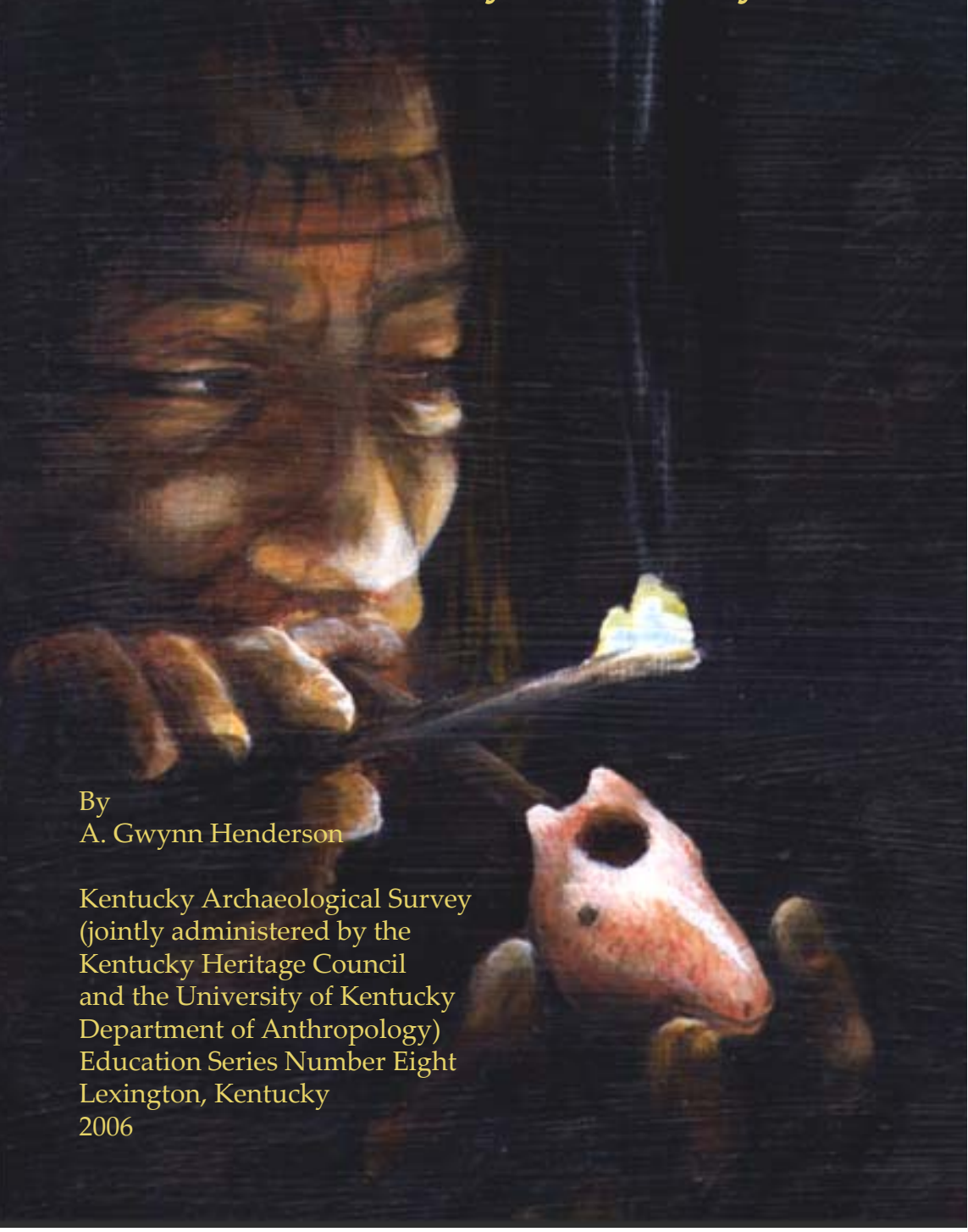


The Prehistoric Farmers of Boone County, Kentucky

By
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Kentucky Archaeological Survey
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For the citizens of Boone County, who are the stewards of the farmers' history.

A prehistoric farming culture, called Fort Ancient by archaeologists, lived in Boone County, Kentucky beginning around A.D. 1000. This booklet presents what we currently know about how they lived and how their way of life endured, and changed, over the course of their 700-year long history.

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Images of early Boone County used courtesy of the Boone County Historic Preservation Review Board. Depression-era archaeology photographs used courtesy of the William S. Webb Museum of Anthropology; other photographs and graphics by David McBride, David Pollack, and Phil Mink. Original artwork by Sarah Jane Gray, Rebecca K. Agner, Rachael Agner, and William M. Melvin (used courtesy of the Kentucky Historical Society). Bell-shaped pit drawing from digital.library.upenn.edu/woman/buffalo/garden. Section of Lewis Evans' map of 1755 from lcweb2.loc.gov/cgi-bin.

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Cover Illustration: Artist's depiction of a Petersburg elder, perhaps a religious leader, lighting his clan's pipe with a length of cane. This deer head effigy pipe was recovered from the grave of a man in his early 40s.

LOOKING INTO THE PAST

On a crisp, fall, Boone County morning, take a drive west along Kentucky Highway 20. Watch the map carefully, and pull over before the road curves sharply to the left and drops down into the Ohio River floodplain. Then get out and stand on top of the bluff.

What a view!

Directly below you, tucked between the river and the river bluff, is the town of Petersburg, population 450. Homes and businesses follow a grid pattern aligned with the sparkling river. You can see more church steeples than you might expect.

Let your eyes follow the river downstream. A few vehicles move along the highway. Cows graze in

pastures. Away in the distance, you can make out a cemetery. It's a greenish island in a sea of dry and browned corn fields.

But don't turn away so quickly. There's more to this patch of land than meets the eye.

If you'd stood on this bluff top in the mid-1800s, you'd have seen a riverbank lined with boats and the bustling of commerce in a river port. Petersburg was the largest community in Boone County back then. If the wind was blowing just right, you'd smell the distinctive sour aroma of fermenting whiskey mash coming from the Boone County Distilling Company.

In the late 1700s, a few log cabins would have been scattered on



A view of Petersburg from the bluffs in the early 1900s.



Petersburg in the mid-1800s. Note the Boone County Distilling Company on the edge of town.

the floodplain there. This was Tanner's Station, the first European settlement in the county. A much shallower and narrower Ohio River flowed far below the terrace edge then. From your vantage point, you'd almost have to crane your neck to see it.

But that's not all. Be patient. Let another century melt away. It's the mid-1600s, and a large Indian village surrounded by its farm fields lies below you. And if you can wait even longer, until the 1200s, a smaller, perhaps circular, Indian village surrounded by its farm fields will appear before your eyes.

All of these different communities, 800 years worth, visible from this one bluff top!

The middle Ohio River valley was once home to many prehistoric farming communities like the ones at Petersburg. The remains of these villages and campsites are scattered across floodplains and creek valleys, and rolling upland ridge tops.

This booklet outlines what we currently know about these people's history and way of life in one small corner of this vast region: Boone County, Kentucky. It is pieced



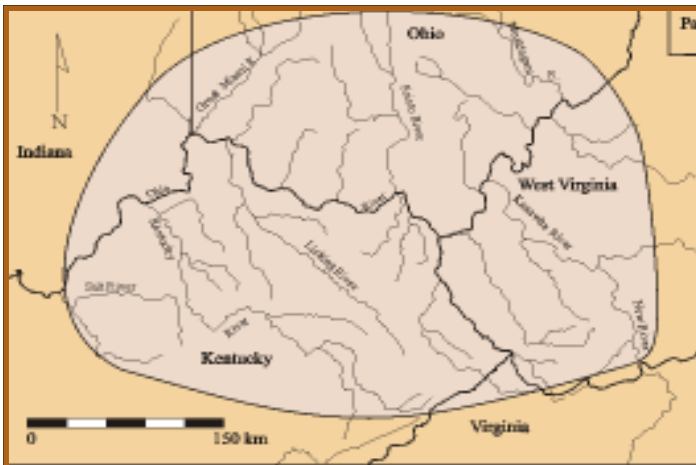
Depression-era excavation of a Fort Ancient village on lower Mud Lick Creek.

together from research carried out at sites all across the county, and at sites in central Kentucky and southwestern Ohio. It spans nearly 700 years.

As you read, keep in mind there is much we still do not know. Remember, too, that there is much we will never know: like the names they called themselves or the actual

historical events that took place and the people who initiated them.

Before we consider their fascinating history, however, let's turn to a brief description of the Fort Ancient farmers' heritage, the natural resources on which these people depended, and their farming and subsistence practices.



Fort Ancient groups lived throughout what is now southern Indiana, southern Ohio, central and eastern Kentucky, and western West Virginia.

THE FARMERS' HERITAGE

Village farmers were not the first people who lived in Boone County. Their ancestors arrived well over 11,000 years ago.

The county was a different place back then. Though the glaciers had retreated thousands of years earlier, the climate still resembled that of Canada's today. Evergreen forests and savannah grasslands covered the county. Salt licks and saline springs, like those at Big Bone Lick, attracted huge Ice Age *megafauna* like mastodons, giant beaver, and ancient horse and bison.

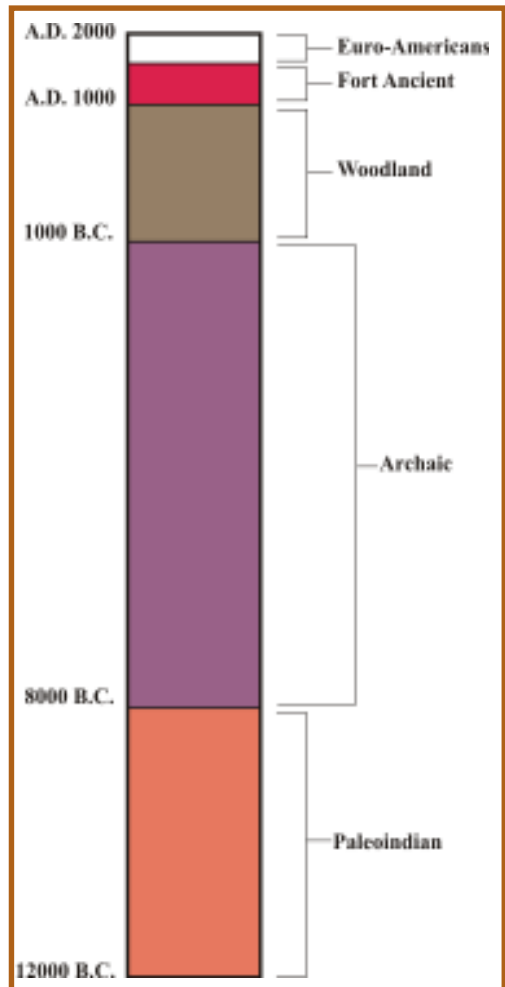
The first people, whom archaeologists call Paleoindians, mainly hunted the megafauna, but they also took smaller animals and collected wild plant foods. They lived in small family groups in large territories, moving often to take advantage of the animal resources. Archaeologists have found examples of their fluted, lance-shaped spear points at Big Bone Lick.

