



MOUND CITY

HOPEWELL CULTURE NATIONAL HISTORICAL PARK

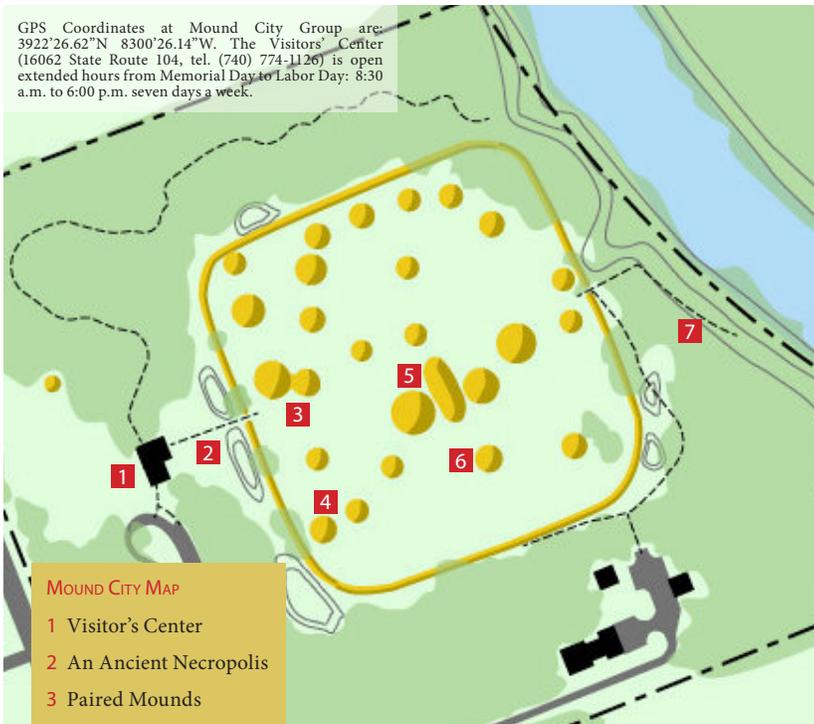


Excursions among the monumental antiquities of south central Ohio should begin at Mound City, and the Visitors Center at Hopewell Culture National Historical Park, with its fine artifact collection and orientation programs.

To reach Mound City, take Chillicothe's Main Street two blocks west of Paint Street, then go north on State Route 104 for 3 miles. After passing between two large prisons, enter the Park headquarters on the right. The interactive media program at Mound City provides introductions to the other sites in the region, including those not open to the public.

Outside, walk among the 23 mounds and their low enclosing wall; each covers the remains of a funerary building. Some held spectacular collections such as effigy smoking pipes or shimmering blankets of mica. This place is unique among surviving Hopewell era sites, and may reflect a period of time when mound building was beginning to be augmented by bigger, grander ideas about geometric form and embracing enclosure. Here the people created a collective cultural monument on a much larger scale, a possible prototype for the more precise and complex geometric figures to come.

GPS Coordinates at Mound City Group are: 39°22'26.62"N 83°00'26.14"W. The Visitors' Center (16062 State Route 104, tel. (740) 774-1126) is open extended hours from Memorial Day to Labor Day: 8:30 a.m. to 6:00 p.m. seven days a week.

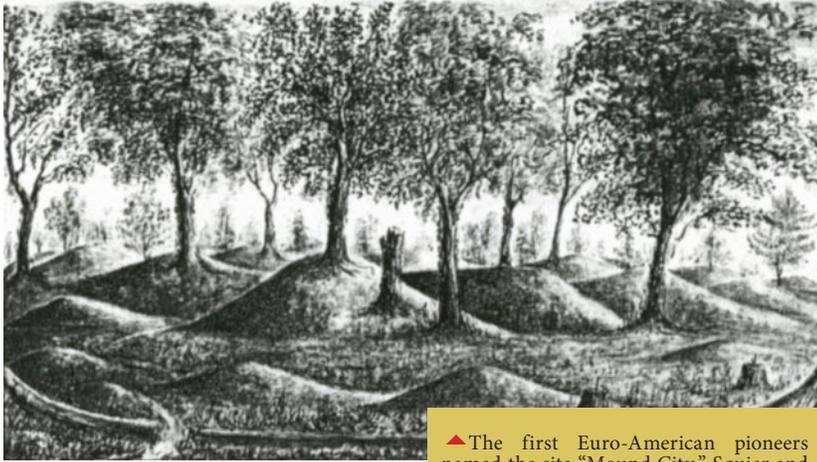


MOUND CITY MAP

- 1 Visitor's Center
- 2 An Ancient Necropolis
- 3 Paired Mounds
- 4 Pipes Mound
- 5 Central Mound
- 6 Buildings
- 7 Scioto Riverbank

