect, there is no doubt that articles of European origin, which, by a very natural train of events, found their way to the mounds, have been made the basis of speculations concerning the arts of the mound-builders. To this cause we may refer the existence of the popular errors, that the ancient people were acquainted with the use of iron, and understood the art of plating, gilding, &c.*

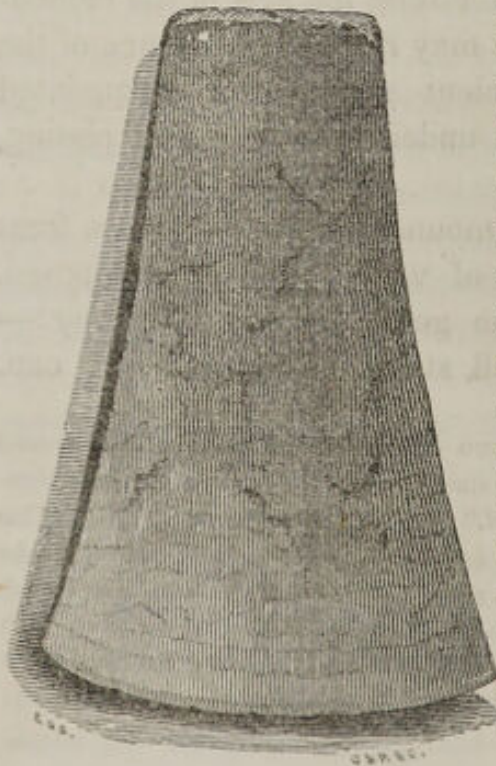
The relics found in the mounds are such only as, from the nature of the materials of which they are composed, have been able to resist the general course of decay:—articles of pottery, bone, shell, stone, and metal. We can,

* A silver cup is said to have been found, many years ago, in a mound near Marietta, Ohio, which, "though simple in its form, was smooth and regular, and had its interior *finely gilded*." (*Schoolcraft's View*, p. 276.) This statement has been gravely quoted by several writers, as illustrating the advance of the mound-builders in the arts. Assuming the fact to be as stated, there is nothing very extraordinary in the discovery. What more likely than that this cup fell, in course of barter or by accident, into the hands of some savage, with whom, in accordance with the Indian custom, it was buried at his death?

of course, expect to find but slight traces of instruments or utensils of wood, and but few, and doubtful ones at best, of the materials which went to compose articles of dress.

The first inquiry suggested by an inspection of the mounds and other earth-works of the West, relates to the means at the command of the builders in their construction. However dense we may suppose the ancient population to have been, we must regard these works as entirely beyond their capabilities, unless they possessed some artificial aids. As an agricultural people, they must have had some means of clearing the land of forests and of tilling the soil. We can hardly conceive, at this day, how these operations could be performed without the aid of iron; yet we know that the Mexicans and Peruvians, whose monuments emulate the proudest of the old world, were wholly unacquainted with the uses of that metal, and constructed their edifices and carried on their agricultural operations with implements of wood, stone, and copper. They possessed the secret of hardening the metal last named, so as to make

it subserve most of the uses to which iron is applied. Of it they made axes, chisels, and knives. The mound-builders also, worked it into similar implements, although it is not yet certain that they contrived to give it any extraordinary hardness. A number of axes have been extracted from their depositories, the general form of which is well exhibited in the accompanying engraving. This specimen was found in a mound near Chillicothe. It consists of a solid, well-



hammered piece of copper, and weighs two pounds and five ounces. It is seven inches long by four broad at the cutting edge, and has an average thickness of little less than four-tenths of an inch. Its edge is slightly curved, somewhat after the manner of the axes of the present day, and is *bevelled* from both surfaces. In size and shape it coincides very nearly with those possessed by the Mexicans and Peruvians, and was probably fastened and used in a similar way. Copper chisels, gravers, &c. have also been found in the mounds. The metal seems, however, to have been more generally applied to ornamental than useful purposes; for, while articles of ornament are common in both the sacrificial and sepulchral mounds, copper implements are comparatively rare. It is possible that ornaments were more generally placed in the mounds than articles of use; such certainly is the case in respect to the mounds of sepulture. Copper beads, bracelets, gorgets, &c. &c. are of frequent occurrence.

Silver has also been found, but in small quantities, reduced to great thinness, and closely wrapped around copper ornaments. This is done so skillfully as scarcely to be detected, and is the nearest approach to *plating* yet discovered. The ore of lead, *galena*, has been found in considerable abundance, and some of the metal itself under circumstances implying a knowledge of its use on the part of the ancient people. The discovery of gold has been vaguely announced, but is not well attested. It is not impossible that articles of that metal have been found, with other vestiges of European art, accompanying secondary and recent deposits; and it is far from impossible or even improbable, judging from the extensive intercourse which they seem to have maintained, that the metal may yet be disclosed under such circumstances as to justify the conclusion that it was not entirely unknown to the mound-builders. No iron or traces of iron have been discovered, except in connection with recent deposits; and there is no reason

to believe that the race of the mounds had the slightest acquaintance with its uses.*

It is hardly to be supposed that the silver and copper found in the mounds, were reduced from the ores of these metals. On the contrary, it is nearly certain that they were obtained native from primitive deposits. Indeed, fragments of unwrought native copper have occasionally been discovered, of considerable size; one of these, from which portions had evidently been cut, weighing twenty-three pounds, was found, a few years since, near Chillicothe. Both metals appear to have been worked in a cold state, and display the lamination of surface resulting from such a process. This is somewhat remarkable, as the fires upon

* It is unnecessary to remark that all accounts of the discovery of iron in the mounds, or under such circumstances as to imply a date prior to the Discovery, are sufficiently vague and unsatisfactory. The fragment of an iron wedge, found in a rock near Salem, Washington county, Ohio, and which has been alluded to by several writers upon American antiquities, does not probably possess an antiquity of more than fifty years. It is now in the possession of Dr. S. P. Hildreth, of Marietta, and its history, stripped of all that is not well-authenticated, is simply that it was found fastened in a cleft of a rock, and no one could tell how it came there! The only authority for the discovery of iron in the mounds, is the author of the paper on American antiquities, in the first volume of the *Archæologia Americana*, who states that, in a mound at Circleville, Ohio, was found amongst other articles "a plate of iron which had become an oxyde, but before it was distributed by the spade resembled a plate of cast iron." (*Archæol. Am.* Vol. i., p. 178.) It is obviously no easy matter to detect iron when fully oxydized in the earth; and when we are obliged to base our conclusions respecting the use of that metal, by an evidently rude people, upon such remains, if any there be, the strictest examination should be given them; appearances alone should be disregarded, and conclusions, after all, drawn with extreme caution. Whether it is likely the requisite discrimination and judgment were exercised in this case, it is not undertaken to say. But few masses of native iron, and these of small size and meteoric origin, have been found in this country; consequently the presence of iron to any extent amongst the mound-builders, can be accounted for only on the assumption that they understood the difficult art of reducing it from the ores, which involves a degree of knowledge and an advance in the arts of civilization, not attained by the Mexicans nor by the Peruvians, and not sustained by the authenticated remains of the mounds.

the altars were sufficiently strong, in some instances, to melt down the copper ornaments and implements deposited upon them, and the fact that the metal was fusible could hardly have escaped notice. The locality, from which a portion at least of the supply of these metals was obtained, is pretty clearly indicated, by the peculiar mechanico-chemical combination existing in some specimens between the silver and copper, which combination characterizes the native masses of Lake Superior. The evident scarcity of silver may also be regarded as supporting this conclusion.

