

ARCHAEOLOGY

Indian Mounds of the Middle West

"A Classic of Science"

American Explorers Study the Gigantic Earthworks Built By Mysterious Moundbuilders of the Mississippi Valley

ANCIENT MONUMENTS OF THE MISSISSIPPI VALLEY: comprising the results of Extensive Original Surveys and Explorations. By E. G. Squier and E. H. Davis. Smithsonian Contributions to Knowledge, Vol. I. Published by the Smithsonian Institution, Washington: MDCCCXLVIII (1848).

THE ancient monuments of the Western United States consist, for the most part, of elevations and embankments 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.

These remains are spread over a vast extent of country. They are found on the sources of the Allegheny, 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.¹ We have no record of their occurrence above the great lakes. Carver mentions some on the shores of Lake Pepin, and some are said to occur near Lake Travers, under the 46th parallel of latitude. Lewis and Clarke saw them on the Missouri river, one thousand miles above its junction with the Mississippi; and they have been observed on the Kansas and Platte, and on other remote western rivers. They are found all over the intermediate country, and spread over the valley of the Mississippi to the Gulf or Mexico. They line the shores of the Gulf from Texas

¹Some ancient works probably belonging to the same system with those of the Mississippi valley, and erected by the same people, occur upon the Susquehanna river, as far down as the Valley of Wyoming, in Pennsylvania. The mound-builders seem to have skirted the southern border of Lake Erie, and spread themselves, in diminished numbers, over the western part of the State of New York, along the shores of Lake Ontario to the St. Lawrence river. They penetrated into the interior, eastward, as far as the county of Onondaga, where some slight vestiges of their works still exist. These seem to have been their limits at the north-east.

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, Virginia and North and South Carolina; as also in Michigan, Iowa, 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.

Small Mounds in Oregon

It is a fact but recently made known, that there are an abundance of small mounds, or tumuli, in the territory of Oregon. We are not informed, however, whether 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.² That they are of frequent occurrence upon the river Gila, in California, and also upon the tributaries of the Colorado of the West, is also a fact but recently ascertained. Whether these mounds possess features identifying them with those of the Mississippi valley, or indicating a common origin, remains to be decided.

It is not to be understood that these works are disposed equally over the area above indicated. They are mainly confined to the valleys of the rivers and large streams, and seldom occur very far back from them. Occasional works are found in the hill or broken country;

²The only reference we have to the mounds of Oregon is contained in a paragraph in the Narrative of the United States Exploring Expedition, vol. iv, p. 313:

"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."

but they are not frequent, and are always of small size.

Although possessing throughout certain general points of resemblance, going to establish a kindred origin, these works, nevertheless, resolve themselves into three grand geographical divisions, which present, in many respects, striking contrasts, yet so gradually merge into each other, that it is impossible to determine where one series terminates and the other begins. In the region bordering the upper lakes, to a certain extent in Michigan, Iowa, and Missouri, but particularly in Wisconsin, we find a succession of remains, entirely singular in their form, and presenting but slight analogy to any others of which we have an account, in any portion of the globe. The larger proportion of these are structures of earth, bearing the forms of beasts, birds, reptiles, and even of men; they are frequently of gigantic dimensions, constituting huge *basso-relievos* upon the face of the country. They are very numerous, and in most cases occur in long and apparently dependent ranges. In connection with them, are found many conical mounds and occasional short lines of embankment, in rare instances forming enclosures. These animal effigies are mainly confined to Wisconsin, and extend across that territory from Fond du Lac, in a southwestern direction, ascending the Fox river, and following the general course of Rock and Wisconsin rivers to the Mississippi. They may be much more extensively disseminated; but it is here only that they have been observed in considerable numbers. In Michigan, as also in Iowa and Missouri, similar elevations, of more or less regular outline, are said to occur. They are represented as dispersed in ranges, like the buildings of a modern city, and covering sometimes an area of many acres.

Further to the southward, in the region watered by the Ohio and its tributaries, we find ancient works of greater magnitude and more manifest designs. Among them are a few animal-shaped structures; but they seem to have been erected on different principles and for a different purpose from those just noticed. Here we find numberless mounds, most of them conical but many

pyramidal in form, and often of great dimensions. The pyramidal structures are always truncated, sometimes terraced, and generally have graded ascents to their summits. They bear a close resemblance to the Teocallis of Mexico; and the known uses of the latter are suggestive of the probable purposes to which they were applied. Accompanying these, and in some instances sustaining an intimate relation to them, are numerous enclosures of earth and stone, frequently of vast size, and often of regular outline. These are by far the most imposing class of our aboriginal remains, and impress us most sensibly with the numbers and power of the people who built them. The purposes of many of these are quite obvious; and investigation has served to settle, pretty clearly, the character of most of the other works occurring in connection with them.