SITE HISTORY Mound City was first granted to a white owner in 1798; and in less than forty years the busy Ohio and Erie Canal passed nearby. When Squier and Davis surveyed the site in 1846, the forest still preserved most of the mounds. But soon the land was cleared for farming. Plows passed right over the walls, and most of the mounds, year after year. In 1917, the land was bought by the Federal Government for Camp Sherman, a World War I training camp.

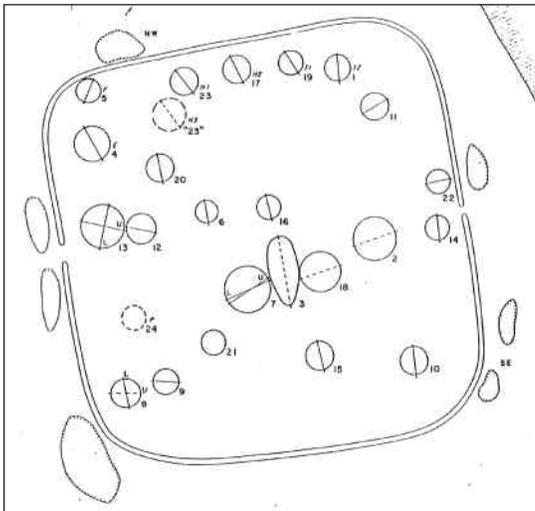
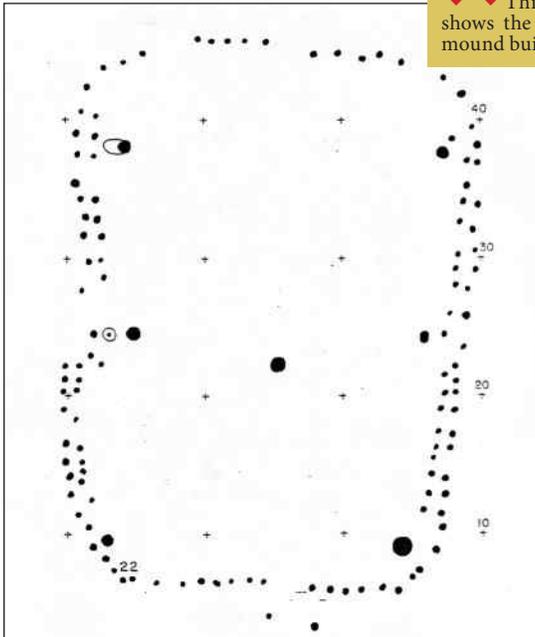
The army was shaving off all the mounds to build barracks when Henry Shetrone of the Ohio Historical Society stepped in and asked that the central mound be spared. In 1923, the site became a National Monument, and three years later the Ohio History Connection restored the mounds. Since 1992, Mound City has been the center of the Hopewell Culture National Historical Park.



▲ The first Euro-American pioneers named the site "Mound City." Squier and Davis investigated in detail in the 1840s.

▼ Typical building post pattern from beneath a Mound City mound; the shape resembles that of the earthwork wall.

▼▼ This diagram of Mound City shows the axial orientations of the sub-mound buildings.



AN ANCIENT NECROPOLIS

To its builders, this elaborate necropolis must have been a place of reverent memory, like Britain's Westminster Abbey, or the memorials along the Mall in Washington, D.C. All these mounds cover the floors and post holes of ceremonial buildings. The patterns show a variety of designs, though most often a rectangle with rounded corners.

Inside, fires burned in shallow clay basins. The ceremonies included the cremation of the dead, and objects were ritually killed (broken or burned) to be left with them. The ash and remains were swept up, and placed carefully on the building floor, or on low earthen platforms. In a final ceremony, each building was taken down or burned, and a mound was built over its remains and contents. While Mound City was in use, visitors would have seen functioning buildings here, and also those already memorialized under mounds.

