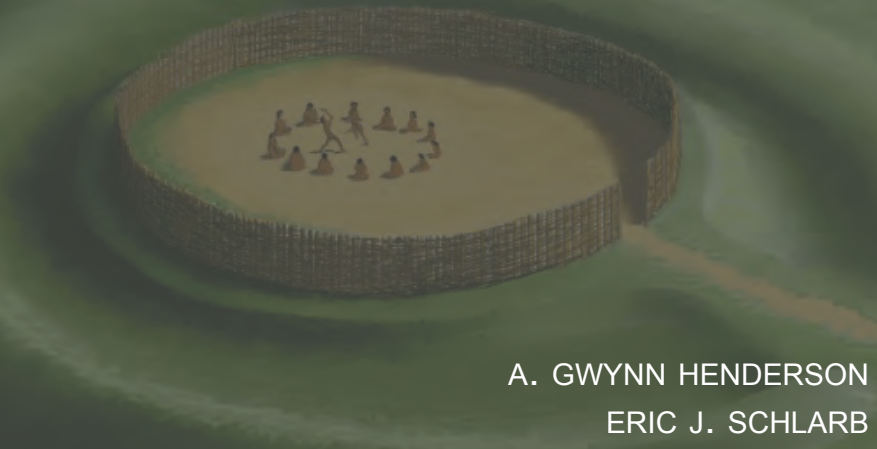


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WOODLAND PERIOD MOUNDBUILDERS
OF THE BLUEGRASS



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KENTUCKY ARCHAEOLOGICAL SURVEY

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For David Gaitskill, Anne Gay, Roy Noe, George Stone, David Thomson, Rick Trontz, and all the Kentucky landowners who are preserving the Adena mounds that remain

This booklet presents archaeologists' current ideas about the lifeways and mortuary practices of the Adena Culture. These prehistoric hunting-gathering-gardening peoples lived from 500 B.C. to A.D. 200. No other central and eastern Kentucky prehistoric group ever matched the Adena people's burial practices for complexity and diversity, or their tombs for elaborateness. Their burial mounds and earthworks stand today in mute testimony to the richness of their cultural traditions.

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Hayward Wilkerson designed this booklet. Depression-era archaeology photographs courtesy of the William S. Webb Museum of anthropology. Other photographs and graphics by David McBride, and who else?. Original artwork on pages ?, ?, and ? by Jimmy A. Railey.

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*Let the mighty mounds
That overlook the rivers, or that rise
In the dim forest crowded with old oaks,
Answer. A race, that long has passed away,
Built them; - a disciplined and populous race
Heaped, with long toil, the earth...*

William Cullen Bryant, "The Prairies" 1834

A MOUND BEGINS

It is autumn twilight in central Kentucky, 2000 years ago, as the mourners begin their final preparations.

For several generations, members of three neighboring social groups, linked by marriage and beliefs, have met on this ridgecrest for ceremonies of death and renewal. Their ancestors built a circular unroofed enclosure here because of this spot's unbroken view of the horizon. Pairs of wooden posts, set deep in the ground at regular intervals, lean outward slightly. They surround a sacred space large enough to hold about 45 people.

A day of feasting, dancing, and socializing has served as a prelude to tonight's ceremony. This evening, the people will bury a woman here. At dawn, they will build a low earthen mound over her body.

The men are responsible for assembling the burial platform in the center of the enclosure. They lay eight logs on the floor, side by side, then cover them with strips of bark. They stack more logs and bark strips along the wall for use during the ceremony. Next to the logs, they place several baskets filled with sacred earth.

Many yards away, but still within view of the enclosure, the women are preparing the body. This woman was an elder, a respected member of her lineage, and a well-known healer. Her life's accomplishments, as much as her social standing, have led her people to honor her in this way.

They dress her body in a robe of fine, deep-red fabric. The hem is decorated with white, disk-shaped shell beads cut from the center of an ocean conch. They place a necklace of delicate marine snail shells around her neck. Finally, they wrap a thick woven mat around her body, and tie it up securely with a length of heavy cord passed around and around the bundle.

Everything is now in order. Night has come; the air is chilly, still. A million stars fill the dark sky. The mourners respectfully gather around the mat-wrapped body. The ceremony begins.

Religious leaders, or *shamans*, lead a torch-lit procession to the enclosure. They sing the special mourning songs, accompanying themselves on turtle shell rattles, gourd rattles, and small hand-held wooden drums.

Heads of lineages and the dead woman's kin follow. Four male relatives bear the body. Others bring burial offerings. Her husband carries her bow-tie-shaped slate gorget. During healing ceremonies, she had always worn it tied tightly to her throat by strips of leather. Her sister carries a shale hoe by its long wooden handle, and two female cousins bring large ceramic jars filled with food.

Mourners fill the enclosure, sitting or standing along its walls. The men place the body on the platform, careful to face the head to the place where the sun will rise. A shaman chants a prayer of separation as the men completely cover the body with bark strips. Then they place logs on top and pour the sacred earth over the logs.

In the flickering torch-light, a storyteller repeats tales of mythical upperworld bird spirits and underworld monsters. Following her people's tradition, she tells the dead woman's story. Tonight, she tells the story of the enclosure, too: when and how the people built it and of the many ceremonies they held within it.

With a nod from a shaman, her sister arranges the jars and stone hoe on the floor near the platform. Her husband breaks her gorget across his thigh, then lays the three pieces on the floor near the vessels. The mourners quietly file outside, followed by the shamans.

Chanting as they walk clockwise around the enclosure, the shamans set fire to it with their torches. Flames quickly engulf the enclosure's dry wooden posts, then spread to the burial platform. The spirits of the woman and the enclosure, intertwined, travel upward on the smoke.

At first light, the shamans and the lineage heads return to where the women prepared the body. They fill baskets with soil, then carry them to where the enclosure once stood. The smell of smoke lingers in the morning air.

The fire has reduced the enclosure to ash and smouldering charcoal. Because of its sacred earth cover, only portions of the burial platform have been reduced to ash. The rest (logs, bark, textiles, and body) has been only partially or completely charred.

As the shamans chant the songs of making, the lineage heads begin to cover the enclosure's footprint with soil. Slowly, basket-load by basket-load, a low earthen mound takes shape. It is a tomb for the woman and the enclosure. It marks the transition of this sacred spot from a ceremonial space to a cemetery.

Over time, these people will return to this mound. They will bury other important members of their communities here, and they will cover each burial with earth. In this way, the mound will grow in height and mass.

After some time, they will bury the last person, then cover the whole mound with a layer of clean soil. Although no longer an active cemetery, the mound is still a prominent feature on the landscape and a place of



The Adena Culture extended across parts of southern Ohio, western Virginia, and central and eastern Kentucky.

rituals. For several generations, the people will hold ceremonies on the mound's summit.

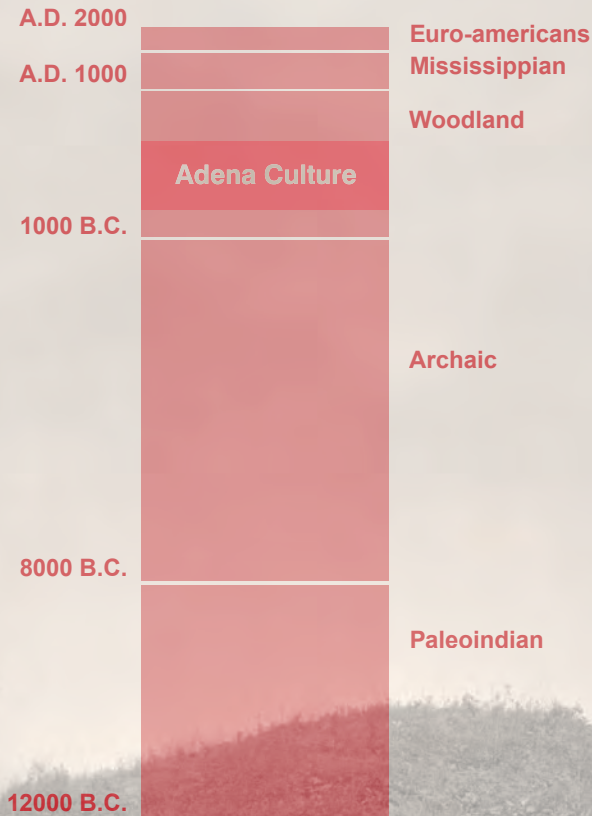
And then, after more time has passed, no one in living memory will have attended ceremonies of any kind at the mound. Two hundred years after building the enclosure, prehistoric people will not worship in circular enclosures or build burial mounds. But they will remember these sacred places.



Today, from that same ridgecrest, the view of the horizon is still unbroken. The rolling Bluegrass landscape stretches out in every direction. The tall earthen mound, now covered with wild flower-flecked hay, is still there. It does not stand quite as tall as it did when newly covered with its final soil mantle. Erosion has done its work.

The preceding story is based on information archaeologists uncovered at a Bath County mound and what anthropologists know about moundbuilding peoples worldwide. We do not know how closely it describes what took place at the mound, just as we do not know the name those prehistoric moundbuilders called themselves. Today, archaeologists call them **Adena** (*Uh-DEE-nuh*), after an estate of the same name in south-central Ohio where researchers first excavated an Adena mound.