Beginning around 10,000 years ago, Boone County's climate became more like today's.

Time periods in Kentucky history, showing when Fort Ancient farming communities flourished.

Deciduous forests of diverse hardwood species replaced the evergreens and grasslands. The megafauna became extinct or moved northward. Animals that we would recognize today appeared in the county.

The nomadic hunter-gatherers adjusted their way of life to these



new circumstances. Archaeologists call them the Archaic peoples, and their way of life endured in Boone County for over 7,000 years.

These Archaic peoples lived in larger groups and moved within smaller territories. They hunted with a spearthrower, or *atlatl*, and a dart, which was an improvement over their ancestors' spears. Plants became a more important food resource.

Archaeologists have found many small Archaic hunting camps near the airport in Boone County. Judging by what they left behind, these people lived at these seasonal camps only briefly. Later Archaic groups intensively occupied a camp near Big Bone Lick. They cooked deer in earth ovens they dug into the ground, and they left behind trash-filled pits. A few people died there, and their relatives buried them in circular pits dug into the ground.

By about 3,000 years ago, Boone County's prehistoric hunter-

gatherers began to experiment with growing native plants. Archaeologists call these hunter-gatherer-gardeners the Woodland people. They lived in larger groups than their Archaic ancestors and generally moved less often. They hunted the same animals with dart and atlatl, and they collected the same wild plants. But they grew squash and gourds in small gardens near their base camps and weedy annuals that produced nutritious starchy seeds.

Unlike their ancestors, these Woodland peoples made containers from clay. But these thick-walled jars and heavy basins did not replace the containers of old, sewn together from skins, carved from wood or soft stone, or woven from fibers. Archaeologists have found fragments of these vessels at a camp near the airport in Boone County.

One group of Woodland gardeners, the Adena people, lived in Boone County between about 2,500 and 1,800 years ago. They buried their dead in conical mounds of earth. Often they placed their mounds on Ohio River bluff locations with sweeping views of the valley. Over time, as more people were buried, each mound grew larger and taller, built up over time with basketloads of soil. Over 15



Archaic dart points.

Adena mounds are still scattered across Boone County's uplands. Adena people sometimes were buried wearing ornaments made from non-local materials, like copper, marine shell, and mica. Archaeologists think that the Adena people were involved in far-reaching trade networks.



Adena people often built burial mounds over the remains of paired-post, roofless, circular enclosures, as at this Boone County location.

After about 1,600 years ago, Woodland peoples built fewer and fewer earthen burial mounds. Long-distance trade shrank to a trickle.

Later Woodland peoples lived in either small or large villages. They organized their larger villages around a central, open plaza. At a site in Boone County, they built a small stone burial mound next to where they lived. Eventually, however, Woodland peoples stopped building even this kind of mound.

Woodland peoples' jars were now thin-walled and finely made, their exteriors marked with the impressions of cord-wrapped paddles. These vessels were perfectly suited to cooking the seeds the people harvested from their gardens. Men hunted with a new kind of weapon: the bow and arrow.

Around 1,100 years ago, Woodland peoples' lives began to change even more. These changes were wrapped up with corn and beans, new plants that had been domesticated thousands of miles away.

Archaeologists call these hunter-gatherer-farmers the Fort Ancient peoples.

They lived in Boone County for nearly 700 years. Measured by their average lifespan (about 45 years), this means their history spans nearly 16 generations. Many changes took place during those centuries: the styles of their pottery, the plans of their villages, and the ways they buried their dead. Over time, they developed trading networks that extended for long-distances, and their political leaders took on new responsibilities. What apparently remained constant was their commitment to their hunting-gathering-farming way of life.

THE LAND AND ITS RESOURCES

Boone County provided rich and varied resources for the Fort Ancient peoples. The interior uplands and floodplains were covered with a mixed hardwood forest. Some upland areas may have resembled the open savannahs of central Kentucky. Stands of cane grew along the river and in some areas in the uplands. Numerous fresh water springs and salt water springs/licks were scattered throughout the county. Cane, wild rye, and clover may have grown in these areas. Some patches of open grassy vegetation also may have grown along the animal trails that connected the salt springs/licks, and in the places where villages had once stood.

These village farmers hunted mainly the animals of the forest and

forest-edge. The ones they depended on most for food were deer, elk, bear, and turkey. Smaller mammals, like raccoon, rabbit, and squirrel, and other animals, like opossum and Canada goose, were supplementary. They occasionally ate fish, turtle, beaver, and freshwater mussels. Sometime after A.D. 1400, modern buffalo appeared in Boone County, and these Fort Ancient peoples added this meat source to their diet, too.

Animals provided more than just meat, though. Their hides and skins were used as clothing, footwear, and bags. Their bones furnished the raw materials for tools, such as awls and fish hooks; ornaments, such as beads and pendants; and instruments like rasps and flutes. Freshwater mussel shells were used as scoops and hoes,

A view of the Ohio River Valley from a Boone County Adena site in the late 1930s.

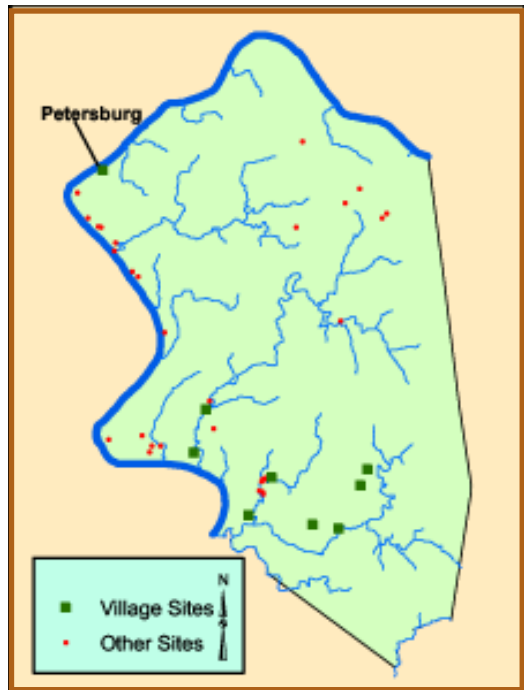


and were drilled into tubular or disc-shaped beads.

Wild plants also were a rich source of food. These included smartweed, sumac, blackberry, plum, pawpaw, and grape; probably fungi like morels; and nuts like hickory, black walnut, hazelnut, and acorn. They put these and other wild plants to use as dyes and medicines, too. Weedy plants, like native thistle and Indian hemp, furnished the fibrous raw material for cord and yarn. This they turned into fishnets, rope, bowstrings, bags, and clothing. Hardwoods, like hickory, ash, and black locust, provided the raw materials for bows, digging sticks, mortars and pestles, while they made arrows from cane and dogwood.

What they ate in quantity were the plants they grew together in their fields. The main ones were the newcomers, domesticated beans and Eastern Eight-Row corn (a variety of flint corn with four pairs of rows on each cob) and squash, which had been used in Boone County for thousands of years. From the domesticated native plants of their ancestors, they grew only goosefoot and sunflower. They also grew gourd and tobacco. The latter they used both recreationally and ritually.

Boone County's list of available natural resources also included the



A map of Boone County showing the locations of Fort Ancient sites. Note the southern village cluster.

rich deposits of glacial gravels along the county's western margin. They selected granitic rocks for the manufacture of *celts* (an ax without a groove that was fitted into a wooden handle). Flint, or *chert*, nodules in these gravels were the raw material of choice for arrowheads, scrapers, knives, and drills. They used granitic hammerstones in the manufacture of these chipped stone tools.

Sandstone was used to make *abraders* (stones that functioned like sandpaper), and they shaped sandstone and siltstone into smoking pipes that took many different forms over the course of their history. The

limestone that underlay the rest of the county provided raw material for pipes, too. They chipped flat, round disks out of limestone and used limestone slabs for the sides and lids of their stone box graves. They also dug clay from creek and river bank deposits to use in the manufacture of their ceramic containers.

Fort Ancient farmers needed many of the same things farmers need today – rich soil that is easy to work with the available tools, adequate rainfall, and a climate conducive to growing their crops. In Boone County, the best agricultural soils are found mostly along the Ohio River and its tributaries, although some ridge top soils also are good. Thus, most documented prehistoric farming villages in the county are located in river- and creek-side settings.

Rainfall and climate were apparently adequate for successful farming. But Fort Ancient farmers did not depend on the plow and fertilizers. These people used digging sticks, hoes fitted with an elk *scapula* (shoulder blade bone) or heavy freshwater mussel shells, fire, and long periods when the fields were not planted. This kind of farming is called *snidden horticulture*.

Prehistoric farmers set ground fires each year to clear their fields of

weeds and scrubby growth before they planted their crops. When crop yields diminished in a field, which was usually after the third year of planting, they made a new field a bit farther from their village. Using groundstone celts, the men would cut down the smaller trees and saplings and using fire, they would burn away all this brush. The men would remove a wide strip of bark from around the largest trees, which would eventually kill the trees. This is a process called *girdling*. These girdled trees produced no shade over the new fields, but they did serve as good sources of firewood.

Thus a patchwork of fields surrounded each village: the new ones; the established ones, where the year's crops grew; and the recently and not-so-recently abandoned ones where the land rested (or lay *fallow*). A succession of weeds, brush, small trees, and larger trees grew in the abandoned fields.

They moved the village when no productive fields were close enough to walk to in a reasonable amount of time. Other environmental reasons for moving included depleted village firewood stores and the impracticality of rebuilding vermin-infested houses. Then the people would move their village to another spot, the new fields having been prepared in advance.

A FARMING LIFESTYLE BEGINS A.D. 1000-1200

People living in Boone County turned to farming relatively quickly during the 200-year period between A.D. 800 and 1000. They embraced corn and beans, stopped planting most of the weedy plants, and ate fewer nuts. They continued to collect wild plant foods and hunt, but in time, these foods made up less and less of their diet. The crops they grew, particularly corn, took their place. By A.D. 1000, their annual subsistence calendar was set: plant in spring; tend in summer; reap and store in fall; hunt in winter.