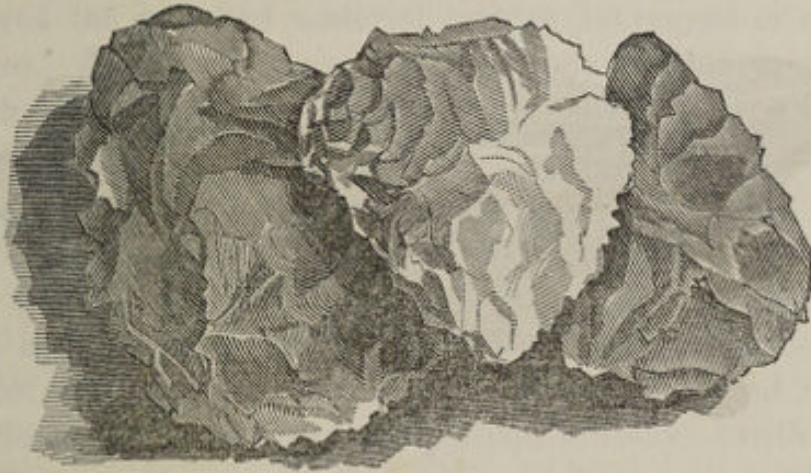
Galena, as already observed, is found in considerable quantities. One of the altars uncovered was entirely occupied by a deposit of this mineral, which had been slightly subjected to the action of fire. No native deposits of galena are known to exist in Ohio, and the supply of the mounds was probably obtained from the well known localities on the Upper Mississippi.

The comparative scarcity of copper implements seems to imply that they were not in general use. At any rate, they never entirely superseded the ruder articles of bone and stone, so generally diffused among rude nations all over the globe. In Mexico and Peru those characteristic implements of a ruder state were still adhered to at the period of the discovery. The early explorers found all the American nations, from the squalid Esquimaux, who struck the morse with a lance pointed with its own tusks, to the haughty Aztec, rivalling in his barbaric splendor the magnificence of the East, including the fearless hunter tribes situated between these extremes, in possession of them. We are not, therefore, surprised at their occurrence in the mounds. We find them with the original and with the recent deposits, and the plough turns them up to light on every hand. And so striking is the resemblance between them all, that we are almost ready to conclude they were the productions of the same people. The conclusion would be irresistible, did we not know that the wants of

man have ever been the same, and have always suggested like forms to his implements, and similar modes of using them. The polished instrument with which the pioneer of civilization prostrates the forest, has its type in the stone axe of the Indian which his plough the next day exposes to his curious gaze. In the barrows of Denmark and Siberia, in the tumuli on the plains of Marathon, and even under the shadow of the pyramids themselves, the explorer finds relics, almost identical with those disclosed from the mounds, and closely resembling each other in material, form, and workmanship. We have consequently little whereby to distinguish the remains of the mound-builders, so far as their mere implements of stone are concerned, except the position in which they are found, and the not entirely imaginary superiority of their workmanship, from those of the succeeding races. We have, however, in the different varieties of stone of which they are composed, the evidences of a communication more extended than we are justified in ascribing to the more recent tribes. For instance, we find knives and lance-heads of *obsidian* (the *itzli* of the Mexicans and the *gallinazo stone* of the Peruvians), a volcanic product, the nearest native locality of which, so far as we know, is Central Mexico, the ancient inhabitants of which country applied it to the very purposes for which it was used by the race of the mounds.

Arrow and lance heads and cutting instruments of the numerous varieties of quartz, embracing every shade of color and degree of transparency, from the dull blue of the ordinary hornstone to the brilliant opalescence of the chalcedonic varieties, are frequent in the mounds. Some are worked with exquisite skill from pure, limpid crystals of quartz, others from crystals of mangnesian garnet, and others still, as before observed, from obsidian. It is a singular fact, however, that none of these, nor indeed any traces of weapons, have been discovered in the "sepulchral mounds:" most of the remains found with the skeletons

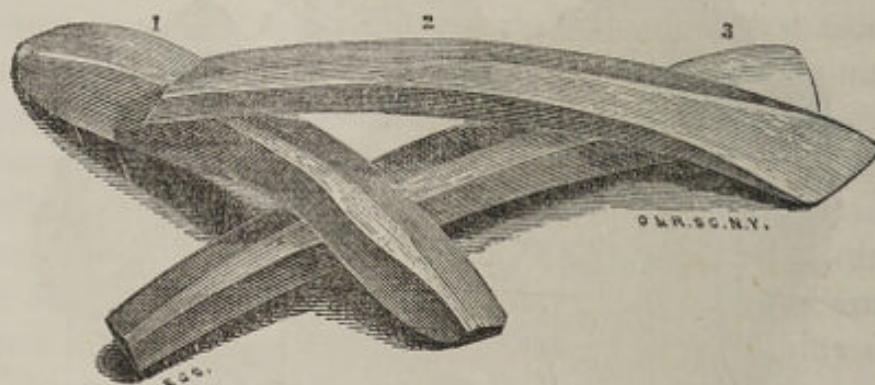
being evidently such as were deemed ornamental, or recognised as badges of distinction. Some of the altar or sacrificial mounds, on the other hand, have the deposits within them almost entirely made up of finished arrow and spear points, intermixed with masses of the unmanufactured material. From one altar were taken several bushels of finely worked lance heads of milky quartz, nearly all of which had been broken up by the action of fire. In another mound, an excavation six feet long and four broad disclosed upwards of six hundred spear heads or discs of hornstone, rudely blocked out, and the deposit extended indefinitely on every side. Some of these are represented in the accompanying engraving. They are necessarily



greatly reduced. The originals are about six inches long and four broad, and weigh not far from two pounds each. Some specimens from this deposit are nearly round, but most are of the shape of those here figured. We are wholly at a loss respecting their purposes, unless they were designed to be worked into the more elaborate instruments to which allusion has been made, and were thus roughly *blocked out* for greater ease of transportation from the quarries. Several localities are known from which the material may have been obtained. One of these, distinguished as "Flint Ridge," extends through the counties of Muskingum and Licking, in Ohio. It is many miles in extent, and countless pits are to be observed throughout its entire length, from which the stone

was taken. These excavations are often ten or fourteen feet deep, and occupy acres in extent. It is possible the late, as well as the more remote, races worked these quarries. Like the red pipe-stone quarry of the *Coteau des Prairies*, this locality may have been the resort of numerous tribes,—a neutral ground where the war hatchet for the time was buried, and all rivalries and animosities forgotten.