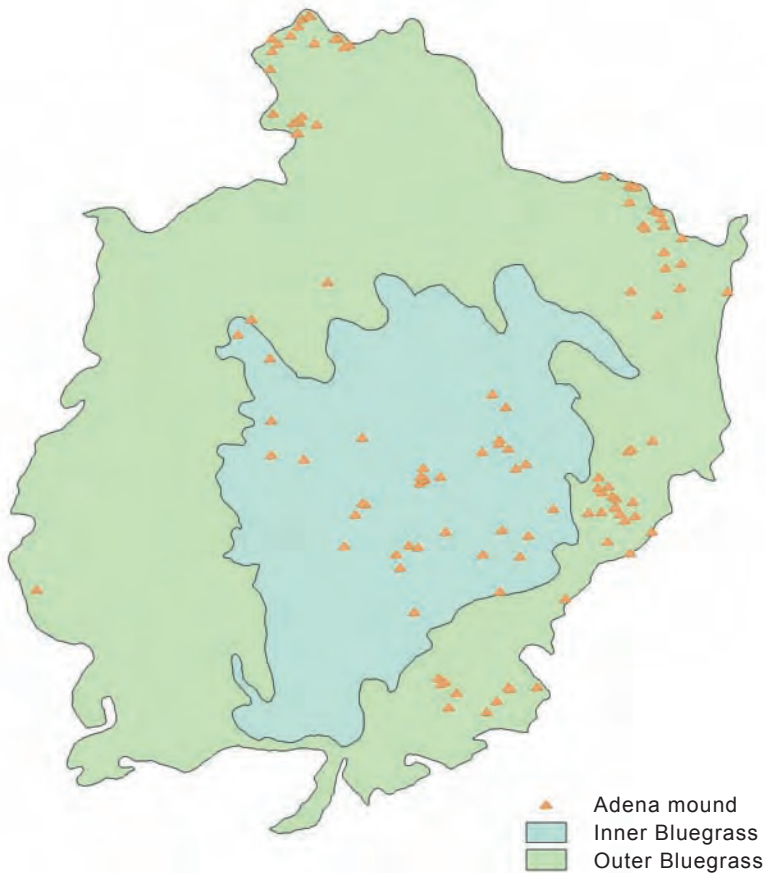
These mobile hunting-gathering-gardening peoples lived in the middle Ohio River valley between 2500 and 1800 years ago. Over this long period, they built thousands of burial mounds and scores of geometric earthworks. Their mounds were the focus of their social, economic, and religious lives, and the physical expression of their beliefs about the world and their place in it.



The Adena Culture flourished during the Middle Woodland period. The mound in the background once stood in Bath County.

However, Adena people kept no written records. Their stories have been lost to time, so we must learn about them indirectly.

Much of what we know comes from the work of archaeologists. These researchers are piecing together a picture of Adena culture by studying the places they once lived, the mounds they built, and the patterns of objects they left behind. This booklet presents our current ideas about what their day-to-day lives and burial practices were like around 2000 years ago. It is based on research carried out at eastern Kentucky Adena campsites, and at Adena mounds and earthworks in Kentucky's Bluegrass region.



Adena mounds and earthworks are scattered across central Kentucky's Bluegrass region.

MOUNDBUILDERS, RELIEF CREWS, AND ARCHAEOLOGISTS

In the Bluegrass region, people have recorded and studied Adena mounds and earthworks for over 200 years. Our understanding of Adena culture, however, has depended on an assortment of events, discoveries, and characters.

The Moundbuilder Myth

During the late eighteenth- and early nineteenth-centuries, Adena mounds and earthworks stirred the imagination of European explorers, pioneers, and travelers heading west of the Appalachian Mountains. A few were moved to action. Constantine Rafinesque, a naturalist and professor at Transylvania University, made detailed drawings and described several central Kentucky examples.

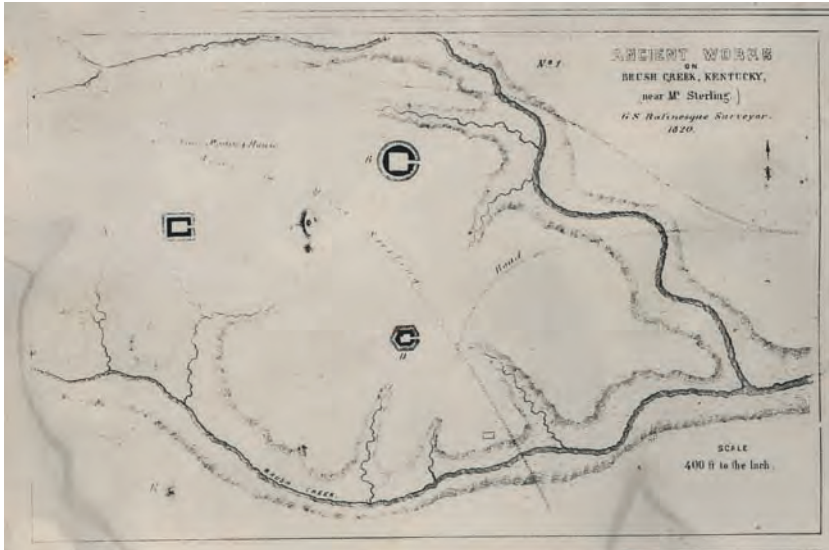
They all wondered: “Who built these mounds?” Historians and scholars hotly debated this question throughout the nineteenth century. It may seem strange to us today, but many seriously credited the Egyptians, Mongols, or Welsh.

Others thought a vanished race, the Moundbuilders, had built them. They believed that the ancestors of living American Indian peoples had been brutal savages. In their minds, these people could not possibly have built mounds - they drove off or killed the ‘real’ Mound builders. It also did not help that nineteenth-century native peoples with historic links to the Ohio Valley lacked direct recollections or stories, myths, and legends of moundbuilding.



The crew (and dog!) pause for a photograph during work at a Montgomery County mound.

As people debated the Moundbuilders' identity, the mounds themselves were disappearing at an alarming rate. Farmers were clearing the land and planting crops. America's cities and towns were growing. Relic hunters were looting the largest mounds for the objects inside them. Wealthy, well-meaning individuals, doing what they thought was increasing scientific knowledge, were actually destroying more information than they recovered.



Map of a Montgomery County Adena mound and earthwork complex. Based on a Rafinesque survey, it was published by Squier and Davis.

Two surveyors, Ephraim Squier and Edwin Davis, were an exception to the wealthy antiquarians. They accurately recorded many Ohio Valley prehistoric mounds and earthworks, including several examples in the Bluegrass region. The Smithsonian Institution published their research in 1848. Locally, Robert Peter, a distinguished Lexington physician, investigated the mounds and earthworks on his farm near Elkhorn Creek. Geologist J. B. Hoeing also carefully marked the locations of earthen burial mounds on his maps as he surveyed Bluegrass bedrock formations.

As the nineteenth century ended, research funded by the federal government finally laid the Moundbuilder myth to rest. Teams of men surveyed and excavated many mounds in the Midwest and Southeast, including several in the Ohio Valley. Their work, analyzed and published by Cyrus Thomas in 1894, showed through artifacts and soil stratigraphy that the ancestors of the American Indians built the mounds.



An archaeologist carefully removes soil from near a broken Adena ceramic jar. Aluminum foil pouches nearby hold charred wood samples for radiocarbon dating.

The next four decades witnessed the beginning of research focused on the Adena culture. Investigators outside Kentucky studied Adena burial mounds and began to recognize their unique features. In Kentucky, William S. Webb and William D. Funkhouser, University of Kentucky physics and biology professors, published a county-by-county list of the state's prehistoric sites. Many Bluegrass sites were Adena mounds.

Depression-Era Archaeology

During the Great Depression (1929-1941), thousands of Kentuckians were desperate for work. Some found it excavating prehistoric villages, shell heaps, mounds, and earthworks through federal relief programs. William S. Webb, founder of the University of Kentucky's new Department of Archaeology and Anthropology, directed the Kentucky program.

Excavations took place in the counties hardest-hit by the sagging economy. Sites chosen for excavation were often ones that had a good chance of being vandalized, although the desires of the sponsoring agencies also played a part in the selection process. From 1934-1942 in the Bluegrass counties of Bath, Boone, Fayette, and Montgomery alone, federal relief programs funded excavations at 17 Adena mounds and earthworks.

These projects represented the first sustained research effort on Kentucky's Adena sites. Some of America's brightest young

archaeologists supervised the excavations. They used the most modern scientific techniques then available.

During the peak years of 1938-1939, the Kentucky program employed almost 300 people each month. Activities focused on documenting pits, hearths, posts, burials, and soil layers, and on recovering as many artifacts as possible. Crews excavated year-round under all sorts of weather conditions. Work on some of the largest Adena mounds took almost two years to complete.

In 1941, America entered World War II. The federal relief programs stopped soon after, thus ending the era of the most intensive work ever undertaken, before or since, at Kentucky's Adena sites.

The significance of Depression-era investigations at Kentucky's Adena mounds and earthworks cannot be understated. These make-work projects were revolutionary, given the enormous amount of information recovered. Without that information, our understanding of Adena culture today would be severely limited.

The University of Kentucky's William S. Webb Museum of Anthropology in Lexington still carefully curates all of the artifacts, photographs, notes, maps, and drawings from these projects. These materials continue to provide data for new generations of scholars.

Adena Research Today

By the end of World War II, Webb and his colleagues had written the bulk of their reports on the Bluegrass region's Adena mounds and earthworks. In them, they described the results of their investigations.

They also attempted to interpret some of what they had found. Understandably, some of these interpretations have changed over the years. For example, Webb and others thought that the circular patterns of paired posts documented beneath some burial mounds represented houses. We know today that they were ritual structures.

In the 1950s, radiocarbon dating (a technique that dates a previously living thing by measuring the decay of C14, a radioactive isotope of carbon) revolutionized archaeology. It provided a new way for archaeologists to measure time. Now it was finally possible to consider exactly when the Adena culture flourished and how it had changed during its 700-year long history.



an Adena spearpoint with a short stem

Since the Depression era, the pace of Adena mound research in the Bluegrass has slowed, but it has not stopped. Archaeologists are still recording and describing new mounds. They excavate them only rarely, for example, when modern construction projects cannot avoid them. In 2006, archaeologists got their first glimpse of an Adena off-mound ritual area. It was near a Montgomery County burial mound that archaeologists had recorded in 1932.

Although research today builds on the work of Webb and his colleagues, archaeologists have moved beyond simply describing what they find. Their goals are to interpret and understand all aspects of Adena life. For the past thirty years, native son Dr. R. Berle Clay has researched Adena burial ritual. He has drawn on the findings of his own excavations, but has relied equally on Depression-era materials. His work has shown how complex and diverse Adena burial practices were. Other investigators have begun to study how Adena people got copper from distant places, research that also depends on materials curated at the William S. Webb Museum.

Archaeologists now recognize that a full understanding of Adena culture will depend on knowing more about peoples' day-to-day lives. Thus, some have begun to research the places Adena people once lived. They are using new techniques to collect new kinds of information. For example, a technique developed in the 1970s, called *flotation*, recovers charred food remains from soil using water separation. Now archaeologists study the kinds of plants Adena peoples grew, ate, and used at home and in their ceremonies. We really have only begun to learn about Adena people: their domestic life, their foodways, their biology and diseases, where they lived and why, and of course, their fascinating ritual lives.



an Adena spearpoint with a rounded stem

DAILY LIFE

Adena lifeways were firmly rooted in those of their hunter-gatherer ancestors. Yet, their lives were different in several very important ways. Adena peoples depended more heavily on the plants they grew for food. Unlike their ancestors, they made containers from locally available clays, built geometric earthworks, and buried some of their dead in mounds.