As they turned to a farming way of life, the Fort Ancient peoples began to make changes in other aspects of their lives, too. They chipped their arrowheads into isosceles triangles, with either

straight sides or convex/flared bases. When making jars, in addition to adding to or *tempering* the clay with crushed limestone particles, they began to use crushed freshwater mussels, too. Shell allowed potters to



Section of a plain-surfaced jar from an early farming village in Boone County.



Examples of arrowheads with convex/flared bases.

make tougher and stronger vessels with thinner walls.

Unlike the jars of their Woodland ancestors, the Fort Ancient farmers' pots were mainly plain surfaced. They also added lug handles to some and to others they riveted thick strap handles. They

decorated a few by finely incising geometric designs, like line-filled triangles, into jar necks.

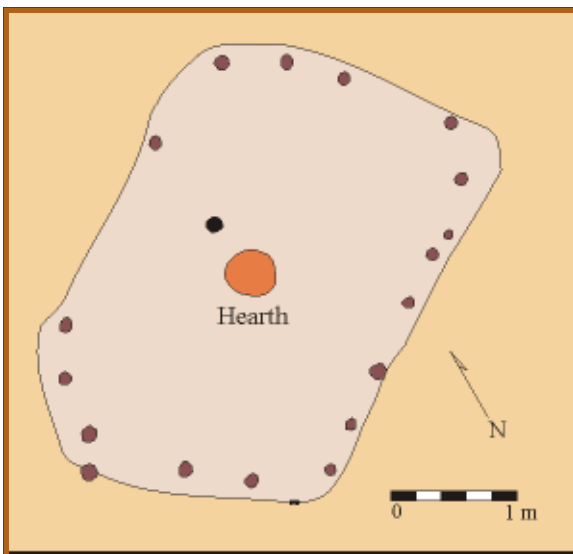
Because archaeologists have investigated very few early Fort Ancient farming settlements in Boone County, we don't know how big they were or how they were organized. However, judging from the size of one early Boone County Fort Ancient community, their settlements were larger than those of their immediate Woodland ancestors. Boone County's early Fort Ancient farming villages might have looked like those in central Kentucky at this time. If so, then they probably would have consisted of six to ten scattered houses with storage pits and outdoor work areas located near each structure. Houses may have been small and square,



Bone awls made from the forearms of deer.

with a floor area measuring about 113 square feet. The population of these communities may have ranged in size from 25 to 40-50 people.

Archaeologists do not know how these earliest Fort Ancient farmers buried their dead, though it is clear that they did not build mounds. They apparently did not bury people near where they lived, as archaeologists have found no burials in these early settlements.



Floor plan of an early Fort Ancient house.

CIRCULAR VILLAGES AND EARTHEN MOUNDS A.D. 1200-1400

We know much more about Fort Ancient life during this 200-year period. That's because archaeologists have documented and researched many more sites occupied during this era. In Boone County, they have recorded at least eight villages and camps.

GROUP TERRITORIES

Fort Ancient farming practices and other environmental

considerations required Fort Ancient farmers to move their villages periodically. Information from ethnographic and historic sources suggests these moves occurred every 10 to 50 years. This would mean that, all things being equal, a single group could have built anywhere from four to twenty villages over a 200-year period. Of course, depending on environmental and/or social circumstances, groups might have occupied some places longer



A circular Fort Ancient farming community. Note the presence of a low burial mound on the far edge of the plaza.

than others. The cluster of villages in the southern part of Boone County might represent the settlement record of a single Fort Ancient group.

Groups lived within a particular region or territory they considered their homeland. Although we do not know how large, on average, these territories were, we do know they had to be large enough to sustain the group. These territories would have encompassed areas of good farmland, and good hunting and gathering grounds. They also would have been areas where adequate amounts of stone and clay resources for tools and containers could be found, as well as sources of fresh water, like creeks or springs, and salt licks. Trails would have linked groups in neighboring territories.

Buffer areas separated these territories. These may have been hunting grounds used by neighboring groups but claimed by neither.

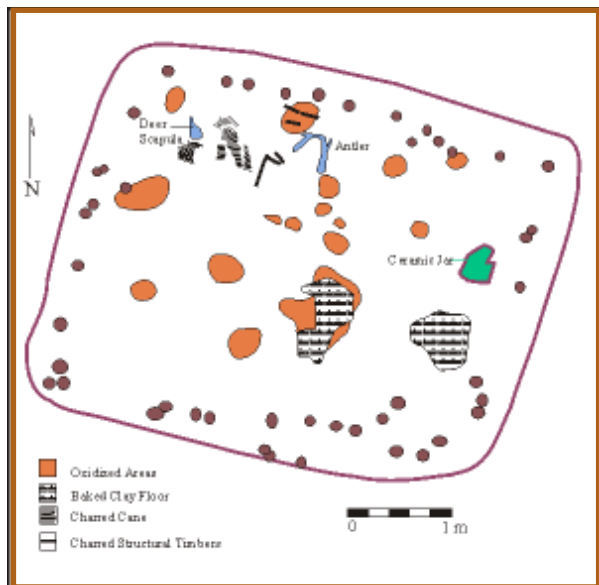
VILLAGES

Throughout Fort Ancient history, the village served as the center of domestic life. After A.D.

1200, it also was the center of religious and ritual life.

The villages of this period were generally larger than earlier settlements. These communities may have consisted of 20 to 30 rectangular houses and boasted populations of 90 to 180 people. Archaeologists have documented examples of C-shaped, U-shaped, and ring-shaped or circular villages for this time period. We know the most about how these people organized the space within their circular villages.

If a community's focal point could be considered the village, then the focal point of a circular village was its plaza. The plaza was community space. Here the villagers carried out a variety of village

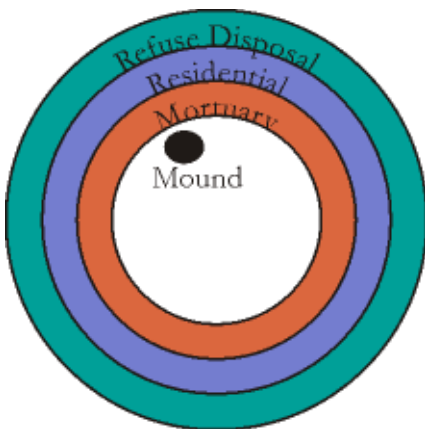


Map of a typical Fort Ancient house of this period.

activities, ceremonies, and communal events. A plaza could measure between 82 and 262 feet in diameter. The one at the circular village located along lower Mud Lick Creek, measured 150 feet in diameter. In testimony to the plaza's importance, the people kept it clean of refuse and trash.

The cemetery zone surrounded the plaza. Adults and juveniles, men and women, were buried in simple pits dug into the ground, laid on their back in an extended position or with legs semi-flexed. Items were rarely buried with the dead, but sometimes their relatives placed a personal item, like a pipe or a few shell beads with a loved one.

Sometimes a community set aside another area (or areas - there were two at the lower Mud Lick



Activities of daily life were carried out in zones arranged concentrically around the plaza: the cemetery zone; the domestic/habitation zone; and the refuse disposal zone.

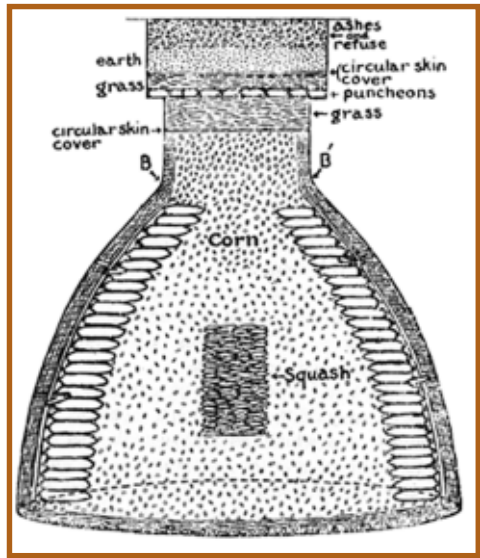


Diagram of a bell-shaped storage pit.

Creek village) within the village to use as a cemetery. Here, they would build a low earthen burial mound. Judging from mound height and the fact that archaeologists have documented only three Fort Ancient mounds in Boone County, we think that Fort Ancient moundbuilding may have lasted for less than 150 years.

At most sites, they placed the mound within the plaza or along its edge. But at the lower Mud Lick Creek village, the people built their mound on a segment of the domestic/habitation zone that had never been lived on. It had been used only as a special ritual area.

Sometime prior to building the mound, they had built a roofless, circular enclosure on this spot, measuring 43 feet in diameter, by



Photograph of a burial mound at the lower Mud Lick Creek village. The men stand on the mound's north-south axis.

setting posts into the ground. Once this enclosure had served its purpose, they dismantled it and built in its place two large, roofless rectangular enclosures, also of post

construction. The first measured 40.5 by 79 feet. The second, later enclosure, was a bit larger. Imagine the size of a double-wide mobile home, and you have a fairly good



Post patterns outline the three enclosures built before the burial mound.

idea of the size of these rectangular enclosures. Patches of burned soil suggest that ritual activities took place within all three enclosures.

At some point, the people dismantled the third enclosure and began to use the spot as a cemetery. They buried people in this locale in exactly the same way they buried people in the cemetery zone around the plaza edge. And as best we can tell, they buried the same kinds of people, too: men and women, adults and teenagers. What was different

was that they mounded-up soil taken from the village to cover these graves. We know this because the mound fill contained domestic refuse, like broken animal bones, fragments of pottery, and stone tool-making debris.

In time, an earthen mound built up directly over the spot where the enclosures had once stood. Eventually, the mound would stand five feet tall and have an oblong shape, reminiscent of the length and width of the largest rectangular enclosure.

Most of the 21 people in the mound were buried in two clusters: one located at the center of the mound and one located on its northern side. Only one person was buried with any non-perishable items. Among other things, the grave contained a



Depression-era workers expose a rock pavement within the mound at the lower Mud Lick Creek village.

groundstone celt; four arrowheads, and a chipped stone drill.

The presence of rock “pavements” (concentrations of fist-sized limestone rocks) in certain sections of the mound suggests that ritual activities, in addition to or as part of the burial rites, took place there. Burial in this spot stopped after the people capped the mound with a layer of clay that in some places measured one-foot thick.

Domestic activities like cooking and eating, tool making/upkeep, trash disposal, sleeping, and socializing took place in the zone situated beyond the cemetery. Houses stood in this zone, which measured about 100 feet wide.

Houses of this period were larger than earlier ones. Rectangular in shape with rounded corners, they measured anywhere between 200 and 400 square feet. The people set wooden posts of white oak, hickory, or some other rot-resistant hardwood into the ground to form the basic house outline. Then they attached a framework of interwoven branches or saplings to the posts, and finally they covered the framework with sections of bark or mats. The lack of center poles suggests they made their roofs of bent saplings, or used a ridge pole. Floors were hard-packed earth. For



Fragment of a jar with a distinctive curvilinear incised decoration on the neck.

some houses, the people dug shallow rectangular basins into the ground, and then set the posts along the basin edge.