Proceeding still further southwards, we find, in the States bordering on the Gulf of Mexico, the mounds increasing in size and regularity of form, if not in numbers. Conical mounds become comparatively rare, and the Teocalli-shaped structures become larger and more numerous, and assume certain dependencies in respect to each other, not before observed. The enclosures, on the other hand, diminish in size and numbers; and lose many of the characteristic features of those of a higher latitude, though still sustaining towards them a strong general resemblance. Here, for the first time, we find traces of bricks in the mounds and in the walls of enclosures.

The peculiarities of those several divisions will be more particularly pointed out in the progress of this work; when the points of resemblance and difference will become more apparent. The succeeding observations relate more especially to the remains included in the central geographical section above indicated, where the investigations recorded in this volume were principally carried on,

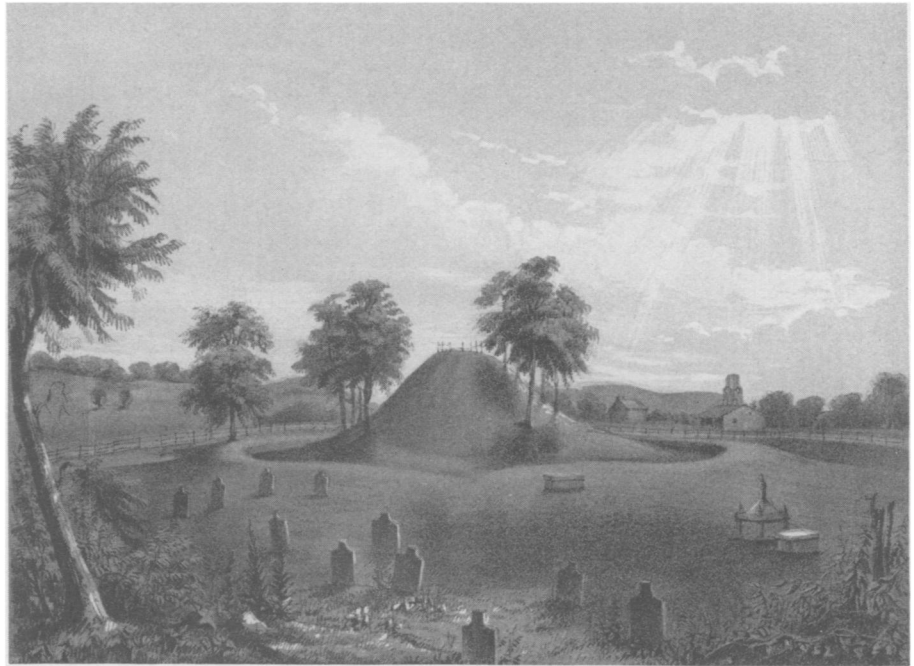
TYPHOID FEVER

is known to be a contagious disease and not a necessary evil largely through the observations of

William Budd

who tells some of his experiences with it in

THE NEXT CLASSIC OF SCIENCE



INDIAN MOUND AT MARIETTA, OHIO

With more modern graves in the foreground. From Squier and Davis' "Ancient Monuments of the Mississippi Valley".

and which, in the extent, variety, and interesting nature of its ancient monuments, affords by far the richest and most important field for archaeological research and inquiry.

Natural Formations

The number of these ancient remains is well calculated to excite surprise, and has been adduced in support of the hypothesis that they are most, if not all of them, natural formations, "the results of diluvial action," modified perhaps in some instances, but never erected by man. Of course no such suggestion was ever made by individuals who had enjoyed the opportunity of seeing and investigating them. Simple structures of earth could not possibly bear more palpable evidences of an artificial origin, than do most of the western monuments. The evidences in support of this assertion, derived from the form, structure, position, and contents of these remains, will sufficiently appear in the progress of this work.