Archaeologists know much less about Adena daily life than they do about Adena burial practices. This is because archaeologists have only studied a few of the places Adena people once lived.



Sometimes they cooked their food in earth ovens: deep pits they filled with hot rocks or coals.

We can infer much about Adena daily life by studying the contemporary campsites of groups who lived in eastern Kentucky. The well-preserved, but much earlier, campsites of hunter-gatherer groups in west-central Kentucky also can offer insights. Information about the lives of modern and prehistoric hunter-gatherers in other places in the world helps, too.

Society and Politics

Life in Adena times, as it had in the past, revolved around family. Between 15 and 20 people probably made up an extended family. This would have consisted of a man, a woman, and their unmarried children; their married children, their spouses, and children; and perhaps a few other close kin. Several extended families formed a lineage or clan. People chose spouses from lineages/clans other than their own.



People from perhaps as many as four to six different lineages/clans would have formed an Adena social group. Kinship ties of birth and marriage would have knitted these groups together. They probably met with each other throughout the year: to socialize, to trade, and to take part in ceremonies at the mounds. In times when food was scarce or when enemies threatened, they could depend on each other for help.

Every kin-based lineage/clan had its own leader. Like hunting and gathering societies today, these could have been men who were the most successful hunters or traders, or men others respected for their common sense or intelligence.

Adena leaders probably led by consent. When the need arose, they settled arguments between their own lineage/clan members, and also those between members of different lineages/clans. Adena leaders may have helped organize ceremonies, and supervise mound and earthwork construction and upkeep. They undoubtedly also were responsible for working-out social, political, and economic alliances with neighbors and for trading with outside groups.

Adena people followed certain rules when interacting with each other. It didn't matter if the interaction was with close family members, lineage/clan relations, or more distant relatives in neighboring social groups.

Sharing would have been one of the most basic rules by which Adena peoples lived. This rule made sure that everyone had equal access to all the necessities of life. Families, lineages/clans, or social groups, but not individuals, controlled food, natural resources, and land.

Differences in age and gender also created rules. It is likely that men were responsible for clearing the land for garden plots. They probably were the main hunters and politicians. Women's responsibilities included taking care of children, collecting wild plants, and gardening. Older men and women probably served as religious leaders and healers.

Personal accomplishments set some people apart. Archaeologists base this statement on the fact that Adena people buried some men and women in mounds. Rare and valuable burial offerings sometimes were placed in their graves.

Settlements

Because Adena people built large earthen mounds and buried some of their dead in log-lined tombs inside them, it's easy to think of them as settled village dwellers. But they were not.

Adena peoples were mobile hunter-gatherer-gardeners. They lived in small camps commonly located along terraces overlooking permanent streams, although they built some of their camps on ridgetops, too. They did not live at their camps year-round, nor did they necessarily return to the same one every year.

Their lives were not ones of aimless wandering, though. They planned their moves carefully to take advantage of seasonally available wild plants and animals. The gardens they planted in the spring and harvested in the fall may have encouraged them to stay put during certain times of the year.

Extended families moved within their social group's home territory. Since the Bluegrass would have been home to many social groups, it would have been a patchwork of home territories. As families moved during the year, they would have encountered others families: from their own social group and from neighboring ones.



Sheets of mica, cut into crescents, served an unknown ritual purpose.

At a site in Pike County, archaeologists uncovered the remains of an Adena camp. The house was a roughly rectangular structure that enclosed about 200 square feet. The remains of a small hearth were inside it. To form the walls, the people had set posts into the ground, although archaeologists found no evidence of what the walls had been made of. Perhaps the people had used hides, mats, or brush.

Outside, but near the structure, archaeologists found other hearths, a spearpoint *cache* (several spearpoints tightly bundled together in a pit), a few small pits, and earth ovens. Archaeologists think the people carried out most of their day-to-day activities in this outside area.

Adena families might have stayed at camps like the Pike County example for several months. This may have been particularly true in the late summer and early fall, when many of the plants they grew would have been ready to harvest.

They would have camped briefly in some places for very specific reasons, like to be near important natural resources. These resources might have included good hunting grounds; groves of nut-bearing trees; or places where they could collect or quarry *chert* (a stone, commonly known as flint, used to make stone tools).

Food

Information from Adena campsites provides a glimpse of what they ate. The main animals were white-tailed deer, black bear, and elk. Small mammals included squirrel, raccoon, and rabbit. They also ate wild turkey, fished, and ate reptiles and amphibians, like turtles, snakes, and lizards. Adena hunters used the *atlatl*, or spearthrower, to hunt the larger animals. They may have used snares, traps, or nets to capture the smaller ones.

Many different kinds of wild fruits, such as blackberry, strawberry, grape, and persimmon, also were part of their diet. Their favorite nuts were hickory nuts and walnuts. Women could have used a variety of containers, such as baskets, and skin or net bags, on their wild plant food collecting trips.

Adena peoples also grew some of the foods they ate. In comparison to their ancestors' diet, plants made up more of theirs.

Just as Kentuckians do today, Adena people prepared their gardens in the spring. Naturally open sunny spots on the landscape made good garden spots. So did the places they cleared themselves.



They made their copper bracelets from Great Lakes copper.

Preparing a garden space took several steps. First, the men had to remove the larger trees. They could have cut them down with their stone axes. Or they could have girdled them (cut a band of bark from around the trunk) to kill the tree. Then they would have set small, controlled fires to kill the smaller trees and saplings and to burn-off the leaf litter, brush, and weeds. The ash from these fires enriched the garden soil.

Women planted seeds in these cleared garden areas using flat wooden digging sticks. They also could have just scattered seeds on the ground. They grew domesticated varieties of gourds, squash (like crooknecks and acorn), and certain weedy plants. The latter produced edible greens in the spring and small, highly nutritious seeds in late summer/early fall (see **Focus On Adena Gardening**).

Come harvest time, they stored nuts and seeds for later use. Ceramic vessels may have done a better job controlling moisture and keeping pests out than ones made from gourds, wood, or skin. Adena families ate these stored plant foods during the winter when other foods were not available. They also saved enough seeds to plant the following spring.

Tools and Equipment

Adena peoples used plants and animals in more ways than just as sources of food. They worked them into a host of items that their hunting-gathering-gardening way of life required. Wood, stone, and clay also were necessary raw materials.

They used plant fibers and animal sinew to make twine, cord, and yarn. These they hand-wove into net bags, foot gear, and clothing (see **Focus On Adena Fabrics**). Animal skins, furs, and bird feathers also served as raw materials for clothing and bags. Plant dyes added color to fabrics, baskets, and nets. Herbal medicines eased a variety of ailments, such as toothaches, stomach or headaches, and fever.

They used animal bones, skins, and turtle shells, and also gourds and wood, for rattles and drums. Animal bone, animal teeth, and antler, and freshwater and marine shell and copper, provided the raw materials for ornaments like beads and pendants.



an Adena celt made of granite

Bone and antler served more functional purposes, too. Split deer or turkey bones, sharpened to a point, served as awls used to pierce hides. Stone tool makers used animal bone and deer antler flakers to shape or resharpen spearpoints and scrapers.

The atlatl, used to propel spears, was an Adena hunter's main weapon. It was a two-part tool that required skill to make and use. A hunter made the spearshaft from wood or cane, and fitted it with a point of bone, antler, or chert. Adena chert spearpoints were broad-bladed and had stems with straight or oval bases.

The atlatl itself consisted of a handle and a hook made of wood, bone, or antler. To improve performance, hunters often attached a stone counterweight to the handle. Boatstones made from barite sometimes served as these weights (see pg. 12). A locally available stone, barite is white, chalky, and heavy like lead.

These people used locally and non-locally available stone for a variety of other tools. Hand-held chert scrapers, or ones socketed into a wooden, bone, or antler handle, were used to cut meat and work hides. Large chert spearpoints also could have served as knives, but small chert blade tools would have worked just as well.

Pitted sandstone rocks, sometimes called *nutting stones*, were used to process nuts. Sandstone pestles and grinding stones were used to prepare

plant foods and dyes. They made wood-working tools, such as adzes and grooved axes, from granite. Toolmakers pecked or tapped these objects into a rough shape, then they finished them by grinding and smoothing them.

Adena peoples used wood, skin or net bags, gourds, and turtle shells as containers for cooking, food storage or serving, and during rituals. They used ceramic pots for these purposes, too.

In making their vessels, Adena potters added finely crushed fragments of locally available rock, usually limestone, to the clay. Adding these particles, called *temper*, improved the



This jar is incised with nested diamonds.

Focus On Adena Gardening

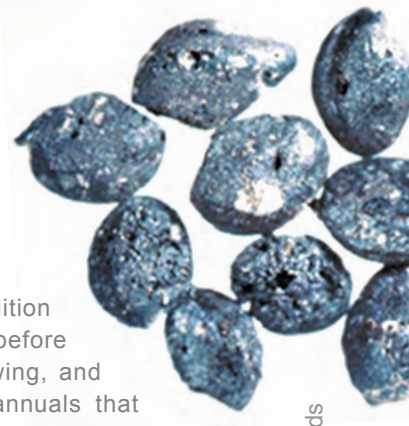
Adena peoples were members of a gardening tradition that had been established more than 1000 years before their culture began. It focused on planting, growing, and harvesting domesticated native plants: weedy annuals that produced small, nutrient-rich seeds. Think of a handful of mixed bird seed, and you'll have a good idea of their size. Under a microscope, archaeologists can tell the difference between the seeds of the domesticated plants and those of their wild cousins: they are bigger; the shape may be slightly different; or the shells or "seed coats" may be thinner.

Like their ancestors, Adena peoples grew two different kinds of native plants. Goosefoot, knotweed, and maygrass produced seeds high in carbohydrates or starches. Sumpweed and sunflower produced seeds high in fat and protein content, and so were high in calories.

These plants grew best where the ground was open and disturbed. They were easy to grow and easy to harvest.