Around each house were storage pits and perhaps earth ovens (deep pits used for cooking), both of which they later filled with trash; spots where fires were built right on the ground surface; and scattered heaps of domestic debris. These materials reflect the range of household chores that took place outside and around the perimeter of the houses.

Behind the houses at the floodplain villages, inhabitants dug deep, bell-shaped storage pits and pits just for trash disposal. Since soils in these locales were easy to work and drained easily, storage pits could store plant foods without spoilage for at least one year. Archaeologists calculate that two to three pits could hold enough food for six to seven people for one year.

At the ridge top villages, the



Jar decorated with a rectilinear design on its neck.

poorly-drained, clayey upland soils would not permit the excavation of deep, bell-shaped pits. At these villages, the people probably stored plant foods in above-ground silos made in much the same way as their houses. Or perhaps they hung

braided lengths of corn from the ceiling of their houses.

Heaps of debris from cleaning out hearths, sweeping out houses, and cleaning up outside work areas also accumulated behind the houses. Infants

and children younger than three were buried in the pits and debris in this zone. Given the high infant mortality, there was no disrespect intended by this practice. Perhaps these young children were not considered adults yet, and therefore they were not buried like adults.



Thick, triangular-shaped jar handle with a chevron design. The vessel's neck is decorated with a curvilinear design.

Villages were not the only kind of Fort Ancient site in Boone County at this time. Archaeologists also have found isolated Fort Ancient arrowheads in a variety of topographic settings. This testifies to the fact that hunting took place wherever the game led. Sometimes a few points are associated with small scatters of pottery and the debris from stone tool making. These sites may represent the locations of hunting camps.



Fragment of a plain jar. It has a thick triangular-shaped handle with "ears" that extend above the rim.

TECHNOLOGY

Fort Ancient women made the same kinds of jars during this period as they had before: medium-sized examples with slightly flared, vertical, or slightly inslanting rims. They used these vessels for cooking and storage, and also during rituals.

But while they continued to mix shell and limestone into the local clays, they tempered more jars exclusively with shell than they had in the past. Potters continued to make jars with smoothed exterior surfaces, and those bearing the impressions of having been hit with cordwrapped paddles. Jar handles now were thick and triangular-shaped, but still often

riveted to the vessel. They decorated many of their jars by notching the lips, or incising curvilinear geometric designs into the vessel neck or on a thickened rim band using tools that made much wider lines than before.

Flint knappers of this period still made small, triangular arrowheads with straight sides or convex bases, but serrated edges became popular.

Serrated points had almost triple the cutting area of non-serrated points. This facilitated bleeding of the game and therefore made tracking the wounded animal easier.

These Fort Ancient farmers began to make chipped circular disks in many sizes from thin fragments of limestone. Researchers think they



Serrated Fort Ancient Arrowhead.



Engraved sandstone elbow-shaped smoking pipe.

may have used these disks during hide processing. The people used small, circular, ground sandstone disks, called *discoidals*, more frequently during this period than previously. They may have served as gaming pieces. Elbow smoking pipes made from sandstone were the most common during this period.

They made a variety of shell and bone tools and ornaments. The tools they used in pursuit of daily tasks like fishing, preparing skins for use as clothing or footwear (removing the hair, punching holes, sewing skins together), and removing kernels from corn cobs. They wore ornaments as a daily expression of beauty and also during more formal rituals and ceremonies.

TRADE

During this period, Boone County's farmers led a fairly insular

existence. Certainly they knew of and probably interacted with other nearby Fort Ancient groups. Their styles of pottery and arrowheads share many characteristics with those of villages located along the Ohio, Great Miami, and Little Miami rivers immediately north and northeast of the county.

In contrast, Boone County residents apparently had much less contact with Fort Ancient farmers living in central Kentucky south of where Dry Ridge, Kentucky now sits. Archaeologists infer this because their pottery and arrowheads look different.

Contact between Boone County farmers and Mississippian farming cultures was minimal. The closest Mississippian mound centers, towns, and villages were located at the Falls of the Ohio, about 130 miles downstream. Nevertheless, it is possible that stories of these farmers, or of Mississippian groups living even further away (at Angel Mounds near what is now Evansville, in eastern Tennessee, or at the enormous center at Cahokia in what is now East St. Louis), filtered through native networks to the Boone County farmers.



Chipped limestone disk.

SOCIAL AND POLITICAL ORGANIZATION

Drawing on descriptions of other traditional farming peoples, as well as on artifact patterns, village layout, and burial practices, archaeologists think that the Fort Ancient farmers of Boone County were tribal societies. This means that kin relations, more than anything else, defined how people interacted with one another.

In tribal societies, everyone was equal. The women farmed, gathered wild plants, and managed the domestic front. The men were responsible for clearing the fields, hunting and fishing, and external village affairs such as trading, raiding, and politics. Any social differences that existed were defined on the basis of a person's age, gender, and personal achievements

(such as skill as a hunter or diplomat, or experience as a healer or involvement in ritual). This meant that almost anyone had the potential to achieve higher social standing during their adult life.

In some communities, some adults were buried in a mound. Perhaps these people were important within the context of the community as a whole, or perhaps they were buried in the mound as a representative of their clan or lineage.

Politics in Fort Ancient society during this period was not centralized. Instead, every clan or lineage had a leader. There would have been several of these leaders in each village. So villages would have had very fragile political structures, tending towards factionalism and fragmentation due to internal disputes.

Like leaders in all tribal societies, Fort Ancient leaders would have been responsible for settling arguments between villagers; coordinating agricultural tasks, the exchange of local foodstuffs, and defense; scheduling religious ceremonies; and negotiating alliances with other villages. Leaders were determined by the strength of their personal character and achievements,



Sandstone discoidal.

not on who they were related to. Often older members of the community, leaders did not hold extensive political power. They led by consensus.

Like the movement occasioned by environmental issues, social situations also could cause communities to move the village. These situations could include real or imagined threats from neighboring groups or supernatural forces, as well as social tensions set-up by personal arguments or disagreements between individuals of different clans or lineages, or by threats/accusations of witchcraft.

This kind of movement was unpredictable. If the community's leaders could not

successfully diffuse village tensions through discussion and diplomacy, individual households or even whole clans could leave and start their own village. This is called community *fissioning*. It is possible that some of the smaller Boone County villages that date to this period represent communities that broke away from larger ones due to these kinds of unresolvable internal community social tensions.

RELIGIOUS BELIEFS

It is hard to know much about Fort Ancient religious and spiritual life of this period. However, based on studies of traditional farmers and historic descriptions of tribal peoples in the Eastern U.S., we can infer that Boone County's Fort Ancient farmers likely believed that humans were part of a world in which all things, living or not, had spirits. Natural phenomena that appear to move or have life (like the sun, moon, stars, rivers, and wind) had spirits, too. The responsibility of Fort Ancient shamans was to bring these spirits to the people. The careful way in which these people buried their dead also signals their belief in an after-life.



Flute made from a bird wing bone.

LARGE VILLAGES AND CONTACT WITH OTHERS A.D. 1400-1690

A.D. 1400 was a watershed in Fort Ancient history. The farmers began to make new forms of ceramic vessels and arrowheads after this date, and changed how they buried their dead and arranged their villages. They became more involved in trading with groups living outside Kentucky. The appearance of a few new religious symbols implies that they also were now open to new ideas and ways of looking at the world.

VILLAGES AND CAMPS

If the archaeological information from Boone County is truly representative, it appears that fewer farming communities existed in the county after A.D. 1400. Archaeologists have identified only two conclusively: one at Petersburg and one along Gunpowder Creek.

Like their forefathers, these later Boone County farmers located their villages on the Ohio River floodplain or on a terrace next to a major stream. The later villages stood in exactly the same place as the earlier villages or were offset from the former only slightly. However, they no longer built villages on interior upland ridge tops.

These new villages were larger than the earlier settlements. In the case of Petersburg, the later village was much larger. We can infer that the homelands associated with these larger villages may have expanded, too.

Thus, while the actual number of farming people living in Boone County may have remained the same, they were living in fewer villages. Perhaps several smaller villages joined together for a common good (perhaps for defense or for economic reasons) to create these later villages.

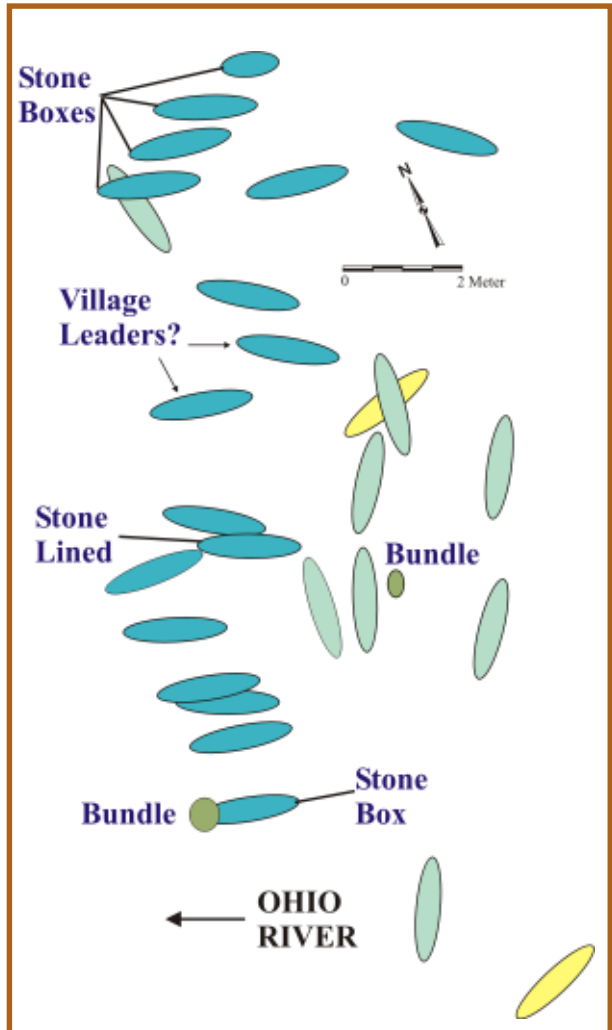
While it is true that the Gunpowder Creek village retained a circular arrangement, as time passed, this village plan fell out of vogue. The larger village at Petersburg appears to have been divided into separate residential areas. A different extended family, lineage, or clan would have lived in each one. Houses, storage pits and trash heaps, activity areas, and family cemeteries were present in each area. The separate areas may have been loosely arranged around an open commons area or plaza, or arranged in a linear fashion along the Ohio River.