The mounds are of all dimensions, from those of but a few feet in height and a few yards in diameter, to those which, like the celebrated structure at the mouth of Grave Creek in Virginia, rise to the height of seventy feet, and measure one thousand feet in circumference at the base. The great mound in the vicinity of Miamisburgh, Montgomery county, Ohio, is sixty-eight feet in

perpendicular height, and eight hundred and fifty-two in circumference at the base, containing 311,353 cubic feet.

The truncated pyramid at Cahokia, Illinois, has an altitude of ninety feet, and is upwards of two thousand feet in circumference at the base. It has a level summit of several acres area. The great mound at Selserstown, Mississippi, is computed to cover six acres of ground. Mounds of these extraordinary dimensions are most common at the south, though there are some of great size at the north. The usual dimensions are, however, considerably less than in the examples here given. The greater number range from six to thirty feet in perpendicular height, by forty to one hundred feet diameter at the base.³

All the above-mentioned constructions are composed of earth or stone; though a combination of these materials in the same work is by no means rare. When there are no ditches interior or exterior to the embankments, *pits* or "dug holes," from which the earth for their formation was taken, are generally visible near by. These are sometimes very broad

³"We have seen mounds which would require the labor of a thousand men employed upon our canals, with all their mechanical aids, and the improved implements of their labor for months. We have more than once hesitated, in view of one of these prodigious mounds, whether it were not really a natural hill. But they are uniformly so placed, in reference to the adjacent country, and their conformation is so unique and similar, that no eye hesitates long in referring them to the class of artificial erection."—*Flint's Geography*, p. 131.

and deep, and occasionally quite symmetrical in shape.⁴ In the vicinity of large mounds such excavations are common. The earth and stone composing these works are sometimes foreign to the locality which they occupy, and must have been brought from considerable distances.

Regular in Outline

A large, perhaps the larger, portion of these enclosures are regular in outline, the square and the circle predominating. Some are parallelograms, some ellipses, others polygons, regular or 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 numerous. 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 pear-shaped, and others squares or parallelograms, with flanking terraces. Besides these, there are others already alluded to, most common in the extreme north-west,

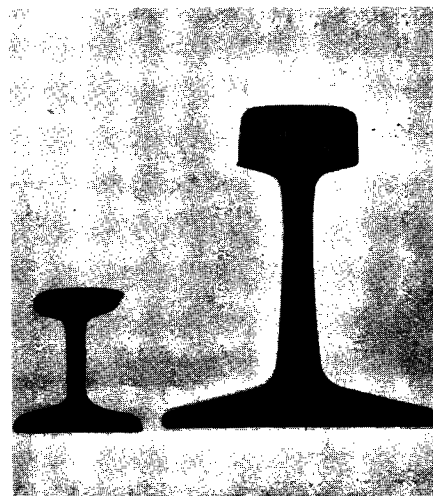
⁴These are the "wells" of Mr. Atwater and other writers on American antiquities. It is barely possible that a few were really wells, or *secondarily* designed for reservoirs.

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. These several classes of works will be described at length, under appropriate heads.

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 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.

Science News Letter, September 12, 1931

One fine residence excavated in the ruins of Pompeii contained at least 40 rooms.



PUT ON WEIGHT

That is what the "T" rail has done during the century of its development. On the left is shown a cross-section of the first "T" shaped rail used by an American railroad. Contrasted with it, is the largest rail ever made for standard use, which has recently been designed and is now being laid on portions of the Pennsylvania system. The old rail, laid in 1831, weighs only 36 pounds per yard. The new rail, however, tips the scales at 152 pounds per yard and is built to stand satisfactorily 100,000 pound axle pressure loads at a speed of 100 miles an hour.

MEDICINE

Infantile Paralysis Breaks Out in Middle West

WITH INFANTILE paralysis increasing in the New York area, a second epidemic center of the disease has appeared in the Middle West, according to reports received by the U. S. Public Health Service. The new outbreak is in Michigan, Wisconsin, and Minnesota.

The two outbreaks are probably not related, health officials believe. The total number of cases for 44 states according to the latest report was 1,264.

Figures from individual states having large numbers of cases are as follows: New York City, 432; New York state outside the city, 180; Massachusetts, 135; Connecticut, 134; New Jersey, 103; Michigan, 76; Wisconsin, 61; Minnesota, 39; and West Virginia, 10.

Health officials pointed out that the epidemic in the East has spread from New York, but apparently will not spread across the continent, for in nearby Pennsylvania, the number of cases continues to be low. This state reported only 9 cases for the week of August 29.

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