But preparing them to eat wasn't so easy. Adena women first had to separate the edible seeds from the inedible stalks and stems. This meant thrashing the plants to break them up, and then winnowing the seed from the chaff. Then they had to break the hard seeds into smaller pieces. They did this by either pounding the seeds or grinding them. Pounding produced larger fragments like grits. Grinding produced fine, flour-like particles.

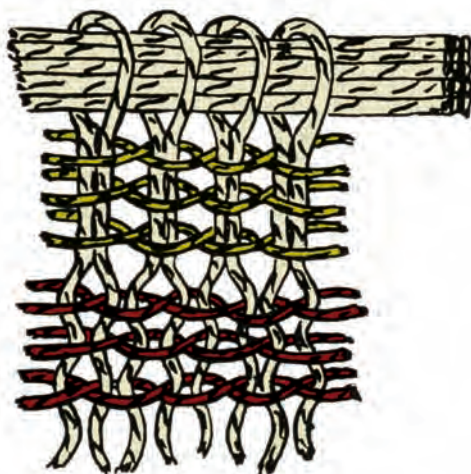
If preparing these small cereal grains was so time-consuming, why did Adena peoples bother growing them at all? Any gardener can tell you why: good nutritional value; reliable production; disease resistance; and storability. These grains' calorie content is similar to that of corn or rice, but their protein content is higher. Compared to hickory and oak trees, these plants are more reliable producers, their yields comparable to some varieties of corn. And although the seeds ripen in the late summer/early fall, they store well. Women could put off preparing them until their families had almost used up other foods.



charred maygrass seeds

clay's workability and increased the strength of vessel walls. Temper also ensured that the unfired vessel would not shrink too much before firing, and that during firing, it would heat evenly and not crack. Adena potters did not fire their vessels in kilns; they used open-air fires. Their finished pots were watertight and sturdy.

Unlike their ancestor's clay pots, which were crude, deep, cauldron-like basins, Adena potters made well-smoothed, thick-walled, often flat-bottomed jars (see pg. 42). These jars had thickened rims and no handles of any kind. Very rarely, they were decorated on the outside with geometric designs. With the increased importance of garden plants in their diet, Adena peoples may have developed new ways to prepare food, ones that differed from those of their ancestors. This may have led them to change the shape of their cooking vessels.



Making Adena fabrics, like this example showing red and yellow dyed bands, took a lot of work and time.

Trade and Exchange

Bluegrass Adena peoples traded with their neighbors. They undoubtedly exchanged locally available, but unworked, raw materials, like chert, banded slate, and granite. Unfortunately, perishable goods rarely leave any trace in the archaeological record. Thus, we can only guess what kinds of food, baskets and fabrics, feathers, paints, and medicinal or dye plants might have changed hands. During the exchange of these tangible goods, they likely also shared information, stories, and songs.

They probably also would have traded for special ritual items made from local materials. These could have been leaf-shaped chert blades, or barite and hematite cones and boatstones. The latter also are sources of pigment. When rubbed lightly, barite produces a white powder. Hematite, when ground, produces a red powder called *red ochre*.

The raw materials for some ritual items and burial offerings were not available locally or regionally, however. Bluegrass Adena peoples

Focus On Adena Fabrics

There is no question that Adena people made fabrics. Archaeologists have recovered small pieces from some mounds.

Adena fabric-making started with yarn. Weavers probably made most of it from fibers found in the stems of plants, like milkweed and rattlesnake master, and in the inner bark of trees, like cedar and pawpaw.

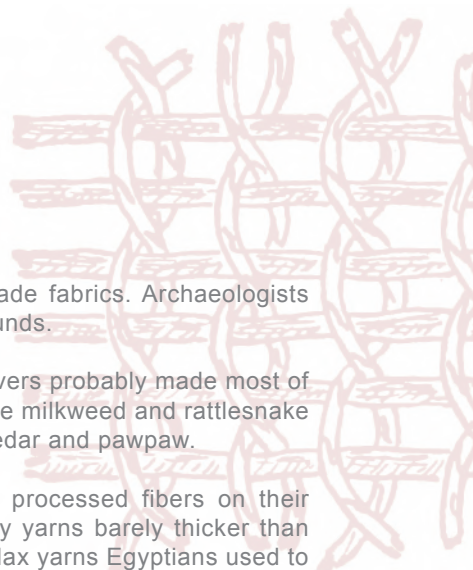
They likely made the yarn by twisting the processed fibers on their thighs. They could produce very high-quality yarns barely thicker than 1/32nd of an inch. These are as fine as the flax yarns Egyptians used to make linen. Adena weavers also twisted water birds' downy feathers into some yarns. This would have created a finished fabric that was soft and warm.

Adena fabrics were not strings haphazardly strung together. They were structurally complex. Adena weavers did not use looms. Instead, they made fabrics in many different ways using only their hands.

Twining and *plaiting* were the most common methods. They produced twined fabrics by twisting together two or more horizontal yarns around a vertical yarn. A common twined fabric consisted of twisted horizontal yarns around alternating pairs of vertical yarns. This created a diagonal pattern. In plaiting, they passed horizontal and vertical yarns over and under each other in a regular pattern. In a common form of plaiting, the yarns passed over and under each other at a 55-degree angle. Using just these two methods, Adena weavers could have made a host of items to suit any need: bags, sashes, mantles (similar to a large shawl), skirts, and blankets.

To create designs, they wove chevrons and diagonal lines into their fabrics. But they also could have used yarns of different colors to create the same effect. To dye yarn, Adena weavers soaked it in urine, which contained a chemical that would fix the color, mixed with parts of certain plants. These might include roots, nut hulls, seed skins, fruit, bark, leaves, or stems of plants like sumac, bedstraw, or black walnut. The resulting red, pink, yellow-gold, green, tan, brown, and black yarns, when woven together, would have produced vibrant fabrics.

On certain occasions, all members of an Adena lineage/clan or social group might have worn clothing of a particular color or with a design pattern that was uniquely their own. Some people, like shamans or lineage/clan leaders, might have earned the right to wear special fabrics, colors, or designs.



an example of an Adena twined textile



By identifying the sources of non-local materials, archaeologists can document the extent of Adena long-distance exchange.

needed copper for bracelets, rings, and beads; and marine shells (conch, marginella, and columella) for beads and ornaments. They also needed flat pieces of copper they could cut into antler headdresses or wrap around wooden ear ornaments. They needed sections of mica they could shape into crescents and attach to clothing.

Bluegrass Adena peoples did not have to travel far, though, to get copper, marine shells, or mica. That’s because they were involved in long-distance trade networks that linked them to people and places thousands of miles away. These non-local raw materials, or the finished items made from them, moved great distances simply by being traded from person-to-person through these exchange networks.

What did the Bluegrass Adena peoples have to offer in exchange for items made from copper, marine shells, and mica? Archaeologists think perhaps barite: raw, powdered, or fashioned into objects. That’s because the Bluegrass region may have been the only source of it, making it a rare commodity. Adena people could have dug it from underground veins and sinkholes or gathered it from along creek banks in their home territories.

Health and Disease

Although Depression-era archaeologists excavated many Adena burial mounds, we still do not have a detailed picture of these peoples' health. One reason is that Adena people commonly cremated their dead. Nevertheless, archaeologists do know something about the overall health and appearance of Adena people, and about the illnesses they experienced.

On average, the Adena were several inches shorter than Americans are today. They rarely grew to six feet tall. To judge from the size of their bones and the muscle markings on them, they were heavily built and strong. The backs of their heads were often flattened, so much so that archaeologists assume they practiced *cradleboarding*. This flattening occurs when the heads of infants are routinely fixed to a rigid surface, like a cradle board. Eventually the soft bones of the skull are affected, but this change in skull shape has no other effect on a person.

Like preindustrial groups worldwide, most Adena people did not live very long. Forty-five was a ripe old age, and few lived beyond 65. Infant mortality was high, and many children died before they reached their first birthday. This is generally true of all human groups.

Recent people who live in the developed world are different. Twenty-first century Americans can expect to live to be about 78 years old, and very few infants die before they are one-year old.



When found, this eleven-inch-long copper knife or dagger from Fayette County was wrapped in two different kinds of fabric. It has a wooden hand-grasp.

Most Adena people had cavities in their teeth, which they never treated. Often, this led to abscesses and tooth loss. The chewing surfaces of their teeth were heavily worn from grit in their food, unlike our teeth today. Grooves and pits on their teeth - places where the tooth enamel is poorly formed - show that, as children, Adena people experienced times of malnutrition and infection. It is very likely that these conditions occurred at the same time.

Because most broken bones healed, archaeologists infer that injured people were well-taken care of. This was also true for people who had birth defects: a man who lived into adulthood with a congenitally deformed leg was buried in one Boone County mound.

Many diseases leave behind traces on bones, so we know that Adena people suffered from arthritis and anemia. The former was undoubtedly related to their active lives. Anemia would have resulted from a poor diet or excessive, chronic blood loss, perhaps caused by intestinal parasites. Other bone changes show that these people also suffered from infections. Bloodborne infections affected many parts of the skeleton all at once. Localized infections affected specific bones, like those that occurred because of overlying soft tissue infections or from a kick in the shin.

RITUAL SITES

Each time a relative or friend dies, modern Kentuckians must face many issues: practical, personal, social, economic, and spiritual. Death sets in motion a host of events. The body must be taken care of, and ceremonies of memorial and mourning must be planned. Relatives and friends of the deceased visit with one another and share food at formal and informal gatherings. Death requires us to make decisions. What should we do with her belongings? Who will take over his jobs and responsibilities? Death gives the living an opportunity to think about their own place in the world and to remember others who have passed away.

Adena peoples faced these same issues when someone died. The fact that they dealt with these issues makes them similar to us today, but the **ways** in which they dealt with them make them Adena. These people left behind ample evidence of their mortuary rituals that we are only beginning to understand. Archaeologists have identified three different kinds of Adena ritual sites: circular paired-post enclosures, burial mounds, and geometric earthworks. No two are the same. Each site



a cone-shaped Montgomery County mound prior to its excavation in 1937

reflects the decisions made by the people who created and used it. Each site is a record of the unique series of events held there.

Adena groups commonly built their ritual sites on prominent ridgetops or bluffs. Often, these locales offered commanding views of the surrounding countryside or stream or river valley. For unknown reasons, Adena groups did not live near their ritual sites. In this, they differed from their ancestors, who held mortuary rituals at their seasonal camps.