Information from outside Boone County suggests that Fort Ancient

people continued to build their houses in the same way as before. However, the houses were larger and increased in size over time. Early in this period, an average house was 270 square feet, but by the mid-1500s, houses could have an average floor area of over 1430 square feet. Houses this size suggest that multiple related households lived under one roof. Most dwellings, some still set in shallow basins, had walls of single post construction, but in some cases, wall posts were set into trenches. Most houses had interior hearths and prepared floors. Benches or sleeping platforms lined the inside of some houses. These villages may have had 30 to 40 houses. Estimates for the number of people who could have lived in these villages range from 250 to 500 people.

Throughout most of the year, everyone lived in the village. But from late winter to early spring, the elderly, sick, and young children and their mothers remained in the village while the others moved to small camps.

These sites served as the base camps for hunting trips. It is estimated that anywhere from 15 to 35 people would have lived at these camps in huts that were much smaller than the village houses. This pattern of summer village-winter hunting camp may have had deep roots in Fort Ancient history.



At the Petersburg cemetery, people appear to have been buried in rows within clusters. Clans or households may have been buried in these clusters.

As in the past, people continued to bury their dead in their villages. But graves were no longer located around the village plaza or within a mound. Most men, women, children, and infants were buried in simple oval pits in clusters located outside their houses. These cemeteries or burial clusters were associated with each extended family, lineage, or clan's residential area.

The cemetery documented at Petersburg in 2004 was different in that no one was under the age of 12. Also, most people died between the ages of 20 and 35 and almost two-thirds of the people were male. Perhaps the community used this cemetery for those who had achieved important social standing as hunters, warriors, shamans, healers, or political leaders.

Within this Petersburg cemetery, both men and women were buried in simple oval pits dug into the ground. Most were buried singly, on their back in an extended position, oriented either parallel to the river and facing downstream, or perpendicular to and facing the river. Rarely, the sides of the grave pit were lined with slabs of limestone to form a rectangular "box." Some had stones on top, too, that served as a cover.

Burial was more involved for some men and women. Perhaps the person died away from the village, or

during a season of the year when it was not possible to dig a grave with the tools at hand (digging sticks, stone axes or adzes, or hand-held shell or pottery sherd scoops). Maybe the way in which a person died required special treatment. Whatever the case, the body was allowed to decompose to bare bones. Then, the bones were collected and transported to the cemetery. Their relatives would carefully arrange the bones in a pit in the ground, or perhaps bundle them together, and then wrap them up in an animal skin before placing the bundle in the ground.



Photograph of the top of a stone box grave at Petersburg, located about two feet below the ground surface.

On occasion, more than one person was interred in a stone box grave at Petersburg. One man, aged 20-25, was placed in a box, and then a 35-49 year-old man was placed directly on top of him before the grave was covered with stone slabs. In another instance, the stone box appears to have been reused. The bones of a 30-34 year-old woman were pushed to the foot of the box to make room for a 20-24 year-old woman.

Irrespective of how a person was buried, Fort Ancient groups of this period often buried their dead wearing ornaments, or with burial goods of some sort that appear to reflect the person's life achievements and social standing. Compared to burials of the preceding period, Fort Ancient graves of this period contain a greater number and variety of objects.

Relative to contemporary cemeteries in the region, a greater proportion of individuals (38 percent) in the Petersburg cemetery were buried with something or wearing something that survived to be documented. Ornaments included items such as bird wing bone beads, pierced bear canine pendants, and two kinds of

shell beads: flat, disc-shaped shell beads of various sizes and small *marginella* (marine shell) beads. These items would have been worn as necklaces and bracelets. A few

people wore copper ornaments, too, like rolled beads and hair ornaments, flattened clips, and pendant cut-outs. Items placed in the graves included whole ceramic jars (perhaps filled with food), carved stone smoking pipes, chipped stone knives or arrows (one may have been collected from an Archaic campsite), bone tools, and a copper awl pointed at both ends.

They would have made most of these objects from locally available raw materials. The exceptions were the objects made from marine shells and copper. The people of Petersburg would have traded for these materials.



Drilled bear tooth ornament.



They strung disk-shaped beads of various sizes to make necklaces and bracelets.

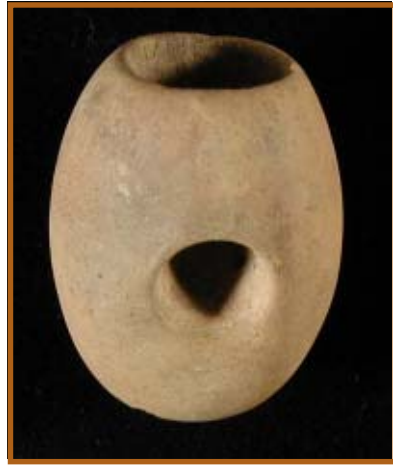
LIFEWAYS, HEALTH, DISEASE, AND DIET

Bio-archaeologists have studied the bones of later Fort Ancient people in greater detail than those of their immediate ancestors. For this reason, there is much we can say about their lifestyle, their overall health, the kinds of diseases they experienced, and their diet.

The people in the Petersburg cemetery reflect these same characteristics. And although we cannot know their names or clan affiliations, the science and art of forensic reconstruction can provide us with an idea of what a few of the people may have looked like [see four portraits sidebars].

On average, men stood 5 foot 6 to 5 foot 7 inches tall and women stood 5 foot 3 to 5 foot 4 inches tall. Fort Ancient people practiced *cradleboarding*, since the backs of their heads are unnaturally flattened. This flattening occurs when the soft heads of infants are routinely fixed to a rigid surface, like a cradle board.

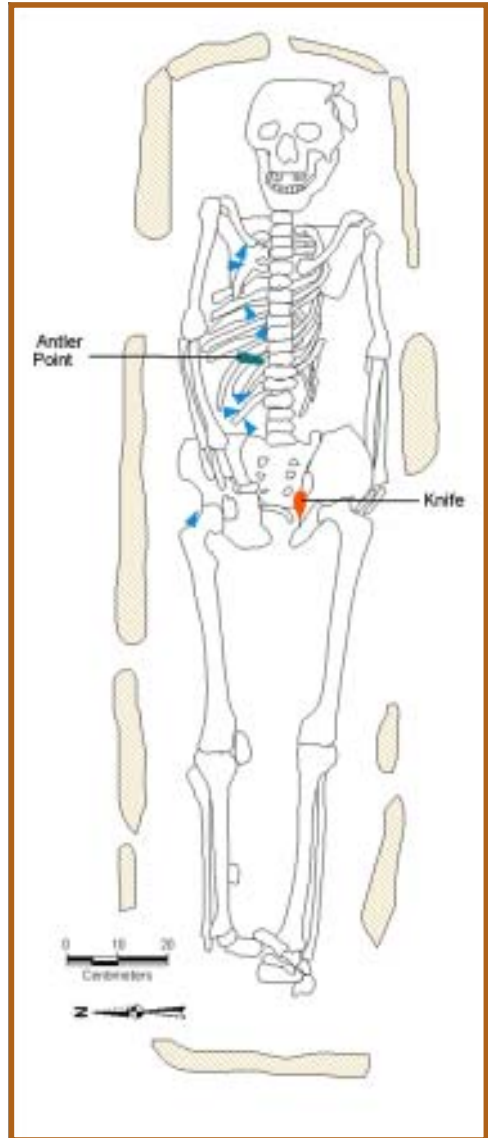
Archaeologists infer that violent death anywhere in the Fort Ancient region was rare. A few individuals were buried with arrowheads embedded in their bones and a few show evidence of scalping. One man buried in the Petersburg cemetery may have met a violent end, although we cannot say whether this



Sandstone vasiform (vase-shaped) smoking pipe from Petersburg.

occurred at the hands of kinsmen or outsiders. His grave, described on the next page, contained eight arrows. Although none were embedded in his ribs or shoulder bones, given their location and orientation, they do not appear to have been placed in the grave as offerings. Instead, they likely were the cause of his death.

The overall health of Fort Ancient farmers closely parallels that of modern peasants anywhere in the world who depend on a diet of corn and beans. Fort Ancient people did not live very long. Forty-five was considered a ripe old age – only one percent of the population lived to see 50. Many children died before they reached their first birthday, but significantly more (almost one-fifth of the entire population) died during weaning, which takes place between



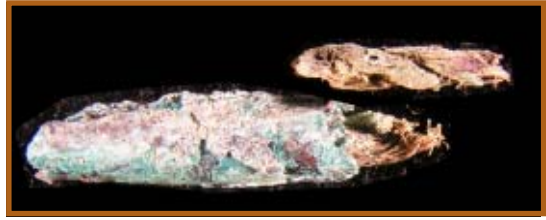
The first of two men placed in a stone box, this man was age 20-25 when he died and stood 5 feet 6 inches tall. He was buried with eight arrowheads: five were in the right side of his ribcage, two were in his right shoulder area, and one was under his right hip. One point was a sharpened antler tip. The others were chipped stone points made from three kinds of locally available stone. In his right hand he held a large chipped stone knife made from a different local chert. Although none of the points were physically embedded in a rib or shoulder bone, five of the stone points were missing their tips.

2-4 years of age. This high death rate at weaning suggests that some kind of nutritional deficiency, possibly associated with infections, occurred during this period.

Health stress was life-long, affecting everyone from birth to death, but particularly women in their child-bearing years and children during weaning. Everyone experienced anemia, and about one person in four experienced chronic infections. They were used to heavy labor, and arthritis afflicted both adolescents and adults. Some people suffered from tuberculosis. processed carbohydrates and do not practice good dental hygiene.

While it may seem unlikely, research shows that prehistoric people's health did not improve as they turned to a farming way of life. Why was this so?

Worldwide, traditional farming peoples typically have lower-quality diets than hunter-gatherers. Farming does provide an absolute greater amount of food, but food quantity is not always related to good nutrition. Farmers tend to specialize in growing a few plants, the most desirable of which typically have low nutritional value, and this results in decreasing diet variety (and quality) relative to hunter-gatherers and gardeners. Therefore, health can suffer, as it did in prehistoric Boone



Copper bead and a short section of the cord on which it was strung.

County, when foods low in nutrients made up a majority of the diet.

It is clear from research conducted on the bones of Fort Ancient peoples that corn made up the majority of their diet. By measuring chemical signatures in bones, researchers estimate that about 60 percent of their diet consisted of corn.