One description of knives, found in the mounds, is illustrated in the following engraving, which also exhibits the absolute identity that sometimes exists between the remains of widely separated people, and how, almost as it were by instinct, men hit upon common methods of meeting their wants :



No. 1 is of flint, from a Scandinavian barrow ; No. 2 is of hornstone, from a mound in Ohio ; and No. 3 is of obsidian, from the pyramids of Teotihuacan, in Mexico. They are all made in a like manner, by dexterously chipping off thin, narrow pieces from blocks of the various minerals mentioned, all of which break with a clear, conchoidal fracture and sharp cutting edges. Clavigero states that, so skillful were the Mexicans in this manufacture, that their workmen produced a hundred per hour. It was with knives of this kind that the bloody sacrifices of the Aztecs were performed.

In the manufacture of pottery, as has already been intimated, the mound-builders attained a considerable

proficiency. Many of the vases recovered from the mounds display, in respect to material, finish, and model, a marked superiority to anything of which the existing Indian tribes are known to have been capable, and compare favorably with the best Peruvian specimens. Though of great symmetry of proportions, there is no good reason to believe that they were turned on a lathe. Their fine finish seems to have been the result of the same process with that adopted by the Peruvians in their manufactures. Some of them are tastefully ornamented with scrolls, figures of birds, and other devices, which are engraved in the surface, instead of being embossed upon it. The lines appear to have been cut with some sharp, gouge-shaped instrument, which entirely removed the detached material, leaving no ragged or raised edges. Nothing can exceed the regularity and precision with which the ornaments are executed. The material of which the vases are composed is a fine clay, which, in the more delicate specimens, was worked nearly pure, or possessing a very slight silicious intermixture. Some of the coarser specimens have pulverized quartz mingled with the clay, while others are tempered with salmon-colored mica, in small flakes, which gives them a ruddy and rather brilliant appearance, and was perhaps introduced with some view to ornament as well as utility. None appear to have been glazed; though one or two, either from baking or the subsequent great heat to which they were subjected, exhibit a slightly vitrified surface.

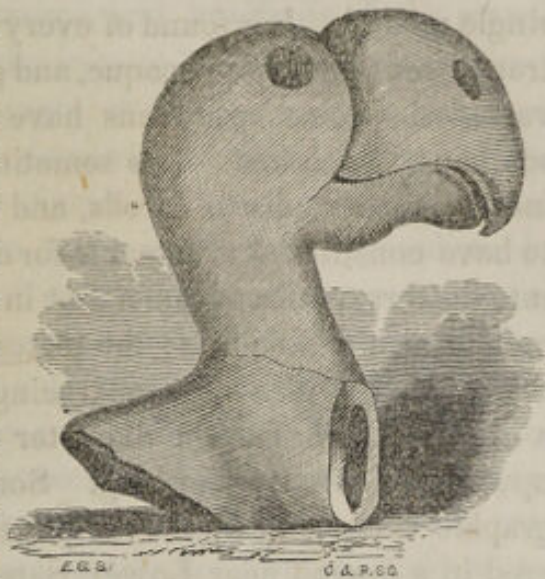
The site of every Indian town throughout the West is marked by the fragments of pottery scattered around it; and the cemeteries of the various tribes abound with rude vessels of clay, piously deposited with the dead. Previous to the Discovery, the art of the potter was much more important and its practice more general than it afterwards became, upon the introduction of metallic vessels. The mode of preparing and moulding the material is minutely described by the early observers, and seems to have been common to

all the tribes, and not to have varied materially from that day to this. The work devolved almost exclusively upon the women, who kneaded the clay and formed the vessels. Experience seems to have suggested the means of so tempering the material as to resist the action of fire; accordingly we find pounded shells, quartz, and sometimes simple coarse sand from the streams, mixed with the clay. None of the pottery of the present races, found in the Ohio valley, is destitute of this feature; and it is not uncommon, in certain localities, where from the abundance of fragments, and from other circumstances, it is supposed the manufacture was specially carried on, to find quantities of the decayed shells of the fresh water molluscs intermixed with the earth, probably brought to the spot to be used in the process. Amongst the Indians along the Gulf, a greater degree of skill was displayed than with those on the upper waters of the Mississippi and on the lakes. Their vessels were generally larger and more symmetrical, and of a superior finish. They moulded them over gourds and models, and baked them in ovens. In the construction of those of large size, it was customary to model them in baskets of willow or splints, which, at the proper period, were burned off, leaving the vessel perfect in form, and retaining the somewhat ornamental markings of their moulds. Some of those found on the Ohio, seem to have been modelled in bags or nettings of coarse thread or twisted bark. These practices are still retained by some of the remote western tribes.

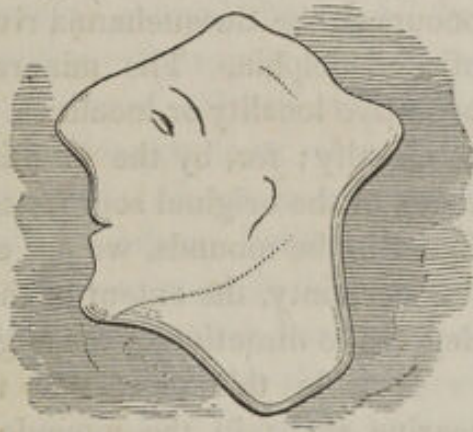
Of this description of pottery many specimens are found, with the recent deposits, in the mounds. They are identical in every respect with those taken from the known burial-grounds of the Indians.

Various *terra-cottas* are extracted from the mounds, though they are far from numerous. They generally represent the heads or figures of animals.

This was taken from a mound in Butler County, Ohio, and is now in the possession of James McBride, Esq., a zealous antiquarian of Hamilton, in that state. It represents the head of a bird, somewhat resembling a toucan, and is executed with much spirit. It was probably originally attached to some vessel, from which it was broken before being deposited where it was afterwards found. It is engraved half size of original.



This is an outline representation of a rattle of baked clay, found in a mound near Nashville, Tennessee. It has the form of a human head, with a portentous nose and unprecedented phrenological developments. It is smooth and well polished, and contains six small balls of clay, which were discovered by perforating the neck. They must necessarily have been introduced before the burning of the toy. Similar conceits were common in Mexico and Peru, and were observed by Kotzebue upon the Northwest Coast.