Adena people used some locations for many generations. Clusters of mounds and earthworks or pairs of mounds illustrate this. Small, single mounds reflect the comparatively short-term use of other spots. Not every Adena ritual/mortuary area included an example of each kind of site.

Archaeologists think that several neighboring Adena social groups may have taken part in the ceremonies carried out at these sacred places. Thus, Adena ritual sites may have been situated where the boundaries of several groups' home territories came together, and not in the center of one.

Circular Paired-Post Enclosures

In some spots, ritual activities began with topsoil removal and the construction of an enclosure. It consisted of a circle of paired posts made of locally available wood. Posts could range in diameter from small (three inches) to quite large (one foot). There is no evidence that the builders wove smaller saplings between the posts to create a solid wall. Thus, an enclosure may have looked more like a standing screen than a walled structure.

Paired-post enclosures in the Bluegrass ranged in diameter from 26 to 116 feet. Size probably was linked to the maximum number of people who routinely used the space. Archaeologists estimate that about 45 people could have used the smallest ones. More than 175 could have fit into the largest.



Excavation of this Boone Co. mound revealed the circular, paired-post enclosure built before it. With a 56-ft. diameter, about 95 people could have met within it.

The enclosures clearly lack any evidence for use as a living space. There are no hearths, no trash pits, and no domestic refuse. Instead, their interiors contain the remains of clusters of posts; intensively fired patches of soil; and isolated burial offerings. They also contain clay-lined fire basins where human bodies were cremated; oval pits containing cremated remains; scattered patches or piles of cremated remains; and in-the-flesh burials. Inside one Boone County enclosure, archaeologists documented a raised clay platform built opposite an east-facing doorway. Benches or seats appear to have been arranged along a section of its perimeter.

What did Adena people use these enclosures for? Archaeologists think they probably were special, open-air meeting spaces where Adena groups held important ceremonies. The enclosure's posts would have set up a boundary around this ritual space and helped limit access to it by only those directly involved in the ceremonies.

Based on the materials found inside the enclosures, archaeologists infer that the rituals were complex and varied. They apparently involved displaying the dead, cremating individuals, processing or manipulating the remains of individuals cremated elsewhere, and burying the dead. Some archaeologists have suggested that Adena peoples also could have tracked the rising or setting sun through the spaces between the pairs of posts.

Archaeologists do not know how long Adena social groups held ceremonies at an enclosure. It could have been for a considerable amount of time. At one spot in Montgomery County, for example, groups built six different enclosures in a variety of sizes.

Sometimes, groups decided to bury one or more people within an enclosure. These may have been people who had achieved a certain social status. This decision triggered mound construction. Groups then would have either burned down or dismantled the enclosure.

To build the mound, the people often scraped-up nearby soil. Sometimes, this soil contained tool fragments and food remains left by prehistoric people who had lived at the spot hundreds, or even thousands, of years earlier. Mound diameter was often similar to that of the enclosure.



Because Adena builders set the posts at an outward slanting angle of about 67 degrees, the enclosures probably were not roofed.



During excavation, Depression-era archaeologists easily recognized the outlines of individual basket loads.

By mounding-up soil over an enclosure, Adena social groups turned a ritual activity space into a cemetery space. This single, significant act changed the kinds of future ceremonies and ritual activities they would carry out at the site.

Burial Mounds

Ritual activities did not have to begin with the construction of a paired-post enclosure. Adena groups could decide to cremate or bury one or more people at a special spot. They laid the bodies or cremated remains on the ground surface or placed them in simple pits. Then they built mounds over these graves. Just as previously described, they scraped-up soil from around the burial area.

The first burial mounds built at any ritual site stood only a few feet tall and measured 70 feet or less in diameter. If they buried no one else within a mound, it remained a small, low, conical feature on the landscape. Undoubtedly, thousands of small Adena mounds once were scattered across the Bluegrass. Most have been lost to historic plowing and farming, and the construction of towns and cities.

However, at some mound sites, Adena social groups continued to bury people, covering each with soil. With every addition, these mounds became larger and taller. Periodically, they capped the whole mound with a layer of soil. Over time, these mounds became vertical cemeteries that grew through several stages. One of the largest Adena mounds in the Bluegrass stood 31 feet tall and measured 180 feet in diameter.

Adena moundbuilders apparently did not decide beforehand how large a mound would become. Instead, a mound's size and shape appear to reflect the activities that took place during its history of use. Size also

does not accurately reflect the number of people buried within a mound. The two largest Bluegrass examples were of similar size: one contained one hundred people; the other, only 21 individuals.

The fill used for later mound stages was often different from the loose topsoil used to cover the first burials. It was a very tough, pure, dense clay that ranged in color from deep red to light yellow. Like the soil they used initially, they found this clay in places not too far from the mound. They used simple tools, like digging sticks, to break up the clay. Then they filled-up baskets and carried these 30-pound loads to the mound.

Archaeologists do not know how long Adena people buried their dead in the larger mounds before they capped the mounds with clean soil and no longer used them as cemeteries. Perhaps burial stopped when it became too difficult to add individuals and still maintain the mound's conical or loaf shape.

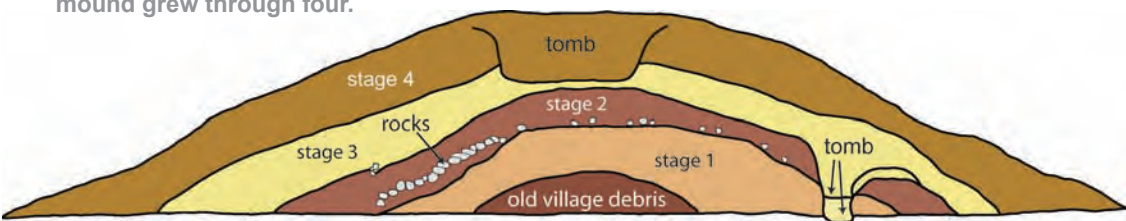
Mounds may have been the most visible Adena ritual sites. Yet, like the enclosures, they were not always self-contained. For certain people, a mound could be their final resting place. For others, it could have been just a stopover on their journey to the afterlife. Bodies might be cremated or defleshed at a mound, but buried at an enclosure. Alternatively, bodies could be prepared elsewhere and then brought to a mound for burial.

Besides graves, archaeologists have documented fired areas, layers or piles of stone or rock, pits, and artifact caches within some mounds. During one Montgomery County mound's history, groups completely covered its surface with logs laid out radially around its summit.

Some items found within the mound fill were not associated with a grave, fired area, rock pile, pit, or cache. Examples include bits of animal bone, charred plant remains, chert chips and broken tools, and fragments of ceramic containers. These may have been accidentally mixed into the fill.

Archaeologists think that other items, however, particularly those associated with later mound stages, may have been purposefully left at or on the mound. These objects may have been used during mortuary events, then buried. They also could have been broken

Larger mounds could contain four to eight stages. This Boone County mound grew through four.



during ceremonies, and then scattered by shamans across the mound as offerings. They might represent the remains of food eaten during graveside feasting rituals. Vessel fragments could represent sections of jars used to bring cremated human remains to the mound. Materials cleaned out of other ritual areas could have found their way into the mound fill.

Alternatively, these objects could have been left behind during mound maintenance activities carried out between interments and construction phases. During visits to the mound, relatives could have left objects to memorialize the dead.

Archaeologists think it likely that Adena peoples carried out some of their rituals away from, but within sight of, their mounds. Not far from an Adena mound in Montgomery County, researchers have investigated just such an activity area.

In the center of this site, they documented two posts, an ash pile, and a rock-filled pit containing a small amount of burned bone. Several individuals may have been cremated here. Also near the site center, they found small pits containing charred plant food remains. Plants represented were squash, acorn, goosefoot, maygrass, purslane, sunflower, persimmon, and strawberry. Mourners may have used these pits for food storage before feasting, or for trash disposal afterwards.

Other pits contained a special clay brought to the site and fragments of worked barite and mica. Ritual participants may have used the clay to make graves or platforms inside the mound, or perhaps to build the mound itself. The barite and mica fragments suggest that Adena people may have made burial offerings or ritual objects at this site.

Geometric Earthworks

Adena people commonly built their earthworks near other Adena earthworks and burial mounds. Most are circular, varying in diameter from 125 to 300 feet. They consist of an interior space, perhaps a ramp extending to the center, a ditch, and a surrounding embankment. However, archaeologists have documented single examples of square and possibly hexagonal Adena earthworks of similar size in the Bluegrass.

Adena moundbuilders moved considerable amounts of earth during the construction of these earthworks. They did it all using only digging sticks to loosen the soil; baskets to transport it; and human muscle.

First, they traced a nearly perfect circle on the ground as a template. Then they dug a C- or O-shaped ditch, and threw the soil outward to create the embankment. The ditch could measure 45 feet wide and

extend nearly 8 feet below the ground surface. The embankment could stand more than 4 feet high. Occasionally, Adena groups built a circular paired-post structure within a circular earthwork's interior space, like the one shown on page 24. These structures are virtually identical to the paired-post enclosures discussed previously.

After these structures had served their purpose, Adena groups simply tore them down. They filled the holes with clay where the posts had once stood.

These sites have produced very few artifacts; for some reason, Adena groups kept these sites purposefully clean. Archaeologists also have not found any pits, clay platforms, or burials associated with them, nor have they found any evidence of fire.

The geometric Adena earthworks and their structures clearly were ritual sites that enclosed sacred or spiritually significant space. However, the kinds of activities Adena groups carried out within or around them apparently were different from those that took place within or around their other ritual sites. To date, archaeologists do not clearly understand what role the earthworks and their structures may have played in Adena ceremonial life. Perhaps, as archaeologists have suggested for some paired-post enclosures, Adena people tracked the rising or setting sun from these sites.



From local cherts, they chipped-out delicate leaf-shaped blades that they placed in caches. They may have traded these blades for items made outside the Bluegrass.



Early on a spring morning, Adena shamans hold a ceremony within a circular earthwork to celebrate the gift of renewed life. This earthwork sits next to North Elkhorn Creek in Fayette County.

Other Functions

Just like places of worship today, Adena ritual sites undoubtedly were much more than just places of burial and ceremony. By studying traditional hunter-gatherer-gardener groups and moundbuilding peoples worldwide, archaeologists can get an idea of the kinds of other social, economic, and symbolic functions Adena ritual sites may have served.