TECHNOLOGY

After A.D. 1400, Fort Ancient potters used shell almost exclusively to temper their vessels. Cord impressions left by cord-wrapped paddles used in the manufacture of their ceramics are less frequently smoothed away, although vessels with plain surfaces continue to be made. Along with the old jar forms, they began to make new forms of vessels: globular jars, hemispherical bowls, pans, and colanders. The new vessel forms were used primarily to serve food. Perhaps new rituals required new ways of serving and eating certain foods.



This man, aged 16-18 years when he died, was buried in a stone-lined grave. He stood 5 feet 6 inches tall. He has a large scar over his left eye, the result of an injury he suffered due to an accident or a fight. Since his skull healed completely, this injury was not the cause of his death. Anemia and other infection(s) affected the growth of his legs and arms: those on the right side of his body were longer than those on the left. He was not buried with any ornaments or objects of a non-perishable nature.

This man, who stood 5 feet 4 inches tall, died between the ages of 18 and 20. He is shown wearing a necklace made of disc-shaped shell beads. He was buried wearing this kind of necklace, as well as bracelets made of smaller disc shell beads. We do not know if the Petersburg inhabitants tattooed their bodies, but the fact that native peoples did historically suggests that they could have. His tattoos were inspired by those of Straight Man, a Shawnee painted by George Catlin in 1830.





This 30 to 34 year-old man wears turkey feathers braided into sections of his hair and a rolled copper nose ring. His cut and stretched ear lobes reflect a Shawnee ear treatment described in the 1700s. The burial of a much younger person disturbed his grave, so we know little else about him.

This woman died in her early twenties. She stood 5 feet tall. Like most people in the Petersburg cemetery, she was not buried with anything that has survived. Here she is depicted wearing necklaces and earrings made from tiny marine shells. Her male relatives or husband would have traded for these beads, either strung as necklaces, or loose and ready for stringing. Her tattoos are adapted from those worn by a native woman in North Carolina around 1580.





Decoration on ceramic bowls of this period often took the form of clay strips applied below the bowl lip.

They made jar handles thinner than before, and they begin to decorate their jars in new and different ways. They notched vessel rims or notched strips applied to the outside of their jars. They made animal-head effigies and attached them to the rims of bowls. Decoration on jar necks consisted of geometric forms now made with wide trailed lines, but by about A.D. 1550, designs on jars went out of style.

Fort Ancient flint knappers continued to make straight sided, triangular arrowheads, but also made new forms. Some were shorter and

had sides that curved outward slightly. Others had concave bases. Some were leaf-shaped, which archaeologists call *Nodena*. Chipped limestone disks became a thing of the past. For processing hides, wood, and plants, they made a kind of teardrop-shaped scraper. Chipped stone knives with points on either end also appeared during this period.

They continued to make and use a variety of shell and bone tools and ornaments. New forms of smoking



Three leaf-shaped Nodena arrowheads buried with the important political leader at Petersburg.

Cordmarked Jar with curvilinear designs on the neck and thin strap handles placed with a 14 to 18-year old person at Petersburg.

pipes included vase-shaped examples and animal effigies.

TRADE

The Fort Ancient world expanded after A.D. 1400. Communication increased between Fort Ancient villages all across the Ohio Valley. We know this because the styles of Fort Ancient pottery and arrowheads look very similar everywhere in the Fort Ancient region

Long-distance trade and interaction with groups living outside the Ohio Valley picked up at this time, too. This is illustrated by the appearance of larger quantities and greater variety of non-local materials and items buried with the dead: marine shell beads, pendants, and *gorgets* (large ornaments worn at the neck) and, after the late A.D. 1500s/early 1600s, the addition of objects made from scraps of European copper or brass kettles. Mississippian farming peoples living to the south in eastern Tennessee would have been the closest source for these objects. The presence of disk (and



A Petersburg elder, perhaps a religious leader, lights his clan's pipe with a length of cane at the start of a ceremony.

Deer effigy pipe made from Ohio pipestone.





Rolled copper beads and a copper ring – ornaments gotten in trade with groups to the south.

perhaps vase-shaped) pipes indicates that trade and interaction also increased with northerly tribal societies. Most of these pipes appear to have been manufactured from Ohio pipestone, limestone, or sandstone.

The presence of non-local goods from both south and north of the Fort Ancient region suggests that individuals living within Kentucky's Fort Ancient villages may have served as middlemen in the north-south movement of goods and ideas. Perhaps, given the large number of Kentucky salt springs, the Fort Ancient people traded salt for marine shell and disk pipes. Maps of historic trails, which likely had great antiquity, show major north-south overland trails crisscrossing Boone County. Most of these trails extended between the county's licks.

SOCIAL AND POLITICAL ORGANIZATION

With an increase in the size of Fort Ancient communities, and an increased involvement in trade with

outside groups, village social and political arrangements became more complex. Social status was no longer reflected by burial within a mound. Instead, the types of goods interred with the dead signaled a person's social standing. But this social standing was still linked to personal achievement and not to heredity.

Many more kin-based clan or lineage segments and their leaders lived within these larger communities. Thus, the potential increased for issues and conflicts to develop between individuals, households, clans, lineages, and the men who served as their leaders.

As before, respected elders led these communities, and these leaders were called upon to do the things leaders had always done. But there were new issues to deal with during this period in Fort Ancient history. This called for new kinds of leaders.

Village leaders were increasingly responsible for maintaining good relations both inside and outside their village, given the increased involvement in non-local exchange. These new lines of communication formed a complex tapestry of economic, social, and political alliances that had to be continually nourished, maintained, and if

necessary, defended. Clan and lineage leaders would have competed with each other for power and control of these villages, but as before, factionalism and other social controls would have limited their power.

Interaction with Mississippian elites would have provided Fort Ancient village leaders with access to not only non-local goods, but potentially, to mystical or religious information about the world that was not available to others. Controlling the exchange of non-local goods and/or non-local ritual knowledge may have enhanced leadership positions for some Fort Ancient men. The potential existed for some of these leaders to exercise power over larger groups of people and across a broader area than

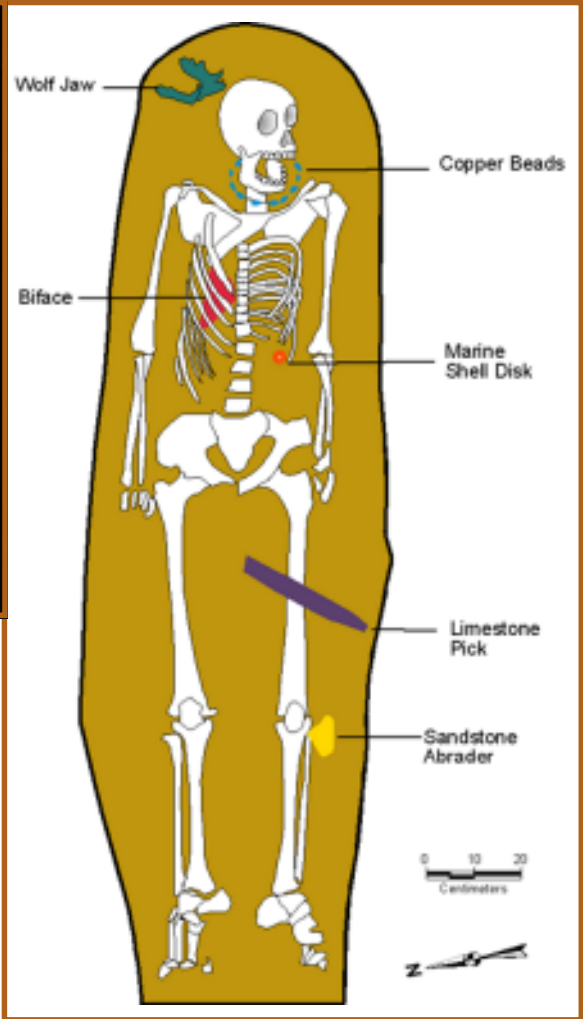
previous leaders. For all these reasons, archaeologists think that the roles of the village leaders became more important, and perhaps more contentious, within the loose, consensus-style of Fort Ancient government.

Archaeologists may have encountered two such new leaders in the cemetery at Petersburg. These men lived during the early to mid-1600s, a time when trade relations between Fort Ancient villages and groups outside the Ohio Valley were the most far-reaching.

From their treatment in death, we can infer something about their

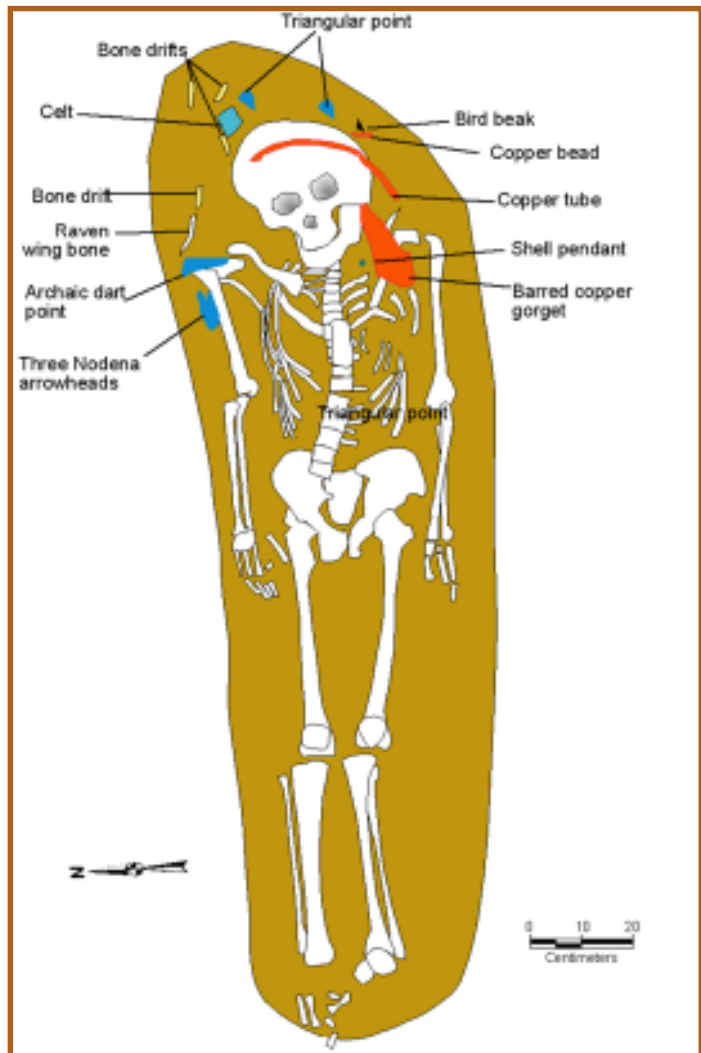
Two important Petersburg leaders discuss fall hunting plans. They wear the symbols of their respective offices. The taller man holds a medicine pouch.