BUILDINGS Discoveries under the walls suggest that people lived and held rituals here well before most of these mounds were built. During the first century A. D., a few ceremonial houses were put up; their fire-basins and doorways had a variety of orientations. Some of these were probably mounded over by the time the second phase began, at the start of the second century. Three central buildings were erected, creating a new ritual focus. At least seven other buildings were built, pointing towards this focus. And the low wall was added to enclose things, strengthening the formality of the site, and its sense of common purpose. It resembles the shape of an individual building; and its two gates define an axis. This centralization and enclosure of the whole site may reflect an increasing organization and social ranking among the people. By the early third century, mounding was complete.

THE CENTRAL MOUND The tallest of the mounds was 19 feet high when first measured in the 1840s. The building beneath was complex: A sunken room was entered along a ramp. Some time later, the builders, leaving behind only a shallow basin, its clay lining baked red by many fires, and a set of wall posts. They filled this room, and built a new clay fire basin



▲ ▲ The huge Camp Sherman covered Mound City and much of the surrounding land in the early 20th century.

▲ Reconstruction of the bark covered tombs and open shelters assembled on the prepared floor of the Central Mound.

▼ This copper effigy of an amanita mushroom suggests a priest's hallucinogenic journey to the spirit world.



exactly above the old one. Upon a new floor, of puddled clay and sand, they erected a building, and laid out ten cremated burials on log-supported earthen platforms, roofed with bark.

Three elaborate burials in the Central Mound were probably respected leaders or elders. The objects left with them probably meant many things, including a person's special work in life, their status, and their connections to the community and to powerful forces in nature. The amanita mushroom, for example, is known for its poisonous and hallucinogenic qualities, and is represented here as a copper effigy – this may suggest how a priest could make a dream journey to commune with the spirits of the dead.

PIPES MOUND Under another mound, a large bag had been placed next to a clay basin, filled with ashes, beads, some copper items, and about 200 carved effigy smoking pipes, all purposely broken. The pipe bowls portray a variety of animals, carved with accuracy and great artistry. Several showed human heads. Another deposit of almost identical pipes was found at the Tremper Mound, forty miles south of Mound City along the Scioto River.

The animals shown on the Mound City pipes are traditional figures in Eastern Woodland stories, creatures with their own will and power, such as the turtle. Lenape storyteller Annette Ketchum:

The story I want to tell you is about why the turtle is so important to the Lenape people. And that's because, a long time ago, they lived by the ocean, by the big water. And one day, the water started to rise. And it was a large, large flood, it came higher and higher, pretty soon the people were just up to their neck, they just believed they were going to drown for sure. And they didn't

know what to do. And they cried to the Creator. And about that time, a large turtle came up out of the ocean; he says, 'Get on my back, and I will save you.' So all the people got on the turtle's back. And they swam around until the water went down, and then came back up to the shore and let them off. And they said, "Oh, thank you, Turtle. From now on, we will call ourselves Turtle people. And we will be known as the Turtle clan. And to this day, we are still known as the Turtle Clan. And I'm Turtle Clan, so I especially like that story.

PAIRED MOUNDS Near the western gateway stood two mounds, unusually close together. Two buildings once stood here: an older one, and a newer, smaller one, connected by a

gallery. There were several pits and clay basins inside, suggesting it may have been the place of preparation for the more formal rituals and deposits next door.

The larger building held elaborate burials. On one low platform, four people were laid to rest in what William Mills called "a splendor of mica," along with many precious objects. Four other platform burials were similarly marked by precious objects, now in the Visitors Center: double-headed vulture plates, an unusual copper animal headdress with movable ears, copper deer antlers, and a mica human torso – perhaps the paraphernalia of ritual performances, mythic re-enactments. This "double building" may have been a model for other, larger versions at the Seip and Liberty earthworks.



▲ Among the most beautiful objects from Mound City is a collection of animal effigy smoking pipes; all had been ritually broken.

▼ Turtles are portrayed on these small copper rattles, found with a burial in the Central Mound.



ACTIVITIES AND AGRICULTURE In its day, Mound City was much more than just a silent "necropolis" or "city of the dead." There was a lot going on here, including various building projects right up until the final, enclosing wall was built. And maybe a lot of parties and festivals: the lowest layers of soil deposited in the wall contain large amounts of charcoal and deer bone. National Park archaeologist Bret Ruby:

It was a much more active place; it was used for a whole variety of functions including feasting. Another point this shows about Mound City is that the embankment wall was probably one of the last things constructed. What you see out there today is its final form, essentially after its abandonment. So it's important to think of this as a place that grew over time – maybe as much as four centuries, which is an incredibly long time span, many generations.