Among the minerals found in the mounds, mica is most abundant. It occurs both in the sacrificial and sepulchral mounds, and seems to have been invested with a superstitious regard, and associated with certain burial and religious rites. Some idea can be formed of its abundance from the fact that bushels are sometimes taken from a

single mound. It is found of every variety—the common or transparent, silvery or opaque, and graphic or hieroglyphical varieties. Some specimens have a fine golden tinge, resembling Dutch leaf. It is sometimes neatly cut into ornamental figures, discs, scrolls, and oval plates, which seem to have constituted ornaments for dresses. A quantity, cut into the form of discs each a foot in diameter, was found in a mound near Chillicothe; the plates, which overlapped each other like the tiles of a roof, being so arranged as to form a crescent, five feet in diameter at the widest part, and upwards of twenty feet long. Some fine specimens of the graphic variety, in thin oval plates, were recently discovered in a mound near Lower Sandusky, Ohio, which were supposed, by those who first examined them, to bear indubitable hieroglyphics. A native deposit of this variety occurs on the Susquehanna river, a few miles above the city of Philadelphia. The mineral must be referred to some primitive locality or localities, which it would be interesting to identify; for, by the identification, accurate or approximate, of the original sources of the various foreign articles found in the mounds, we are enabled to fix, with greater or less certainty, the extent of the intercourse, if not in some degree the direction of the migrations, of the ancient people.

It is in this view that the discovery of pearls and marine shells in the mounds, is specially interesting. Of the latter not less than five kinds have been recognised; viz., the *cassis* (several varieties), the *pyrula perversa*, *oliva*, *marginella*, and *natica*. These shells are all found on our Southern shores.* They seem to have been chiefly

* Several of these shells, including the *pyrula perversa* and the *cassis cornutus*, were discovered several years ago in a mound near Cincinnati, and others near Lexington, Ky., which have since figured largely in most speculations on American antiquities and the origin of the American race. They were assumed to be peculiar to Asia; and, as similar shells were sacred to certain religious rites, or consecrated to certain gods of the Hindoos, have been cited in support of the hypothesis that the builders of the mounds had their origin in India. [See *Delafeld's Inquiry*, *Bradford's Researches*, *Laing's*

used for ornamental purposes, and hundreds of the *margi-nella*, pierced longitudinally so as to be strung, are sometimes found accompanying a single skeleton. Great numbers of beads, worked from the compact portions of some of the larger shells, are also found. These, generally much altered by long exposure, were originally supposed to be *ivory*, and their frequent discovery probably gave rise to the notion that ivory is common in the mounds. It has been suggested that many of them were worked from the columella of the *strombus gigas*, which has been discovered in some of the ancient graves of Tennessee.* Quantities of *pearls*, more or less burned, have been found, but only upon the altars. They are clearly not from the fresh water molluscas; their numbers and great size forbid the supposition. They are easily identified by their concentric lamination. They are generally pierced for beads, but some of the smaller ones, as will shortly appear, constituted the eyes of the ancient sculptures of animals and birds. We must refer these to the same locality from whence the shells above named were procured; where, as we are informed by the early writers, the Southern Indians carried on the pearl fishery. It may be mentioned, in this connection, that the teeth of the shark and alligator, bear, panther and wolf, and the talons of rapacious birds, as also the fossil teeth of the shark,—the latter most likely from the tertiary of the lower Mississippi,—have all been found in the mounds. Most of them are perforated, and were probably used as ornaments or amulets, but some seem designed as implements. Many large teeth, probably cetacean, have been

Polynesian Researches, &c. &c. This is but one of many instances in which an erroneous assumption has been perpetuated by succeeding writers, each quoting from his predecessor without submitting his statements to a critical analysis. The well-known fact that these shells occur in abundance on our Southern shores, relieves them from the necessity to which they have heretofore been subjected, of a transportation of twelve thousand miles,—ten thousand by sea, and two thousand by land!

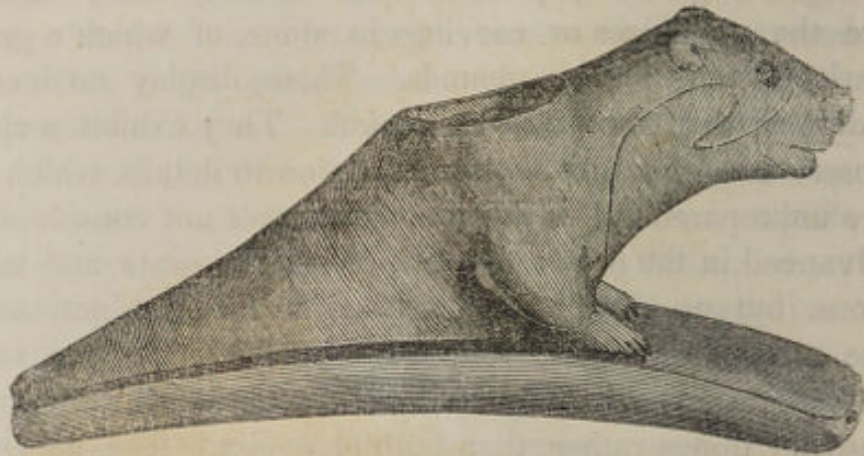
* Trans. Am. Ethnog. Soc. Vol. i., p. 360.

discovered ; not far from one hundred occurred in a single mound. They were all too much burned to be recovered entire. One of the largest measured six inches in length, and upwards of four inches in circumference at the largest part. They are destitute of enamel, and have a pulp cavity, in this respect resembling those of the whale, from which, however, they differ widely in shape. They have not yet been identified. The mound-builders evidently used them for various purposes, and some of the articles taken for ivory may have been made from them. A specimen was found which exhibited marks of having been sawn, drilled, and polished. Accompanying them were several beautifully carved cylinders of a compact substance resembling ivory ; one of these was originally fourteen inches in length, and when found was closely wrapped in sheet copper. Bones of the elk, deer, &c., worked into the form of daggers, awls, &c., are of frequent occurrence.

It is impossible here to indicate the great variety of the implements and ornaments of silver, copper, stone, &c. &c., found in the mounds. Many of these are of a very interesting character, as illustrating the state of ancient art, and as enabling us, from the material of which they are composed, their peculiarities of form, and correspondences of use, to define the intercourse, and in some degree the connections, of the ancient races. From what has already been presented, it will be seen that there are gathered in the mounds, or the alluvions of the Ohio, copper and silver from the Great Lakes ; pearls and shells from the Southern Gulf ; mica from the primitive ranges of the Alleghanies, and obsidian from the volcanic ridges of Mexico,—an extended range, the extremes of which define, with great precision, the field in which the mounds occur. It would almost seem that the ancient race existed contemporaneously over this great area, maintaining throughout a constant intercourse.