Given this 20-25 year-old man's stocky physique and stature (at 5 feet 9 inches, he would have stood fully 2-3 inches taller than most people), he would have been an imposing figure. He was buried wearing two different ornaments: a notched circular marine shell pendent, and a tubular copper bead necklace. Three objects also had been intentionally placed in his grave. They consisted of a pendant or gorget made from the upper jaw of a mature wolf, a long limestone pick, and a coarse sandstone abrader. The most curious item in this man's grave was found inside his right rib cage. It is a very large, finely made, triangular chert tool. It resembles an arrowhead, although it clearly is too large to have been attached to an arrow shaft.





This man, who died in his early twenties, was of average height, standing 5 feet 6 inches tall. But the number, kind, and diversity of the ornaments he wore and the goods buried with him show that he was anything but average.

He wore three different ornaments: a kind of head or hair "band" consisting of a long rolled copper tube; and two necklaces, one with a barred copper gorget and one with a flat, disk-shaped shell bead. Three clusters of items were placed in his grave: two around his head and one located above his right shoulder. One cluster near his head consisted of two triangular chipped stone

arrows, a copper bead, and a bird beak, while the other consisted of a chipped stone point, a celt, and three bone or antler cylinders or drifts. The cluster near his shoulder contained another antler or bone drift, a raven wing bone, a water-worn Archaic period dart point, and three Nodena arrowheads that, given their context of recovery, probably had been attached to shafts at the time of his burial.

lives and their leadership roles. Both men, 20-25 years old when they died, are described on the previous pages. Their graves (and that of another adult of unknown gender) form a cluster slightly separated from the others in the cemetery. Neither grave is stone-lined, and no stone cover was associated with either man.

They also stand out in terms of how they were buried, and what they were buried with. Unlike any of the other people in the cemetery, particular items appear to have been purposefully mixed into the fill in their graves. For example, after the body of the shorter man was placed in his grave, portions of two young deer, their skulls with stubs of antlers still attached, and other sections of their bodies were thrown into the grave over his head and upper torso. Their presence suggests that these relatively meat-poor sections were all that was left after some kind of ritual feast. Quantities of water-worn cobbles were incorporated into the soil used to cover the lower legs of the other,

taller man. We do not know what these cobbles signified.

The taller man was buried with the insignia of family, clan, and perhaps, village leadership, but based on what he wore and what was placed with him at death, his leadership and political influence

may have been restricted to Petersburg. The wide knife found between his ribs suggests that upon his death, the community took an extra step to ensure his spirit would not return by piercing him with the knife. Archaeologists think this man may have served as a shaman or religious leader.

The shorter man was buried with the greatest number and greatest diversity of burial goods of anyone in the cemetery. Undoubtedly these materials represent the insignia of family, clan, and village leadership. But the amount, identity, and diversity of items placed with him suggest that he may have had political influence outside Petersburg.

The barred copper gorget he wore around his neck is a rare ornament. Only a very few Fort



Barred Copper Gorget.

Ancient people have been found wearing this kind of gorget. They were buried at seventeenth century Fort Ancient villages situated within the Ohio River proper in Ohio and Kentucky. Archaeologists think these objects functioned as symbol badges of regional leadership and political importance. Perhaps these gorgets



A marine shell mask gorget showing the weeping eye symbol.

represented formal ties or alliances among Fort Ancient villages at this time, reflecting some sort of political confederacy. Thus, this man may have served as the most important political leader for the Petersburg community as well as a larger section of the Ohio Valley.

RELIGIOUS BELIEFS

New religious symbols, similar to those that appear on ornaments and pipes made and used by Mississippian farming groups, appear in the Fort Ancient region after A.D. 1400. These include “weeping” or forked eye motifs, cross-in-circles, and rattlesnakes. They are etched into marine shell ornaments or natural stones, and carved into pipes. But these are only a subset of Mississippian motifs and religious symbols. Fort Ancient pipes, ornaments, and effigies on bowls and jars more commonly illustrate images of birds, like preening waterfowl, thunderbirds, and owls; amphibians, reptiles and insects, like frogs, turtles, snakes, and spiders; and other animals, like deer and buffalo.

The appearance of these non-local symbols in the Fort Ancient region and the use of objects, like shell gorgets, engraved with these designs suggests that Fort Ancient peoples became involved in the “broader” Mississippian religious system of this period. The fact that they did not adopt the complete spectrum of Mississippian symbols suggests that Fort Ancient peoples selected only those that were most relevant to their existing beliefs. They may have reinterpreted the symbols they adopted.

AND WHAT OF BIG BONE LICK?

No discussion of Boone County's Fort Ancient farmers would be complete without mentioning this famous salt lick and how they used the area near the confluence of Gum Branch and Big Bone Creek. Despite several decades of archaeological research con-

ducted in the vicinity of the springs and lick, the story is far from complete. Still, it seems clear that the Fort Ancient farmers used this area more intensively and extensively than previous peoples.

Fort Ancient farmers hunted near the salt springs and lick like all other previous peoples had. The recovery of isolated triangular arrowheads representing several styles shows they hunted here throughout Fort Ancient history. They should have hunted there, since the salt springs attracted animals like deer and elk, and bison, too, after A.D. 1400.

But as prehistoric people turned to farming, the salt springs at Big Bone Lick took on additional significance. All humans must get adequate amounts of salt. Prehistoric



Section of an 1804 map of Boone County showing trails leading to Big Bone Lick.



Fragment of a pan showing textile impressions.

hunter-gatherers got enough salt from the animals they ate. Fort Ancient farmers, who depended on corn and other plants for the bulk of their food, did not. They had to supplement their diet with salt from other sources, like that from the salt springs and licks at Big Bone Lick.

Judging from the trash deposits that built up, archaeologists think that, for a time between A.D. 1200-1400, Fort Ancient farmers lived upstream and downstream near the main salt lick. Information is

sketchy. Archaeologists have found no evidence of houses or storage pits or burials. Did they live there during short, salt-making visits; during extended hunting trips; or was this the location of a regular village, its fields extending upstream along the fertile creek terraces? We do not know.

The idea behind making salt is a simple one: concentrate it by extracting it from salty water or salty soil. The materials needed, besides having access to the mineral itself, include enough fuel to naturally (with heat from the sun) or artificially (with heat from wood-fueled fires) evaporate the water; and



Pans were shallow vessels that measured two feet in diameter.

containers to hold the water and, eventually, the finished product.

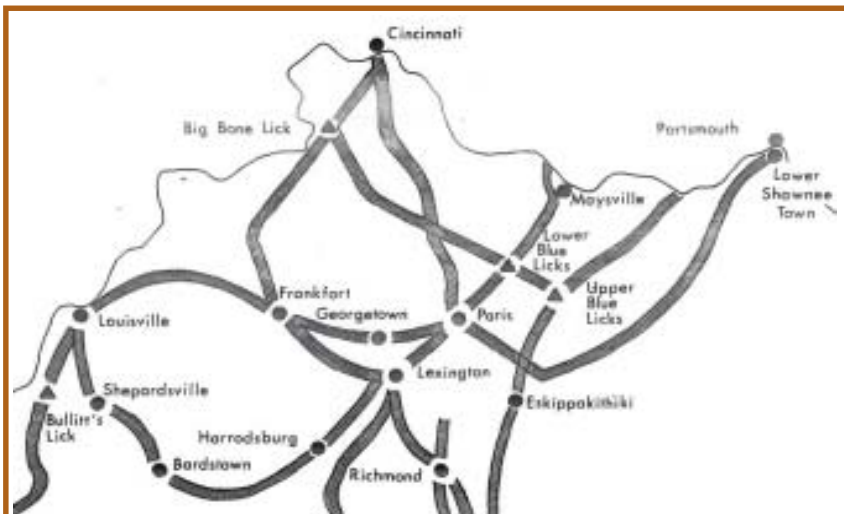
For salty water, this meant filling a large ceramic basin or *pan* with salty water. Then by evaporating the water, using sunshine or by boiling the water away over a fire, the salt was left behind. In the case of salty soil, the salt-maker placed it into a basket or container with holes and poured water through the soil, washing the salt out. Then he or she evaporated the water.

The length of time it took to make the salt depended on how weak or how strongly salty the brine water was. Judging from historic accounts of salt making at Big Bone Lick, the brines were weak, and so it would have taken large amounts of water (and fuel) to produce a little bit of salt. Boone County's humid environment would have made

natural evaporation an inefficient method to use in salt production. So our best guess is that Fort Ancient peoples probably made salt by evaporating the water by boiling it away over hot fires.

Through research at salt spring sites exploited by Mississippian farmers, archaeologists have identified the telltale evidence of salt manufacture: often thousands of fragments of shallow ceramic basins or pans that were probably made on the spot; and broad areas of fire-reddened soil, ashy deposits, and charred wood fragments. At some sites, there is little refuse to suggest that day-to-day domestic activities took place; while at others, domestic refuse is everywhere.

In contrast, little archaeological evidence for salt-making has been recovered at licks in the Fort



Bison routes and early historic trails.

Ancient region. Archaeologists have found fragments of crude shallow salt-making vessels at Kentucky Fort Ancient village sites occupied after A.D. 1400, including two sites in Boone County. But at only one salt spring in the Kentucky Fort Ancient region, Goose Creek in Clay County, has anyone made mention of finding the characteristic shallow ceramic pans.

Information about Fort Ancient salt-making at Big Bone Lick also is meager at best. Archaeologists have not found a single fragment of a salt-making vessel, though they have recovered fragments of other kinds of ceramic vessels from domestic refuse deposits near the springs/lick.

Archaeologists may have investigated a Fort Ancient salt-processing station at Big Bone Lick in 1993. This place is located on Big Bone Creek, downstream from a domestic site and immediately adjacent to one of the springs. Here they found an isolated, basin-shaped band of burned soil a little over four feet in diameter. A layer of flat, limestone rocks lay on the reddened soil, clearly burned and cracked by intense heat, but they recovered no fragments of thick, crude, salt-making pottery.

Despite the scarce evidence, logic compels us to assume that Fort Ancient people made salt at Big

Bone Lick sometime during their 700-year long history. There is no question that they had to supplement their diet with salt, given the nature of the foods they ate.

Perhaps they dug pits in the ground, where the salty water collected. Then, using hot rocks, they boiled the water away without using containers other than some skins that lined the pits. Maybe they could get all the salt they needed by scraping up the deposits that precipitated out on the ground surface or along the creek banks on days of low humidity. Perhaps they collected the weak salty water in ceramic jars or skin bags and used it directly in cooking. Or maybe they used different kinds of containers, instead of pans, to make salt.