Hopewell society benefited from the fertility of the region's ecosystems, but also practiced a well-developed agriculture. Archaeologist Ruby explains:

Hopewell people were farmers, they were participating in the transition between a hunting and gathering lifestyle into a farming lifestyle, including the domestication of starchy, oily plants. They were clearing ground, planting and harvesting crops – fully committed agriculturists. There would have been significant openings in the forest, caused by clearing ground for agriculture. They're moving, clearing plots, using them for a period of years, and then clearing other plots. So it's a shifting movement across the landscape. New plots are being opened, old plots abandoned and reclaimed by nature.

SQUARES WITH ROUNDED CORNERS

Mound City's overall shape is a square with rounded corners, resembling the house remains under its mounds. Until recently it seemed unique among earthworks. But archaeologist Jarrod Burks has discovered several now-invisible earthworks that were drawn as circles by nineteenth century explorers, but have been proven by modern remote sensing to be squares with rounded corners:

Perhaps on these old maps, say Squier and Davis, or the other publications that show a circle, it seems that a significant number of these circles aren't circles. They're actually squares with rounded corners, that time and erosion had



▲ Among several spectacular burials under the Paired Mounds was a group covered in what William Mills called "a spender of mica."

▼ A section of Dr. Jarrod Burks' new data from the Junction Group near Chillicothe, with its "squircle" (square with rounded corners) shaped earthwork.



made look to the nineteenth century mapper to be circles, because that's what they were expecting. That's significant because especially Mound City seems to appear out of nowhere, when in fact that's not true: there seem to be a lot of other earthworks with these shapes, these squares with rounded corners.

THE EASTERN HORIZON Mound City stands amidst dramatic topography, especially the sharply-defined Appalachian Profile to the east, stretching from Sugarloaf to Mount Logan. Investigators Ray Hively and Robert Horn have discovered that this range encodes astronomical knowledge, related to the location of Mound City itself: The two peaks mark the minimum extreme rise-points of the moon, as it swings across the eastern horizon during its complex, 18.6-year cycle. Aligned with the base of these same mountains, symmetrically, are the extreme rise-points of the sun, on the annual summer and winter solstices.

It is from the Central Mound, the site's largest, that these alignments are the most precise. In antiquity, the view was likely treeless, due to all the agriculture going on, so sightings would have been much easier than they are today.

Related alignments occurred at the nearby Shriver Circle: from its central mound, the maximum lunar rise-points were visible through gaps in the earthen ring. This suggests that Mound City and Shriver were ritually paired with the complex rhythms of the moon: The square enclosure for the lunar minimum festival, the round one for the lunar maximum, nine years later.

THE BORROW PITS Huge pits flank the surrounding wall at Mound City: Squier and Davis reported them to be as deep at eighteen feet, in the mid-1800s. An easy assumption has been that they were just excavated for soil to build the mounds. But there's now a more likely, and far more interesting, explanation. Archaeologist Bret Ruby:

Excavations by Mark Lynott recently in one of the borrow pits found that there's actually a clay lining at the base of the pit that would have helped it hold water. The basic geology out here is there's maybe a meter of soil, and then its sand and gravel, glacial sands and gravels, all the way down. It's only just the surface that's actual soil that could have been used to build those mounds. And below it is this very permeable sand and gravel. So it seems that that clay lining was inten-

tional in order to keep it from draining.

The positions of these water features seem also to have been designed:

Beneath the large central mound, Mound Seven, the biggest mound at Mound City, there's a burial feature on the floor of that structure, that was basically a clay, flat, platform, maybe six or eight inches tall, and probably six or eight feet square, and the shape of that clay platform mimics the shape of the enclosure itself – a square with rounded corners. On this clay platform surrounding this human burial was a set of seven or eight large marine shells, welks, and the pattern that they were arranged in very much mimics the pattern of the borrow pits outside the enclosure wall. And so it's as if that burial platform is a model of the earthwork itself. And so by analogy, maybe we can think about those borrow pits being vessels, rather than simply sources of earth.

Surviving water features at Fort Ancient show us how the builders might have wanted to “reflect” their architecture, or maybe visualize the “watery underworld” of Native tradition.

THE SHRIVER CIRCLE Squier and Davis's map of Mound City also shows a huge circle, just to the south. Its remnants lie in the fields along Route 104. Now much degraded, its ghostly remnants are still visible in old aerial photos. When the highway was widened recently, archaeologists investigated: The exterior ditch was originally twelve feet deep, and carefully lined with a foot-thick layer of clay – to hold the slopes, and water. Associated burials in the central mound suggest this monumental work was here before Mound City itself.