There is one class of ancient remains which probably

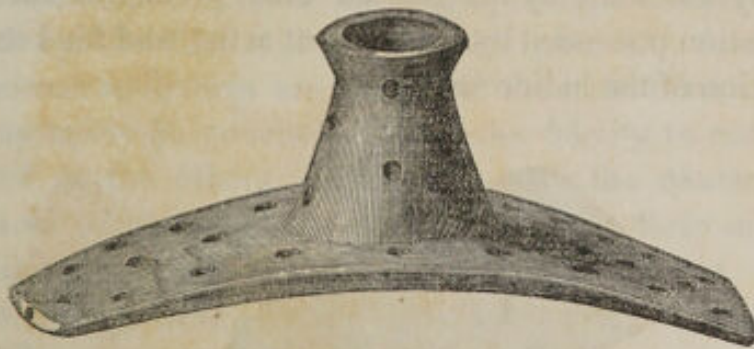
possesses a greater popular interest than any other. These are the sculptures or carvings in stone, of which a great variety occur in the mounds. These display no inconsiderable degree of taste and skill. They exhibit a close observance of nature, and an attention to details, which we are unprepared to look for among a people not considerably advanced in the arts, and to which the elaborate and laborious, but usually clumsy and ungraceful productions of the savage, can claim but slight approach. Savage taste in sculpture is oftenest exhibited in monstrosities, caricatures of things rather than faithful copies. The carvings from the mounds, on the contrary, are remarkable for their truthfulness; they display not only the general form and features of the objects sought to be represented, but to a surprising degree their characteristic expression and attitude. In some instances their very habits are indicated; the otter is represented securing a fish, so also is that inveterate fisher, the heron, and the hawk holds a small bird in his talons and tears it with his beak. These representations are so exact as to leave no doubt as to the animals designed to be exhibited. Hardly a beast, bird, or reptile, indigenous to the country, is omitted from the list. We identify the beaver, the otter, elk, bear, wolf, panther, racoon, opossum, and squirrel; the hawk, heron, owl, vulture, raven, swallow, paroquet, duck, goose, and numerous other varieties of land and water birds; the alligator, turtle, toad, frog, rattlesnake, &c. &c. Besides these there are carvings of various animals and birds not indigenous to this latitude; for instance, the lamantin or manitus, and the tocan. Several carvings, supposed to represent the manitus, have been discovered, one of which is shown, of full size, in the following engraving:



The engraving does not do full justice to the original, which is exquisitely carved and polished, every feature being clearly made out. The sculpture answers very well to the descriptions of the manitus given by naturalists. It has the obtuse head (not well shown in the engraving); thick, fleshy snout; semi-lunar nostrils; tumid upper lip, furrowed in the middle; scarcely distinguishable ears; the singular moustaches mentioned by Desmoulin; short, thick neck, and rudimental paws, or, as as they were called by the Spaniards, hands. The general form also corresponds with the descriptions given. But one of the sculptures exhibits a flat, truncated tail, the rest are round, and rather long. There is a variety of the lamantin, however, known as the round-tailed manitus, to which they may bear a closer resemblance. This animal is only found in tropical regions; it occurs, though rarely, on the Peninsula of Florida, and, it is believed, nowhere else within the limits of the United States. The inhabitants of San Christophers, Guadaloupe, and other of the Barbadoes, formerly used it for food, and the Southern Indians made use of its hide for thongs, and its bones for implements. The sculptures of this last of animals or first of fishes are all of the same style of workmanship, and of like materials, with an entire class of sculptures found in the mounds. Consequently, either the same race of men, possessing throughout a like mode

of workmanship and deriving their materials from the same sources, existed at the same period over the intervening country, from the Ohio to the haunts of the manitus on the Southern coast, and maintained a constant intercourse; or else there was, at some time, a migration from the South, bringing with it these characteristic remains of another region. We cannot conceive that these sculptures alone are fanciful creations, bearing only an accidental resemblance to the manitus, while the others accompanying them are faithful representations of objects generally easily recognizable.

It should be remarked, that the mound-builders seem to have been inveterate smokers, and that in the construction and ornament of their pipes they displayed their utmost skill. The general form of the mound pipe, which may be regarded as the primitive form of the implement, is well exhibited in the accompanying sketch.



It will be observed that this form differs widely from that adopted by the existing tribes of Indians. The pipes of the mounds are always carved from a single piece, and consist of a flat, curved base of variable length and width, the bowl rising from the convex side. From one of the ends, communicating with the bowl, is drilled a small hole answering the purposes of a tube; the corresponding opposite division being left for the manifest purpose of holding the implement to the mouth. The specimen above represented is exquisitely carved from a beautiful variety of

brown porphyry, granulated with variously colored materials; the whole much changed by the action of fire, and somewhat resembling porcelain. It is intensely hard, and successfully resists the edge of the finest tempered knife. The length of the base is five inches, width of the same one and a fourth. The bowl is one and a fourth inches high, slightly tapering upwards, but flaring near the top. The perforation answering to a tube is about one-sixth of an inch in diameter, which is about the usual size. This circumstance places it beyond doubt that the mouth was applied directly to the implement, without the ordinary intervention of a tube of wood or metal.

The bowls of these pipes are often sculptured into singular devices, figures of the human head, of animals, birds, &c. The sculpture of the manitus above described, constituted an elaborate pipe. So, also, does the following carving of the toad, which, in lugubriousness of expression scarcely less than by his gnarled coat, proclaims the nice observation possessed by the ancient artist, and his keen appreciation of the ludicrous.



It is carved in porphyry, as is also the following fragment of a sculptured hawk, and the accompanying heads of rapacious birds:



The eyes of most of these figures were originally filled with small pearls, some of which, though completely calcined by the fire, still retain their places. Among the numerous sculptures are several of the human head, which, it may safely be concluded, from the fidelity to nature observed in the others, display not only the characteristic features of the ancient people, but also their modes of adjusting the hair, their style of ornament, &c. One of these, boldly carved from a dark-colored stone, is here presented.

This specimen is distinguished from the others by its hardness and severity of outline. It has a singular head-dress falling in a broad fold over the back of the head, as far down as the middle of the neck. Upon either side of the head, this head-dress, which may represent some peculiar style of plaiting the hair, rises into protuberances or knots, corresponding to the style of wearing the hair adopted by the ancient Aztec women. Encircling the forehead, is a row of small round holes, fifteen in number, placed *as closely as possible together*; which, when the head was



found, were filled with small calcined pearls,—originally constituting a brilliant circlet, contrasting, in a striking manner, with the dark stone in which they were inserted.* The ornamental lines upon the face are deeply cut, and probably represent tattooing. Those radiating from the mouth might readily be supposed to represent a curling moustache and beard. The mouth of this miniature head is somewhat compressed and the brow seems contracted, giving it an aspect of severity which is not fully conveyed by the engraving. The eyes are prominent and open.



In the same mound with the above was found another head, of entirely different outline, of which a profile is here presented.

The eyes seem closed, and the whole expression of the face is that of a repose like death. It was probably designed to represent a female face.