Remember, archaeologists have found pans only at Fort Ancient village sites occupied after A.D. 1400, but Fort Ancient people lived at Big Bone Lick before that date.

Or perhaps, we have yet to discover the places at Big Bone Lick where Fort Ancient people made salt and broke their containers. Whatever the case, Big Bone Lick was an important resource for Fort Ancient people. They hunted the animals it attracted, undoubtedly exploited the salt springs for the mineral they needed, and for a short time, also lived near the lick.

A FARMING LIFEWAY ENDS A.D. 1690-1790

Fort Ancient groups could have first heard about Europeans around the mid-1500s. That's because these farming peoples were linked by long-distance trade to groups in the Midwest, Great Lakes, and Southeast. As time passed, word of the fair-skinned, hairy foreigners would have become increasingly common. Tales of the first French forts/trading posts and settlements, which appeared on the Great Lakes in the late 1600s, would have been equally enticing and worrisome.

Then smallpox appeared, a lethal virus bred in European cities. Researchers think it may have first reached the greater Southeast sometime around 1696-1700. The disease may have spread to Boone County at this time, too.

The fallout was staggering. The virus killed between 50 and 90 percent of the Fort Ancient people living in Boone County. This is because, like all the native peoples of North America, the Boone County residents possessed no immunity to the foreign diseases.

This disease caused the Fort Ancient way of life to collapse almost completely. Trade networks were disrupted; faith in native

leaders and native religious practices faltered. Some groups may have completely disappeared. Survivors could have left the county, driven to other places by fear of the diseases. Or they could have stayed and worked to rebuild their lives and continue their traditions.

Boone County's archaeological record provides little information that might help determine exactly when European diseases arrived and

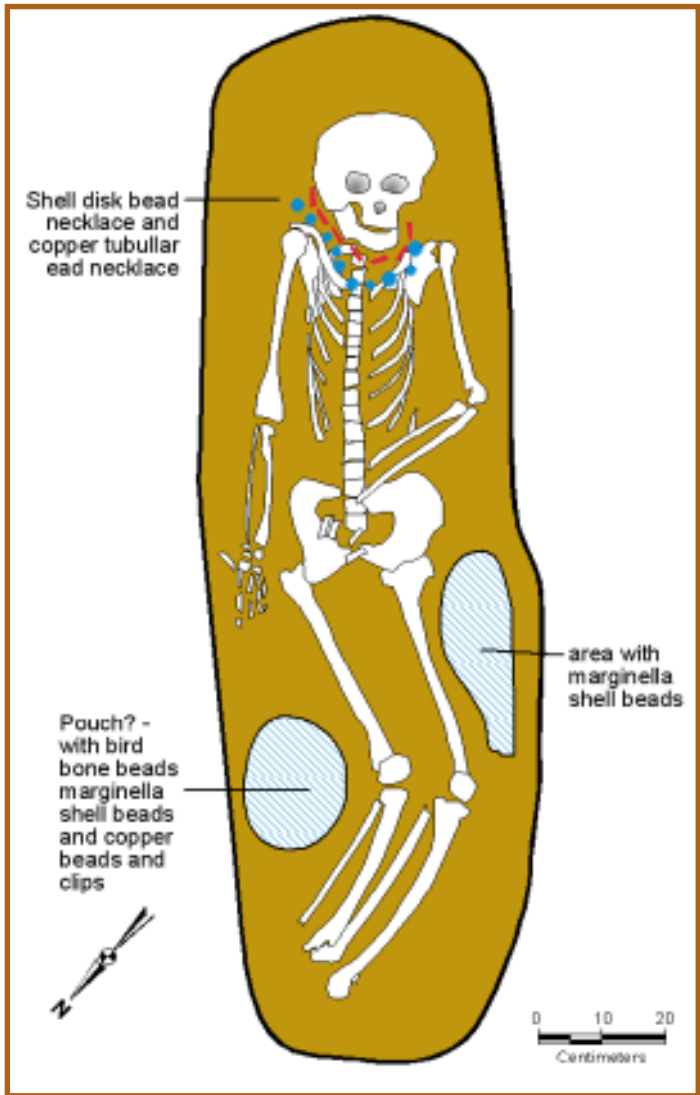


Examples of copper ornaments: tubular beads, a flattened cone, and flattened beads and clips.

what the farmers' responses might have been. No village site in Boone County has produced evidence that it was inhabited past the 1650s, though Fort Ancient villages elsewhere in the Ohio Valley were undoubtedly occupied into the late 1600s.

Historic maps and documents for Boone County also are not much help. Mid-1700s journals and captive accounts do not specifically mention

We do not know the sex of this 12-14 year old person, due to their young age. He/she stood about 5 feet tall. During their short life, this person experienced severe infection and malnutrition or dietary deficiency. He/she was buried wearing a necklace of disk shell beads in many sizes and three tubular copper beads. Two other items were placed in the grave. Archaeologists found several tiny marine shell beads next to the left hip. These beads may have been attached to a belt or sash. Behind the knees was a concentration of objects that may have been the



contents of a pouch. These items consisted of some tubular bird bone beads, a few of which appear to be stained red; a few marine shell bead(s); and several copper objects: a few tubular beads, a flattened cone, some flattened beads, and a few clips (rectangular pieces of copper folded-over along the longer side).

native villages in the Boone County area, although they do mention both Shawnee and Miami hunting parties, and Shawnee salt-making activities at Big Bone Lick. But these activities took place long after the first appearance of smallpox. It is possible that, during the French and Indian War, any groups living in this part of the Ohio River valley moved their permanent villages north of the river like groups did further upriver.

The lack of archaeological and early historical information makes it difficult to link groups who lived in Boone County before the European diseases appeared to those mentioned in the later historical accounts. Researchers think that a diversity of ethnic groups may have been affiliated in some way with prehistoric Fort Ancient groups. They think that Algonquian language speakers and Siouan

language speakers likely made up the greatest proportion. The former may have been represented by the historically documented Shawnee or affiliated groups.

In 1785, around 135 years after the Fort Ancient farmers abandoned their second village at Petersburg, John Tanner, a farmer and a clergyman from central Kentucky, built his station at this spot across from the mouth of Tanners Creek. One or two log cabins, deserted due to Indian raiding parties, and some cleared land were already there. His son was captured at Tanner's Station by two Ottawa men in 1789. The account of his captivity makes no mention of native peoples living in this section of the Ohio River valley.

No one took any formal notice of the farming peoples who had once called this place "home" until Lewis Collins did in his 1874 History of Kentucky. Lacking writing, the

Fort Ancient farmers left behind no manuscripts. They wrote their history in the graves of their loved ones and in the patterns of their broken pottery, chipped stone tool debris, and food remains.



A section of Lewis Evans' 1755 map of the Ohio Valley, showing Boone County.

STEWARDSHIP: IT ALL DEPENDS ON US

When people, 200 years from now, look out across Petersburg Bottom from that Kentucky Route 20 vantage point, what will they see? What will remain of our heritage?

That depends on us and our actions today. We must teach respect for the past and instill these values in our children and grandchildren. We must make a commitment to protect our heritage and serve as site stewards.

Boone County's Fort Ancient farmers did not write down their history. They purposefully or coincidentally left it behind in the places they once lived. They actively shared it through stories.

Their stories have not been passed down to us. The patterns of objects that remain in the ground at their villages and campsites are the only surviving record of their culture.

These places, then, are their legacy. Because you live in their homeland, you are the steward of their heritage. You have a responsibility to preserve and protect that legacy.

The sites where they once lived and worked are fragile places, unique and irreplaceable. The growth of towns and cities threaten these sites. So, too, does farming and the

construction of roads and bridges. These disturbances will continue to take place as modern people follow their own lives.

The willful actions of looters, however, also threaten these ancient communities. Looters mine the villages and the graves within them for artifacts and human bones. Then they sell them. These people can destroy several hundred years of prehistory in one afternoon.

There something you can do. Decide that these sites are important. Then put that decision to work.

If you discover a prehistoric campsite or village, don't disturb the ground. Record the kinds of artifacts you see. Then report your findings to the Boone County Historic Preservation Review Board in Burlington, the Kentucky Heritage Council in Frankfort, or the Office of State Archaeology at the University of Kentucky in Lexington. To protect sites from looting, these organizations keep information on site locations confidential.

In Kentucky it is illegal to possess human remains. In decades past, people sometimes displayed skulls on mantles. If you should discover human remains in an attic

or basement, contact the Boone County Coroner and turn the remains over to that office. No other entities or individuals have the authority to accept human remains.

If you should discover human bones in the woods, in a plowed field, or in your garden, leave the bones in place. Contact the Boone County Coroner and local, county, or state law enforcement officials. These authorities will determine whether the remains you found are those of a disturbed burial or a recent murder victim/missing person. Should the remains prove to be prehistoric, the coroner will contact the Office of State Archaeology and/or the Kentucky Heritage Council.

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

Discourage looting by reporting instances that you know of to the state police or to an organization listed on the inside back cover of this booklet. Speak out against buying and selling artifacts. Encourage lawmakers to pass stiffer penalties. The market in prehistoric artifacts encourages looting and

leads to the destruction of archaeological sites.

Once these sites are destroyed, they can never be replaced. With their loss, we lose the history of these ancient Boone Countians. Then a chapter in our history, too, is gone forever. Each of us has a responsibility to make sure that the history contained in these long-ago villages endures. You **can** make a difference.



Volunteers working at Petersburg in 2004.

TO READ MORE ABOUT IT

Look for these titles about Kentucky's prehistoric farming peoples in your local library or bookstore: Kentucky Archaeology edited by R. Barry Lewis and Kentuckians Before Boone by A. Gwynn Henderson. Both are published by the University Press of Kentucky, Lexington.

The **KENTUCKY ARCHAEOLOGICAL SURVEY**'s 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, University of Kentucky, 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 **BOONE COUNTY HISTORIC PRESERVATION REVIEW BOARD** is a seven-member volunteer board appointed by the Boone County Fiscal Court. Its mission is to lead and educate Boone County officials and citizens in the preservation and protection of the county's prehistoric and historic resources. The Review Board oversees historic preservation policy in the county, including the administration of the county Preservation Plan and Cemetery Preservation Plan; conducts ongoing survey and documentation of historic and prehistoric resources in Boone County; provides technical assistance to owners of historic properties; and provides heritage education to both children and adults. For more information, write: Boone County Historic Preservation Review Board, 2995 Washington Street, Burlington, KY 41005; or go to www.boonecountyky.org

The **KENTUCKY TRANSPORTATION CABINET (KYTC)**, Division of Environmental Analysis (DEA) is responsible for providing environmental guidance to Transportation Cabinet Employees, 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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