Archaeologists think that neighboring social groups jointly used these sites. Thus, they provided places for groups to interact with not only the dead, but with each other as well. As at funerals today, Adena people probably visited and socialized with each other at their ritual sites. Activities undoubtedly included feasting. Some couples might have married during these gatherings, establishing new social links or strengthening old ones.

Adena groups probably worked-out more than social alliances at these events, however. They probably also exchanged gifts, such as spearpoints, food, raw materials, and clothing. These gifts were symbols of their social relationships. Gift-giving also established or cemented economic relationships between individuals, families, lineages/clans, and the larger Adena social groups.

Lineage/clan leaders likely were the ones responsible for the exchange of rare, non-local objects and the raw materials from which they were made, like copper, mica, and marine shell. The use of these valuable items as burial offerings removed them from Adena trading networks. This kept their value high and created a constant demand for them.

Adena ritual sites also may have been symbolic focal points. Worshipers may have thought of the isolated ridge- or blufftop sites as places that physically linked them to the spirit world. They also may have seen the stages of a person's life reflected in the dynamic histories of the largest mounds' construction, use, renewal, and end.

Adena social groups probably also held other kinds of ceremonies at the mounds and earthworks besides those related to death. They periodically covered some larger mounds completely in a layer of soil or clean clay. Archaeologists think, therefore, that Adena people may have held world-renewal ceremonies at these sites.

The purpose of these annually held, communal ceremonies is to put the world back into balance, and thereby, make sure it continues. World-renewal ceremonies carried out by groups today can last for weeks. Activities include dancing, singing, giving prayers of thanks to all spirits and the Creator, and remembering the dead.

Eventually, Adena groups no longer actively used a ritual site for ceremonies or as a cemetery. They undoubtedly continued to carry out some rites in or around them for several generations, however. These places, so steeped in history, probably remained fixed in people's memories for even longer.



In their rituals, they used hematite celts.



Adena people made several kinds of stone gorgets, a type of ornament worn at the throat.

FORMS OF BURIAL

Adena burial practices were complex, diverse, and varied. They were very different from those of their ancestors. Those earlier peoples buried their dead in a *flexed* (or fetal) position in simple pits dug into the ground.

Archaeologists do not know how Adena peoples buried individuals not covered by or placed within a mound. This means we do not know how they treated most infants, children, and adults. They may have cremated them, then scattered their ashes on the ground or on the surface of the water. They could have stood on a ridgetop and let the wind take the ashes. On the other hand, they may have laid the bodies on scaffolds, hung them from trees, or buried them in very shallow graves. We simply do not know, because no one has found the remains of these people.

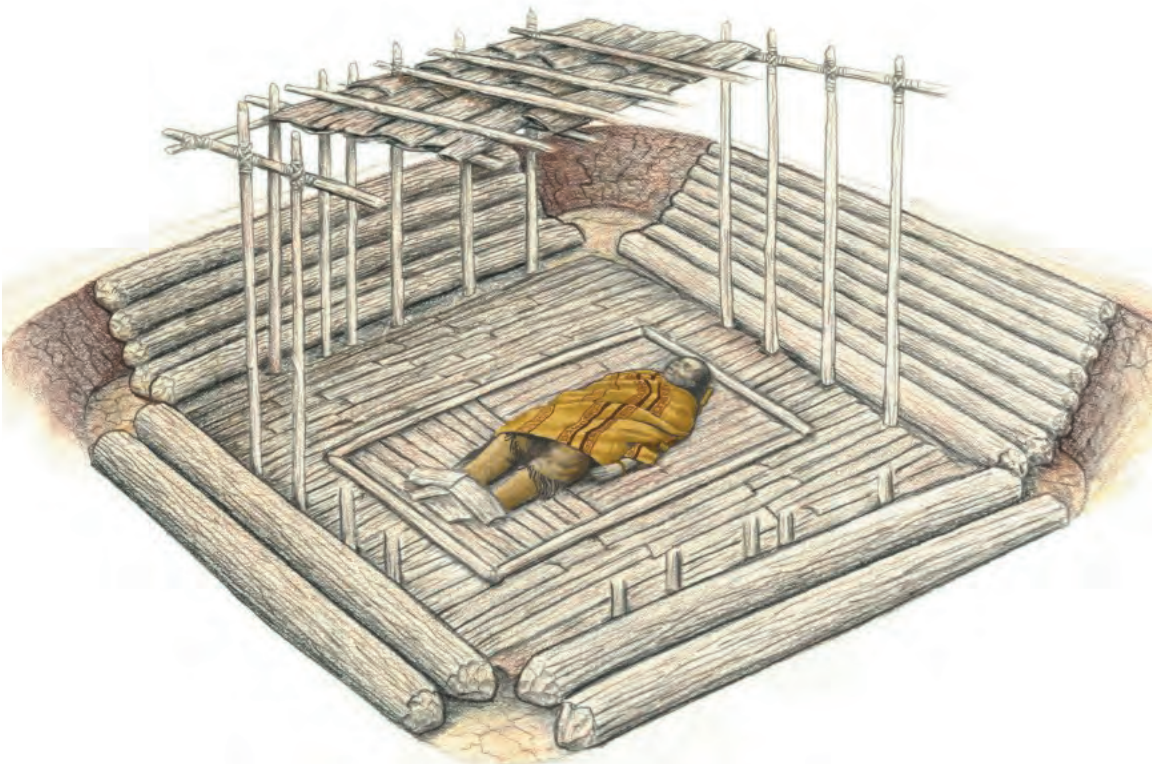
This cut-away view shows an elaborate Adena log tomb or crypt, complete with temporary shelter. It measures 17 by 15 feet and is 5 feet deep. The dead man's relatives had completely covered his body with bark strips. This picture shows the beginning stage of this process, so the bark strips cover only his feet. His body is partially wrapped in a boldly stiped woven blanket.

He is wearing tall, knee-high leather boots and leather pants. His long hair is tied back with cord. On his left wrist, he wears a copper bracelet. Unseen from this viewpoint, but placed near his right shoulder, is a tubular smoking pipe. He may have been a shaman to his people.

What we **do** know of Adena burial practices comes from their earth mounds. Archaeologists have documented a host of body processing/body disposal combinations, so it is clear that Adena peoples could choose from a variety of options. It is also clear that guiding loved ones from death to the afterlife could have involved many steps and considerable periods of time.

Body processing could include exposure to the elements (in a place where the body could decay without being disturbed), cremation, and in-the-flesh burial. Burial could take place inside a paired-post enclosure or it could take place in the open. These burials were then covered with an earth mound. Burial also could occur within or on a mound.

Only a fraction of the Adena people who ever lived in the Bluegrass were buried below or within mounds. They were adult men and women of all ages. Few were younger than twelve. Archaeologists think these people were important members of Adena extended families or lineages/clans. They may have held important social positions in their communities, like lineage/clan leader, diplomat, healer, or shaman. They also could have been exceptional in some way. Special burial ceremonies and, in some cases, elaborate burial offerings, recognized and honored these people and their lineage/clan.



Differences in a person's social status alone cannot explain the many paths to the Adena afterlife, however. The social standing of the person's relatives and the economic resources they could commit to the ceremonies likely would have played a part. Age, gender, and lineage/clan affiliation undoubtedly influenced how they buried a person. Something as simple as the season of the year also may have been taken into consideration. Here, we highlight the most common forms of Adena burial.

Cremation

Cremations did not occur as frequently as in-the-flesh burials, although they might represent untold numbers of individuals. Cremation took place away from the mounds. It also took place before mound construction, in the open and inside paired-post enclosures, and at the mounds. They built their crematory fires on prepared clay surfaces, or in shallow pits or clay-lined basins.

They cremated some people in the flesh. These they wrapped in fabric and laid them out, fully extended, on their backs. For others, the flesh was removed from the body before cremation. In these cases, they likely exposed the body to the elements until only the bones remained. Then they gathered up the bones and cremated them.

Once cremated, they had several burial options. Adena people rarely buried cremated remains where they burned them. Usually they processed the body in one place, then took the remains to another location for burial. Sometimes they scattered the remains on the floor of a paired-post enclosure. In other cases, they buried them in a pit dug into the ground or dug into an enclosure's floor. The remains could be kept



a carved stone platform pipe
from Boone County

separate, or mixed with the remains of others. Beneath some mounds, archaeologists have documented piles and pits containing the cremated remains of many individuals.

They placed offerings with some cremated people. Offerings placed prior to cremation show evidence of burning. Offerings were diverse, though not numerous. They included spearpoints, stone gorgets of various styles, oval pendants made from slate, hematite cones, and bone awls and combs. Offerings of ceramic vessels, red ochre, and marine shell or copper beads were rare.

In-the-Flesh Burial

In-the-flesh burial was the preferred form of burial associated with the mounds. Adena peoples laid the body out, fully extended on the back, usually with the head pointing toward the rising sun. They wrapped some people in textiles or skins; they sprinkled a few with red ochre.

Many were simply laid-out on the ground surface or on the floor of a paired-post enclosure. Some they placed in a simple pit. They lined some pits with clay and/or bark, and after the body was placed inside, they sealed the pits with the same materials.

They encased some people's bodies in a specially prepared, cleaned, easily workable clay the consistency of Silly Putty. The body was placed in a clay-lined pit or basin, or on a layer of prepared clay. Then they covered the body with a layer of clay. This clay became extremely hard when dry or burned, and the sealed grave was almost completely waterproof. This kind of burial usually contained only one person, but occasionally there were two.