It's probable that Shriver (a circle) and Mound City (a square) became prototypes for a new hybrid design of these same-sized elements at the Hopeton Earthworks just across the river, and in turn led to all the geometrical experimentation and perfection found in the Paint Valley and at Newark and elsewhere throughout the Hopewell era.

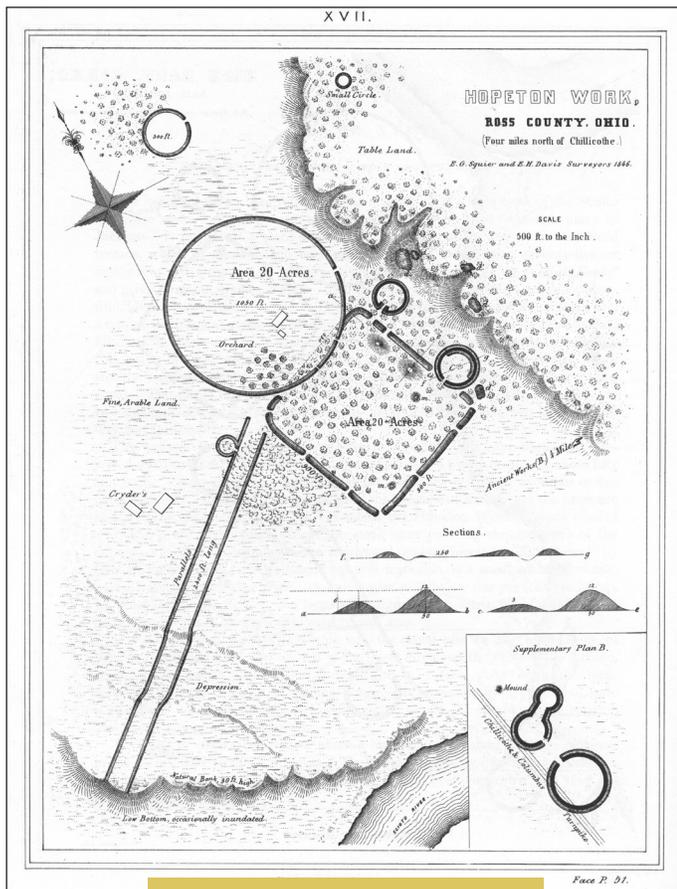
Shriver Circle is almost completely plowed flat today, and invisible on the ground. Yet former Park Superintendent Jennifer Peder-son-Weinberger describes one day when it “appeared”:

I was actually driving past the site in August of one year when it was really dry, and it had just rained the day before, and you could actually make out the circle from the precipitation going onto the dry soil. And that's the only time I could actually ever see it, in person.

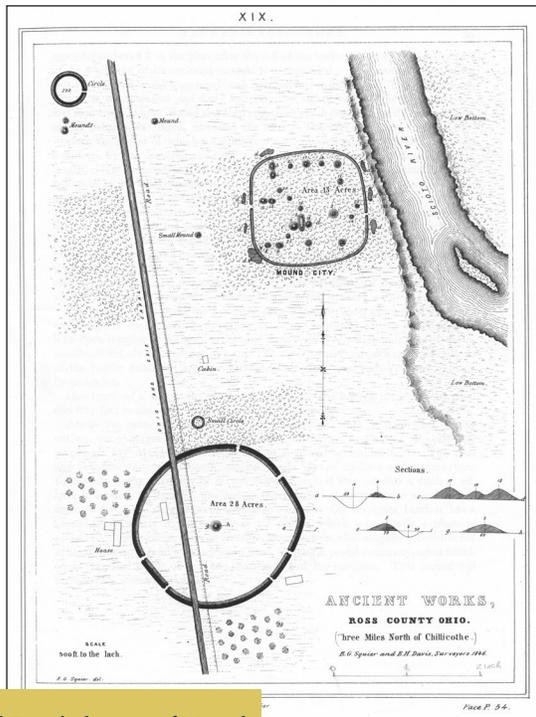
HIGH BANK EARTHWORK Hopeton and High Bank are two major geometric earthworks that remain (though degraded) in the immediate Chillicothe area, now under the protection of Hopewell Culture National Historical Park (contact the park for possible visiting arrangements).