* It is impossible to overlook the coincidence between the fillet of *real* pearls displayed upon the forehead of this figure, and the similar range of

Of a very different character, and doubtless of a very different origin, is a class of sculptures of which the following cut presents an example. It is carved from a dark-



colored sandstone, and represents a human figure resting upon its knees and elbows. The limbs, however, are barely indicated. The figure is boldly though roughly carved, with the exception of the face, which is better finished and quite characteristic. It has peculiar markings, extending from the eyes diagonally across the cheeks. A large serpent is folded around the neck; the head and tail of the reptile resting together upon the breast of the figure. The head is surmounted by a knot, resembling the "scalp-lock" of the Indians. It is six inches in greatest length, five inches high, and has a broad, flat base. It was ploughed up, some years since, near Chillicothe, Ohio. Like

sculptured pearls upon the brow of the small statue described by Humboldt (*Researches*, vol. i. p. 43), and denominated by him the "Statue of an Aztec Priestess."

the more delicate sculptures above referred to, it was adapted for a pipe.

Several other specimens, closely resembling the one last described, have been found at various points upon the surface, but none have been developed from the mounds. Both in material and workmanship they sustain a close relationship to certain "stone idols," as they have been termed, discovered in Virginia, Tennessee, and elsewhere. One of these, found in the vicinity of Grave Creek, Virginia, and described by Mr. Schoolcraft in the first volume of the Society's Transactions (page 408), is distinguished by a similar "scalp-lock. The orifices communicating with each other, in the back of that figure, would seem to indicate that it also was designed for a pipe. The fact that no sculptures of this description have been found in the mounds, and the comparative rudeness which they exhibit, induce the belief that they belong to a different era, and are the work of another and a ruder people.

A large proportion of the mound sculptures are executed in a fine porphyry. It occurs of many shades of color; some varieties have a greenish brown base, with fine white or black grains; others a light brown base, with white, purple, and violet-tinged specks; but most are red, with white and purplish grounds. In some specimens the base exhibits scarcely any admixture, and strongly resembles the *Catlinite*, or red pipestone of the *Coteau des Prairies*. All the examples are of great hardness; a natural characteristic, or measurably the result of the great heat to which they have been subjected. Under heat this porphyry splinters, often in a nearly uniform plane; and examples have been remarked, partly fused into a porous, dark brown mass. Heat has the effect of rendering the specimens with a red base of a bright black; and some of the restored sculptures exhibit a striking contrast in the color of their different parts. The primitive locality of this mineral is unknown.

All carvings from the mounds are exquisitely wrought ; and in all cases where the material will admit of it, beautifully polished. We can scarcely understand how, in the absence of instruments of iron, the carvings were executed. It may be suggested that they were rubbed into shape upon hard rocks ; but, apart from the incredible labor of such a process, and the palpable impossibility of securing the delicate features which some possess, by such means, we find some of the unfinished specimens which show that, however the general outline was secured, all the lines and more delicate features were *cut* or *graved* in the stone. The copper tools, resembling gravers, seem hardly adequate to this work, but they are the only instruments discovered which appear at all adapted to the purpose.*

* It is probably unnecessary to say, that the mound-builders did not attempt the working of large stones, for building or other purposes. They occasionally broke up or quarried through the sand strata, in defending their military positions, but none of the disrupted stones bear the marks of edge tools. Mr. Atwater (*Archæologia Americana*, vol. i. p. 150) is the only authority for any thing of the kind. He describes certain "wells," in the bed of Paint Creek, twelve miles distant from Chillicothe, which "were dug through the solid slate rock, and each covered over by a stone about the size and shape of a common millstone. These covers," continues the account, "had each a hole through the centre, about four inches in diameter, through which a large handspike or pry might be put for the purpose of removing them off and on the wells. The wells, at the top, were more than three feet in diameter ; and stones, *well wrought with tools*, so as to make good joints, were laid around the hole. I had a good opportunity to examine these wells ; the stream in which they were sunk being very low. The covers are now broken in pieces, and the wells filled with pebbles, &c."

These astonishing wells, sunk through the solid rock, with stones, "well wrought with tools," around them, and possessing cyclopean covers, have filled no small space, at home and abroad, in every chapter of speculations upon American antiquities. Indeed, they have been regarded, in many respects, as the most remarkable remains of antiquity within the limits of the United States, —although the reason for sinking wells in the bed of a creek was probably never very obvious to any mind. The reader will hardly be prepared, after these details, presented upon the personal responsibility of the author in question, to learn that the "wells" are simple casts of huge *septaria*, parallel ranges of which run through the slate strata of this region. The cyclopean "covers" are sep-

The limit assigned to this paper prohibits any further account of the remains found in the mounds. What has already been presented may serve to give some slight conception of their general character, if not of their number. The relationship which they exhibit, in many respects, to remains found elsewhere on the continent, will probably be forcibly suggested to most minds, and may serve in a degree to indicate, as has already been remarked, the dependencies and intercourse, as well as illustrate the minor arts of the ancient people. They should, however, be considered only in connection with the other more imposing remains with which they are associated, as collateral aids in the solution of the grand questions involved in the ancient history of man in America.

SCULPTURED TABLETS.—There is a single point more, which, from a variety of causes, has been invested with special interest, and which it will not be out of place to notice in this connection, viz.; the alleged discovery, in

taria which yet resist the disintegrating action of the water, and retain their original beds. These septaria are of an oblate-spheroidal figure, some of them measuring from nine to twelve feet in circumference. They frequently have apertures or hollows in their middle, with radiating fissures, filled with crystalline spar or sulphate of baryta. These fissures sometimes extend beyond them, in the slate rock, constituting the "good joints" above mentioned. The slate layers are not interrupted by these singular productions, but are bent or wrapped around them. The following cut illustrates their character :



A is a vertical section: *a* exhibiting the water, *b* the rock. At *c* the septarium has disintegrated, or has been removed, and its cavity or bed is filled with pebbles. At *d* the nodule still remains. B exhibits the appearance presented by *d* from above.

the mounds, of sculptured tablets, bearing hieroglyphical or alphabetical inscriptions. Nothing, to which it would be possible to assign any such extraordinary character, has been discovered by the writer and his associate, in the course of their investigations; nor does it seem likely that any thing like an alphabetical or hieroglyphical system existed among the mound-builders. The earth-works and their contents certainly establish that, prior to the occupation of the Mississippi valley by the tribes found in possession by the Europeans, there existed here a numerous people, possessing a different social, and probably a different civil organization,—an agricultural people, considerably advanced in the arts, and undoubtedly, in most respects, superior to the hunter tribes with which we are acquainted. There is no evidence, however, that their condition was any thing more than a limited approximation to that attained by the ancient Mexicans, Central Americans, and Peruvians, which nations had made but the first advance towards an alphabet. Whether they had progressed further than to a refinement on the picture-writing of the savage tribes, is not yet considered established. It would be unwarrantable, therefore, to assign to the race of the mounds a superiority in this respect over these nations, which were so much in advance of them in all others. It would be a practical reversal of the philosophic teachings of History, an exception to the laws of progress, which it would require a large array of well attested facts to sustain. Such an array of facts we do not yet possess.