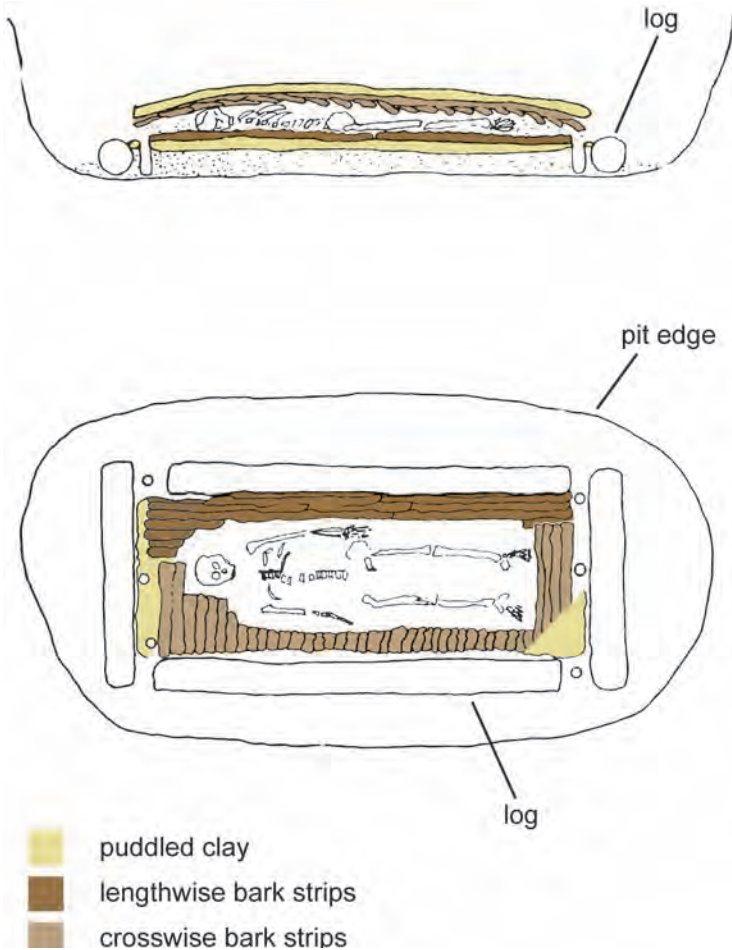
In-the-flesh burial most commonly took place within log tombs. The bodies of both men and women, individually but sometimes in pairs, were placed on the floor in the center of the tomb. Sometimes the body was placed on a layer of clay covered with bark, and then covered with a layer of bark and clay. This kind of log tomb burial is shown on page 36. In a few cases, small piles of cremated human remains accompanied tomb burials.

A variety of burial offerings, though few in number, were placed with some people. Certain objects may have been the deceased's personal items. These included chipped-stone spearpoints and drills; granite celts; sandstone nutting stones and whetstones; bone flakers; and ornaments like bone or freshwater shell beads.

Other items appear to have been made especially for burial, like decorated ceramic jars and expanded bar or reel-shaped gorgets made from banded shale or granite. Objects made from non-local materials,

like copper bracelets and marine shell beads, were particularly valuable. Adena groups could get these only through trade.

Snake skeletons placed in some graves probably represented ritual symbols. Smoking pipes may have been ritual paraphernalia. Undoubtedly, all burial offerings took on important symbolic or ritual meanings, whether placed with cremated individuals or those buried in-the-flesh.



A clay- and bark-covered burial within a Montgomery County mound. Relatives laid the lower bark strips lengthwise on a clay platform. Then they covered the body with bark strips, laid crosswise, and a layer of clay.

Log Tombs

Log tombs deserve special mention here. They were the most elaborate Adena burial form and were the most common type used toward the end of Adena history.

Most were rectangular. They built them in a variety of sizes: from 7 by 4 feet to 16 by 16 feet. They ranged from shallow (a foot) to very deep (eight feet). Some tombs were completely lined with logs, and others were only partially so. The following description broadly outlines how Adena tomb builders might have built a log-lined tomb like the one shown on page ??.

They began by digging a square or rectangular pit into the ground or into a mound. After removing all of the loose soil, the builders were ready to construct the tomb. For this, they needed different sizes of logs. They also needed pure, clean, moist, moldable clay. It was similar to the kind they used to make clay-sealed graves.

The tomb builders selected locally available trees, such as walnut, ash, elm, and hackberry, for the straightness of their trunks. A species' ritual significance undoubtedly was a factor in its selection, too. Using wood-handled stone axes, they cut down trees with a diameter of 6-12 inches. Leaving the bark intact, they neatly trimmed off all the branches using smaller, hand-held stone axes or celts. They dug the clay locally using digging sticks. Because they had no domesticated animals, they hauled these materials to the tomb site themselves.

Now they could begin tomb construction. The tomb builders lined the pit walls with logs of matching lengths: longer ones for the length and shorter ones for the width. They put a log at the base of each wall. Then, they neatly stacked additional logs of matching length on top of it, leaning them or pushing them against the pit walls. Often, they used clay to fill the spaces between the logs and to hold the logs in place.

After finishing the walls, they moved on to prepare the tomb floor and burial platform. The body would lie on the platform.

They had many options. They might lay down a several-inch-thick layer of pure clay to form a rectangular platform that nearly covered the pit bottom. Or they could arrange several logs on the floor to form the



platform. Then, they might put logs around the platform's perimeter and cover the platform itself with thin strips of tree bark. Or, smaller logs could be arranged on the center of the platform to form a small rectangle. Then they would cover the area inside the small rectangle with bark strips.

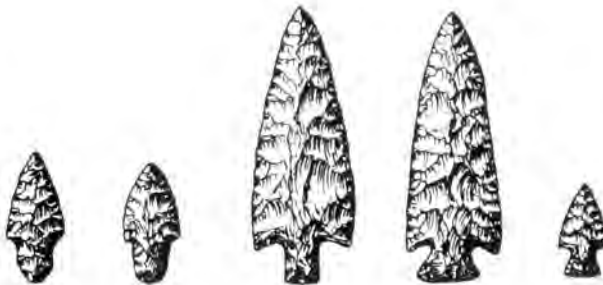
Adena tomb builders used wooden poles or logs to build a framework for the roof. Once the ceremonies were over, the framework was placed over the tomb opening. The tomb was sealed by covering the framework with bark or closely-set poles to keep soil from falling in.

Within some log-lined tombs, they set four to six small wooden posts (on average measuring three inches in diameter) deep into the ground along each side of the burial platform. Archaeologists think these posts supported some sort of temporary cover.

Temporary covers could have provided shade from the hot summer sun to those involved in the burial rituals. Alternatively, their presence could suggest that some Adena log-lined tombs may have been built to be reused. If this is correct, these tombs would have been *crypts*. Crypts are places where the dead are laid away to decompose. They are not dedicated to one person. Once the body is fully decomposed, the bones are gathered up and buried in another place. The bodies found within these types of Adena "tombs" would simply have been the last people buried there.

RELIGIOUS BELIEFS

Despite decades of research, archaeologists still have much to learn about Adena religious beliefs. This is because beliefs are some of the most difficult aspects of culture to discover.



The keys to that discovery are varied. They lie in the diverse Adena ritual sites and religious symbols. The complex patterns of how they buried their dead, the kinds of items they placed in graves, and where they placed each item also provide insights. So, too, do the many local and exotic objects Adena peoples used in their ceremonies. The beliefs and rituals of traditional hunter-gatherer-gardeners and moundbuilding peoples worldwide offer good comparisons. The oral traditions, art, and enduring ceremonies of American Indian peoples, whose histories link them to the Eastern Woodlands of North America, furnish particularly valuable information.

The archaeological record shows that Adena peoples had a rich religious life. It undoubtedly involved a variety of ceremonies and rituals: for example, ones that helped protect against illness and witchcraft; attended to important life events (birth, coming of age, and death); and explained the mysteries of life. It probably also included activities like feasting, singing and dancing, and perhaps saying prayers and fasting.

There also is no question that Adena peoples believed in an afterlife. Clearly, however, they did not think of death as a discrete event. For them, death was a process. Their complex burial program could involve many steps before a person's remains were finally laid to rest and their soul removed from the world of the living.

Like Eastern Woodlands peoples, the Adena may have believed in a layered universe, with the earth suspended between a sky world and a watery underworld. Mythical beings represented these two worlds. Heavenly birds or human-*raptorial* birds (raptors are birds-of-prey, like falcons or eagles) were linked to the sky world. Underwater monsters and horned serpents were linked to the underworld. Raptors or their images engraved on objects (see **Focus On Adena Engraved Tablets**)



may have symbolized the sky world's mythical beings. Sheet copper "antlers" or mica crescents may have been symbols of the underworld's supernaturals.

Archaeologists infer that ancestor worship also may have been an element of Adena religion. The importance of cremation may be related to this. In a single act, cremation removes a person's body and soul from the world of the living, and transfers both to the world of the supernaturals. Ancestor worship also would help explain why Adena people used ritual places, like mounds, for many generations. The practice of mixing together the cremated remains of several people suggests they placed more importance on the group than on the individual.

Mythical beings and Adena ancestors would have been only part of their spirit world, however. Like other traditional peoples, it is likely they also believed that every living thing, animal or plant, had a spirit. Even natural phenomena that seem to move or have life, like the sun, moon, stars, rivers, and wind, and inanimate objects had spirits.

Their most direct contact with spiritual powers may have come through their interaction with animal spirits. Adena people could have asked these spirits for gifts of medicines for healing, hunting, and warfare. Hunters seeking power could have called on these spirits, and they could have served as personal guardians.

It is likely that Adena religious leaders were shamans. Modern shamans serve as links between the human world and the spirit world. They make these links by going into trances. Through trances, shamans can heal the sick and interpret communications from supernatural beings or forces. In this way, shamans can help hunters or predict the future. They use special costumes and paraphernalia during their trances (see **Focus On An Adena Shaman**).

In Adena culture, probably



The single symbol engraved on this sandstone tablet makes it unique.

Focus On Adena Engraved Tablets

Adena people carved many plain, rectangular tablets from stone. They engraved designs in a style that is distinctively Adena on one face of only four Kentucky examples.

These tablets are palm-sized and measure about one-quarter to three-quarters of an inch thick. They were carved from shale, limestone, siltstone, or a very fine-grained sandstone. These tablets were found at the base of a mound or in mound fill.



The image on one tablet fragment is perhaps the easiest for us to understand today. It is similar to two complete engraved tablets recovered from Adena mounds in south-central Ohio. It is the highly stylized profile of a raptorial bird or a wild turkey. Its head and curved beak, folded wings, claw-shaped foot, and scalloped tail are joined to a thin, bar-like body.

Archaeologists think Adena peoples used engraved tablets as printing “plates” or blocks. These objects are flat and smooth. Traces of pigment, red in the case of one Kentucky tablet, are still present in some depressed areas. Red ochre powder, mixed with animal fat, blood, urine, or water, would have made a good liquid paint. Tanned animal skin or leather would have been excellent materials to print on.