The linked circle and octagon at High Bank look remarkably similar to another pair at Newark, Ohio. Archaeologists are still investigating, but it seems the shapes are similarly connected to astronomical events. The cross-axis of the octagon points to the northernmost rising of the moon. And one of the octagon walls points to the summer solstice sunrise. Between them, these two alignments determine the orientation, and the shape, of the octagon. More mysterious are the walls and circles that trail off to the southwest.

While Newark and High Bank are about sixty miles apart, they were designed using similar principles. Their circles share the same diameter, and each harmonizes with its octa-

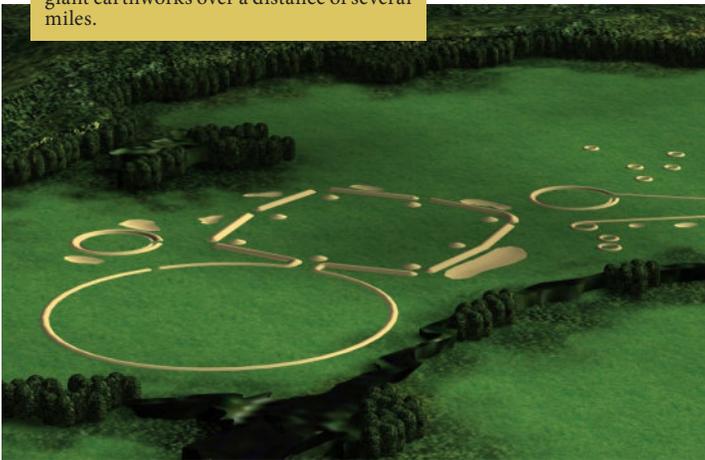


▲ The Hopeton Earthworks are part of Hopewell Culture National Historic Park, recently opened to the public.



▲ Squier and Davis's drawing of Mound City and the huge Shriver Circle in 1848, also showing the canal and the future State Route 104.

▼ High Bank Earthworks centers on an axial line that also connects two other giant earthworks over a distance of several miles.



gon: at High Bank, points at the center of all eight sides of the octagon can be joined to form a circle of equal diameter. Ray Hively and Robert Horn have shown that High Bank, like Newark, encodes all eight lunar standstills, plus the four solstices, while the axes of the two designs are exactly 90 degrees apart. The builders could not simply replicate Newark's design, due to the difference in latitude, so here they had to figure out another equally complex and subtle instrument.

The only alignment of the long axis here at High Bank is with its neighboring geometric enclosures: Works East four miles to the north,

and Liberty four miles to the south. Some vast scheme of landscape visualization, and connection, was at work.

HOPETON EARTHWORKS

Directly across the Scioto River from Mound City are the Hopeton earthworks: a large, slightly-irregular square, with a circle slightly overlapping it. Two smaller circles mark gateways to the square in different ways, and long parallel walls lead to the bank of an old channel of the river. The ancient walls once stood twelve feet high, but farmers have plowed, and even bulldozed them, so only faint traces remain. Yet on old aerial photographs, or with new magnetic sensors, the ancient lines still leap to life.

Archaeologist Mark Lynott explains his discoveries inside the wall at Hopeton, during the summer of 2002:

We're near the center of the wall here, and this shows very clearly a section of how the wall is constructed. At the base we have a yellow sub-soil where the topsoil had been stripped off. And then the Hopewell came in and put this black section of sterile clay in here. It has a little bit of burned material but no artifacts. And then above it they've added this red, somewhat loamier, clay; and this is highly magnetic, and that's what's worked so well with our magnetometers.

Mark Lynott continues:

This is, in its own way, by the organization of the Hopewell people, as spectacular as the Mayan Pyramids, as the Egyptian Pyramids, because these folks are not agricultural societies; they're not organized that way. They're much more of an egalitarian group of people; they're much more mobile, and yet they still managed to build some spectacular earthen monuments here. And what's incredible is that doesn't fit with the traditional anthropological models of social organization and accomplishments.

After the 1930s, mechanized agriculture rapidly accelerated the destruction of many of the giant geometric earthworks like Hopeton. We can trace this process by comparing aerial photographs: In 1938, the walls still showed up clearly, even the long parallels going down toward the river. By 1985 though, the walls have been flattened to low, wide shapes that are barely visible at all from either the air or eye-level.



▲ Dr. Mark Lynott discovered the well-preserved construction profile of the earthen wall at Hopeton.

◆ An aerial photo from 1938 shows the clear outlines of Hopeton's circle and square, similar in size to Shriver Circle and Mound City, respectively.