Although numerous announcements of the discovery of plates of stone or metal, bearing inscriptions, have been made, there are but two tablets to which a hieroglyphical or alphabetical character has been assigned, which are sufficiently well authenticated to deserve notice, viz., one said to have been found in the celebrated Grave Creek mound, the other in a mound near Cincinnati.

The following engraving is a reduced copy of the relic

last named, which is now in the possession of Erasmus Gest, Esq. of Cincinnati. The original is five inches long by three broad at the ends, and about half an inch in thickness.



The circumstances under which this relic was discovered are such as to leave little doubt of its authenticity, or that it pertained to the race of the mounds. It was discovered in December, 1841. The material is a fine grained compact sandstone, of a brown color. The sculptured face varies very slightly from a perfect plane. The figures are in low relief (the lines being not more than one-twentieth of an inch in depth), and are embraced in a rectangular space, four and two-tenth inches long by two and two-tenth inches broad. A right line is drawn across the face, near each end, exterior to which are notches, twenty-four at one end, twenty-five at the other. Extending diagonally inward from these lines are fifteen short ones, seven at one end, eight at the other. The back of the stone has three deep longitudinal grooves, and several depressions, evidently caused by rubbing,—probably produced in sharpening the instrument used in carving.

Without alluding to the "singular resemblance which

the relic bears to the Egyptian *cartouche*," it will be sufficient to direct attention to the reduplication of the figures,—those upon one side corresponding with those upon the other, the two central ones being also alike. It will be observed that there are but three distinct scrolls or figures,—four of one kind and two of each of the others. Probably no serious discussion of the question, whether or not these figures are hieroglyphical, is needed. They more resemble the stalk and flowers of a plant than any thing else in nature. What significance, if any, may attach to the peculiar markings or graduations at the ends, it is not undertaken to say; the sum of the products of the larger and shorter lines exhibits this result: $(24 \times 7 = 168) + (25 \times 8 = 200) = 368$, three more than the number of the days of the year; upon which the suggestion has been advanced that the tablet had an astronomical origin, and constituted some sort of a calendar! We may perhaps find the key to its purposes in a very humble, but not therefore less interesting class of Southern remains. Both in Mexico and in the mounds along the Gulf, have been found *stamps* of burned clay, the faces of which are covered with figures, fanciful or imitative, all in low relief, like the face of a stereotype plate. These were used in impressing ornaments upon the cloths or prepared skins of the people possessing them. They exhibit the concavity of the sides to be observed in the relic in question, and also a similar reduplication of the ornamental figures,—all betraying a common purpose. This explanation is offered hypothetically, as being entirely consistent with the general character of the mound remains.

The accompanying relic, from the frequency with which it has been presented, is doubtless familiar to most persons who have paid attention to American antiquities. It purports to have been found in the upper vault of the great mound at Grave Creek, by the side of the skeleton therein contained. With this skeleton, according to the published ac-



count of the proprietor of the mound, who opened it, were discovered "one thousand seven hundred ivory [shell] beads, five hundred shells of the involute species [*margi-nella*], five copper bracelets, fifty slips of mica, and the relic in question. It is of the

size and shape indicated in the engraving, and is described as composed of a compact sandstone of a light color.* The so-called inscription is arranged in three parallel lines, and comprises twenty-four distinct characters, accompanied by a supposed hieroglyphic or ideographic sign. An analysis of this inscription has been undertaken by a number of learned individuals, with various results. Mr. Schoolcraft regards twenty-two of the characters as unquestionably alphabetic, four of which he identifies as corresponding with the ancient Greek, the same number with the Etruscan, five with the Runic, six with the ancient Gallic, seven with the old Erse, ten with the Phœnician, fourteen with the old British, and sixteen with the Celtic. These results are substantially the same with those arrived at by Mr. Rafn, of the Danish Antiquarian Society. A coincidence between some of the characters and certain ancient alphabets of Africa, has been remarked by M. Jomard, the eminent President of the Geographical Society of Paris, and by our distinguished countryman, W. B. Hodgson, Esq., late U. S. Consul at Tunis.†

* The engraving is from a drawing made from the original by Mr. Schoolcraft, and published in the first volume of these Transactions. It is probably the only correct copy ever published.

† *Pol.* By the mass! and 't is like a camel, indeed!

Ham. Methinks it is like a weasel.

Pol. It is backed like a weasel.

Ham. Or like a whale?

Pol. Very like a whale!—*Shaks.*

Upon a subject which has received the attention and elicited the observations of so many learned gentlemen, in our own country and in Europe, it may perhaps be deemed presumptuous to venture a remark or submit an opinion. The relic is, however, of so remarkable a character, and must, if proved to be a genuine remain of the mound era, lead to so extraordinary results, that we are justified in submitting the question of its authenticity to the most rigid scrutiny. Whoever announces a discovery to the world, in any branch of research, must expect to have it subjected to every test sanctioned by the rules of evidence. Nor should it be a matter of complaint, on the part of those interested, if this scrutiny should be conducted with apparent severity towards themselves, particularly when, as in this instance, we have no collateral evidence to which appeal may be had in support of the presumed discovery.

The inquirer cannot fail to be struck with the circumstance, that, contrary to the rules which regulate philosophic research, in all the speculations to which this relic has given rise, its authenticity has been assumed, apparently without an effort towards its confirmation. This is the more singular when we consider the conclusions which must follow the assumption. The inscription, it is conceded on all hands, is not hieroglyphical; the characters can be regarded only as the letters of an unknown alphabet, bearing a close likeness to those embraced in that large class of alphabets, of which the ancient Phœnecian may be advanced as the type, and which were, at one period, extensively disseminated over the North of Europe. Regarding it as alphabetical, we are forced to one of two conclusions, equally extraordinary; either the race of the mounds possessed an alphabetical system, or the inscription is of European origin, and was transported to the Ohio valley by individuals of European stock, or by a course of exchange with nations or tribes bordering the sea coast,

who themselves possessed an accidental or regular intercourse with the people of the other continent. The first hypothesis has not, it is believed, been seriously advanced. It cannot be supposed that so extensively disseminated a people as the mound-builders would have left so slight and doubtful an evidence of their alphabetic system, had they possessed one. The other hypothesis falls more nearly within the scope of possibility, not to say probability, and has ingenious, and no doubt earnest, supporters among those who claim an European intercourse with America, long anterior to the discovery in the fifteenth century. The difficulties in the way of this hypothesis will probably appear light to those who can readily find, in the rude rock-tracery of the Indians, the indubitable record of an European visit to the shores of New England! The objection that the race of the mounds have left no evidence of their occupation of the country bordering the Atlantic, and would consequently be unable to avail themselves of an opportunity of communication with Europeans, driven by stress of weather, or arriving in quest of adventures, upon the American shores, is also easily surmounted by the supposition, that the intervening country was possessed by tribes, through the agency of which the inscription found its way beyond the mountains. Or if it is preferred, it is quite feasible, by a single effort of the imagination, to transport a sturdy Celt across a trackless ocean, through a wilderness infested by savages and wild beasts, and upon the banks of the Ohio invest him with a chieftaincy among the mound-builders; who, it is also easy to suppose, in memory of so renowned an adventurer, reared over his remains a huge earth structure,—a mode of sepulture eminently congenial to an individual accustomed to similar practices in his native land! It is indispensable that this diversified journey should be performed, if, as it is stated by some who have seen the relic, it was composed of the prevailing sandstone of the region in which it was found.