The easier printing technique requires only an inked plate. It is then pressed firmly onto the material to be printed. For the other, the material to be printed has to be strong and moldable, like leather. The plate is inked, then the surfaces are wiped clean. This leaves ink in the tablet’s recesses. The printing pressure forces the material into the recessed areas. This kind of printing leaves behind an embossed, inked design.

Researchers think that Adena people created complex designs by repeatedly stamping the materials they printed on. A deerskin cape would have looked rich and textured if covered with rows or spirals of red falcons.



The tablet fragment at the top of this page, found at the base of a Montgomery County mound, is engraved with a falcon or hawk design. When whole, inked, and used as a printing plate, it may have produced a design like this.

both men and women were shamans. They would have led Adena groups in rituals that ensured successful harvests; fertility; the balance that maintained good health; and the continuation of the world order.

Judging by the recovery of tubular smoking pipes from Adena ritual sites, it seems likely that at least Adena shamans smoked before or during ceremonies. Ritual smoking has a deep history in Eastern Woodlands Indian culture. Smoking is a way to connect with the spirit world. Smoke itself is used to purify people and important ritual objects before ceremonies.

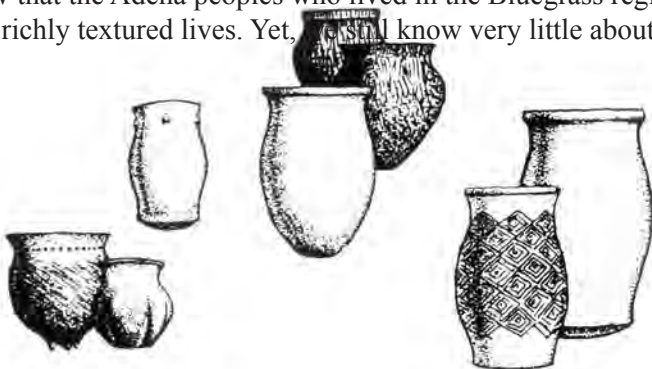
Archaeologists do not know what they smoked. It could have been tobacco or some other mixture of plant materials, like the inner bark of certain trees and the leaves of plants like sumac.

Copper and marine shell traditionally held symbolic significance for Eastern Woodlands groups. The former was considered a powerful underworld substance. Adena peoples' use of copper and marine shell objects as burial offerings suggests that they may have shared these beliefs.

The symbolic meanings of other elements of Adena religion are hidden from us in plain view. Archaeologists do not understand why Adena peoples sometimes purposefully buried body parts (most commonly single skulls, but articulated body sections, too, like limbs or trunks) below or within their mounds. What did their use of clay and bark in burials mean? Why did they sprinkle or smear red ochre on the dead and the offerings buried with them? What accounts for their tendency to bury the dead with their heads pointing to the rising sun?

YOUR ROLE IN PRESERVING THEIR LEGACY

Thanks to the work of countless individuals over many decades, we know that the Adena peoples who lived in the Bluegrass region led full, richly textured lives. Yet, we still know very little about their



Focus On An Adena Shaman

In 1950, below a small, Owen County mound, archaeologists found the remains of a 25 to 30-year-old man. They think he was an Adena shaman.

Someone, perhaps a male relative, had laid him, fully extended on his back, on a section of burned clay floor that had been covered with bark. The body had been wrapped in some sort of organic material, and then covered with a layer of bark. In the dead man's mouth was a modified wolf jaw.

The four front teeth in his upper jaw were missing. These were the only ones he lacked. He had lost them long before his death: the sockets that once held his teeth were no longer present. He could have lost those teeth due to accident or decay, but it would have been unusual to lose them all. It seems more likely that someone pulled them out on purpose.

The wolf "jaw" was actually just a section of a mature wolf's palate. It measured about as long as the animal's snout. Part of the palate had been cut into the shape of a spatula. Then, to form a smooth, flat, upper surface, the bones of the snout and the long roots of the front teeth had been ground away. Grinding had stopped just short of the roof of the mouth; thus, the spatula section was barely $\frac{1}{16}$ th of an inch thick. The whole object had been smoothed and polished.

Archaeologists think this modified wolf jaw was part of the shaman's ritual paraphernalia. He would have inserted it into his mouth through the space where his teeth should have been. He would have held it in place with his tongue. This object suggests that the wolf played a role in Adena ceremonies and religious belief.

Imagine what the shaman might have looked like during a trance or ceremony. He wears a wolf's skull on his head. In his mouth he holds the wolf jaw, the teeth visible as part of his costume. The animal's skin covers his body. Moving like a wolf, he imitates the animal's cries and howls. In his dress and through his actions, he is a wolf in the eyes of his patients or spectators.



The carved wolf palate above from Montgomery County is similar to the one found with the Owen County shaman.

daily activities, and only the most basic facts about their beliefs and ceremonies.

They did not write about their lives. The record of their history and culture is contained in the patterns of the objects that remain in the ground at their campsites and within their remarkable mounds and earthworks. Fragile, unique, irreplaceable: these sites are the Adena peoples' legacy. Because we live in their homeland, we have a responsibility to preserve and protect that legacy. We are the stewards of their heritage.

The growth of towns and cities threatens these sites daily. So, too, does farming and the construction of roads and bridges. Fortunately, programs are now in place to protect or excavate the most important sites before construction projects destroy them.

The willful actions of looters, however, also threaten Adena mounds and campsites. These people dig for artifacts and human bones. Then they sell them. These people can destroy several hundred years of prehistory in just a few hours. They rob all Kentuckians of the opportunity to learn about the past.

In Kentucky, disturbing someone's grave is illegal, no matter how long ago they were buried. Prehistoric mounds are considered cemeteries and are protected as such.

If you discover human bones in the woods, in a plowed field, or in your garden, leave them in place. Contact your county coroner, and local,



Threats to Adena mounds, like this one in Mt. Sterling, will continue to take place as modern people follow their own lives.

county, or state law enforcement officials. These authorities will decide if the remains you found are those of a disturbed burial or a recent person (murder victim or missing person). Should the remains be prehistoric, the coroner will contact the Office of State Archaeology or the Kentucky Heritage Council.

Possessing human remains also is illegal. If you discover human remains in an attic or basement, contact your county coroner and turn the remains over to that office. No other organizations or individuals have the authority to accept human remains.

But is there anything **else** you can do?

There is. If you discover a prehistoric campsite, village, or mound, don't disturb the ground. Record what kinds of artifacts you see and remember the location of the site. If it is a mound, note its size and shape. Then report your findings to the Kentucky Heritage Council in Frankfort or the Office of State Archaeology at the University of Kentucky in Lexington. To protect sites, these organizations keep information on site location confidential.

If someone asks to dig for artifacts on your land, make sure he or she is a professional archaeologist. Ask why they want to dig and what they hope to discover. Ask for their business card and check them out. Insist that, once they have finished their research, they give you a copy of the report they write.

Discourage looting by reporting cases that you know of to the state police or to an organization listed on the inside back cover of this booklet. Speak out in your community against the buying and selling of artifacts, the desecration of graves, and the looting of mounds and earthworks. Encourage lawmakers to pass stiffer penalties. The market in prehistoric artifacts encourages looting and leads to the destruction of archaeological sites of all kinds.

Once these ancient sites are destroyed, they can never be replaced. Then the record of these people is gone forever. Each of us has a responsibility to make sure that these long-ago mounds, earthworks, and campsites endure for future generations. **You** can make a difference!

To Learn More

If you are interested in learning more about the Adena mounds and earthworks of the Bluegrass, you may want to read *Kentucky Archaeology*, edited by R. Barry Lewis and published by The University

Press of Kentucky in 1996.

You also may wish to go to the Kentucky Heritage Council’s website. Click on *Kentucky Archaeology Video Series* (www.heritage.ky.gov/kas.htm). There you can find out about *The Adena People* video and download associated lesson plans. A companion guide for teachers, with lessons referencing this booklet and the William S. Webb Museum of Anthropology’s Adena database, also is available through the Museum or the Survey.



Private landowners play a significant role in preserving Adena mounds, like this tree-covered example in Fayette County.

The **KENTUCKY ARCHAEOLOGICAL SURVEY** is jointly administered by the Kentucky Heritage Council (State Historic Preservation Office) and the University of Kentucky Department of Anthropology. Its mission is to provide a service to other state agencies, to work with private landowners to protect archaeological sites, and to educate the public about Kentucky's rich archaeological heritage. For more information, write: Kentucky Archaeological Survey, 1020-A Export Street, Lexington, KY 40506-9854; or go to www.heritage.ky.gov/kas.htm

The **KENTUCKY HERITAGE COUNCIL** has a mandate to identify, preserve, and protect the cultural resources of Kentucky. The Council also maintains continually-updated inventories of historic structures and archaeological sites, and nominates properties to the National Register of Historic Places. By working with other state and federal agencies, local communities, and interested citizens, the Council seeks to build a greater awareness of Kentucky's past and to encourage the long-term preservation of Kentucky's significant cultural resources. For more information, write: Kentucky Heritage Council, 300 Washington Street, Frankfort, KY 40601; or go to www.heritage.ky.gov

The **UNIVERSITY OF KENTUCKY Department of Anthropology** has a mission to educate students and promote scholarly research in the field of archaeology. The Department also is charged by state law with enforcing and administering the State Antiquities Act, which prohibits the destruction of archaeological sites on state and municipal lands. It maintains comprehensive inventory files and records on archaeological sites in the Commonwealth through the **Office of State Archaeology**, and supports the **William S. Webb Museum of Anthropology**, the state's major curation repository for archaeological collections. For more information, write: Department of Anthropology, University of Kentucky, 211 Lafferty Hall, Lexington, KY 40506-0024; or go to www.as.uky.edu/anthropology/museum.html).

The **KENTUCKY TRANSPORTATION CABINET (KYTC)**, Division of Environmental Analysis (DEA) is responsible for providing environmental guidance to Transportation Cabinet Employees, to contractors, and the general public pursuant to Section 106 of the National Historic Preservation Act of 1966. DEA ensures that planning, design, construction, operation, and maintenance projects that have the potential to impact significant archaeological sites and historic structures are identified, evaluated, and their impacts minimized. For more information, write: Division of Environmental Analysis, KYTC, Station W5-22-02, 200 Mero Street, Frankfort, KY 40622; or go to www.transportation.ky.gov

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To purchase a booklet, contact the Kentucky Archaeological Survey.

Discounts are available to teachers on orders of 20 or more.