It is quite immaterial, in the inquiry here proposed, by what chain of supposed circumstances the presence of the stone in the mound is accounted for. The only question to be settled is that of authenticity. Primarily, the relic is entirely unique and sustains no analogy whatever to any of the authentic remains of the mounds; the presumptions are all against it. It should not be recognized, therefore, except upon ample testimony, which should be so explicit as to leave no doubt concerning it. Have we any testimony of this kind? What evidence have we that it is genuine and no imposition? A direct answer would doubtless involve an inquiry into the personal credibility of the discoverer,—an inquiry into which it is not proposed to enter. We are consequently reduced to a simple scrutiny of the circumstances attending the alleged discovery.

The Grave Creek mound, from its great size and prominent location on the banks of that great thoroughfare, the Ohio river, attracted a large share of attention from a very early period. It became one of the standard curiosities of the valley, and was one of the objects pointed out to travellers by the captains and crews of vessels, under the suggestive name of "*the Grave*." It was an object of frequent visit and remark. "Dates," says the proprietor, "were cut upon the trees at its top, as early as 1734." A large beech is specified which was "literally covered with names and dates to the height of ten feet." Every tourist mentioned it, and no chapter on American Antiquities was complete, in which it did not occupy a conspicuous place. Proposals were made to excavate it, but this was rigidly resisted by the proprietor. Upon his death it passed into the ownership of his descendants, and continuing to be an object of increasing interest, and more frequent visit, the project of opening and fitting it up for exhibition was hit upon, as likely to afford a gratification to visitors, and, incidentally, prove a very profitable investment of the labor and money necessary to the undertaking. Accordingly, in the spring

of 1838 the work of excavation was commenced, and was completed some time during the summer of the same year. A shaft was carried horizontally to the centre of the mound, and another sunk from its top. A "rotunda" was excavated at the junction of the two shafts, and the walls rendered secure by masonry. Upon the top of the mound was erected a light three story structure, dignified with the name of an "observatory." The entrance was duly fitted with doors and locks, and the whole surrounded by a high, close fence, excluding from the precinct all who did not possess the miraculous "open sesame" of one dime, continental currency! Within the "rotunda," were placed the various relics developed in the course of the excavations,—the skeletons in grim array, and the remaining objects so grouped as most sensibly to impress the beholder, augment the fame of the mound, and, *incidentally* again, draw other visitors to the spot. The *object* of the excavation was primarily that of gain, although there is no doubt curiosity, probably not the most enlightened, had some influence in the matter. Of course the more extraordinary the character of the relics deposited in the subterranean museum, the more likely to attract visitors, and accumulate the aforesaid "dimes." Stone axes, and shell beads, and slips of mica, all very curious and interesting to the antiquary, have, however, no very popular interest, and may be obtained in too many localities to be regarded as any thing very wonderful. An *inscription*, however, in an unknown character, is not to be found every day,—it is an "immense attraction," in the language of the play-bills, and likely to have a run!

It would be curious to know how soon after the opening of the mound, the announcement of the discovery of the stone was made. It seems that some notice of it appeared, in one of the Cincinnati papers, some time in the year 1839, but whether contained in an account of the mound itself or otherwise, is not known. At any rate,

previous to this notice, which appears to have been the earliest made, a detailed account of the opening of the mound, and of its contents, was communicated to the author of the "*Crania Americana*," and published in that valuable contribution to science. This account was from the hand of Dr. Clemens, of Wheeling, Va., who seems to have been well acquainted with all the circumstances attending the excavation. It contains, however, no reference to the inscribed stone, although it describes minutely the various other relics taken from the mound, and except in this and one or two other respects, is identical with that published by the proprietor of the mound in 1843.* This singular omission of a relic infinitely the most remarkable of the whole series, is entirely unaccountable, if any thing was known concerning it at that period.

There is also a discrepancy between the accounts of Dr. Clemens and the proprietor of the mound, in respect to the number of skeletons found in the same. The former gentleman states that in enlarging the lower vault for an exhibition chamber, *ten* human skeletons were found, all in a sitting posture, but too much decayed to be removed. The proprietor of the mound, on the other hand, explicitly states that there were but *two* skeletons in the lower vault. Apart from this, there is no material conflict between the respective statements.

It appears then, *first*, that the mound was opened as a speculation, the success of which depended to an extent upon the more or less extraordinary character of the remains developed; *second*, that we have no evidence of the alleged discovery except the unsupported testimony of a single individual, a party interested; *third*, that a positive discrepancy exists in respect to the relic, between the account of a close observer writing from the spot, at the

* *American Pioneer*, vol. ii., p. 201.

time of the excavation, and that of the proprietor, published five years thereafter; *fourth*, that there is no evidence of any mention of the existence of the relic, until a year or upwards after the excavation took place. In view of these circumstances, and of the strong presumptive evidence against the occurrence of any thing of the kind, furnished by the antagonistic character of all the ancient remains of the continent, so far as they are known, it must be admitted that all speculations based upon this relic are entitled to little consideration. Until it is better authenticated, it should be entirely excluded from a place among the antiquities of our country. Archeological research, to an eminent degree, demands a close and critical attention to the facts upon which it is conducted.*

There is another alternative respecting the relic under notice which has not yet been remarked. It is possible that the excavator of the mound was himself imposed upon. That similar impositions have been practiced, under no stronger inducement than the malicious gratification of hoaxing credulous mound-diggers, is well known. A notable example is furnished in the six inscribed copper plates, said to have been found in a mound near the village of Kinderhook, Pike Co., Ill. Engravings of these and a minute description were published in due time. They were extensively circulated, and there are, doubtless, many well-informed persons, who, to this day, repose a degree of confidence in the pretended discovery. The characters were supposed to bear, in the language of the printed an-

* The stone is no longer in the mound at Grave Creek, but is said to be in the possession of some person at Richmond, Va. Genuine or otherwise, it was inadequate to make the mound "pay;" the excavation proved to be, peculiarly, a "bad operation." The "rotunda" has fallen in, the bolts and bars have vanished, and the gate to the enclosure no longer requires the incantation of a *dime* to creak a rusty welcome to the curious visitor.

"Sic transit gloria moundi!"

nouncement, "a close resemblance to the Chinese." They proved to have been engraved by the village blacksmith, who had probably no better suggestion to his antiquarian labors than the lid of a Chinese tea-box. Each plate, it should be remarked, had an orthodox "ideographic sign," quite after the fashion of its more famous counterpart.

