

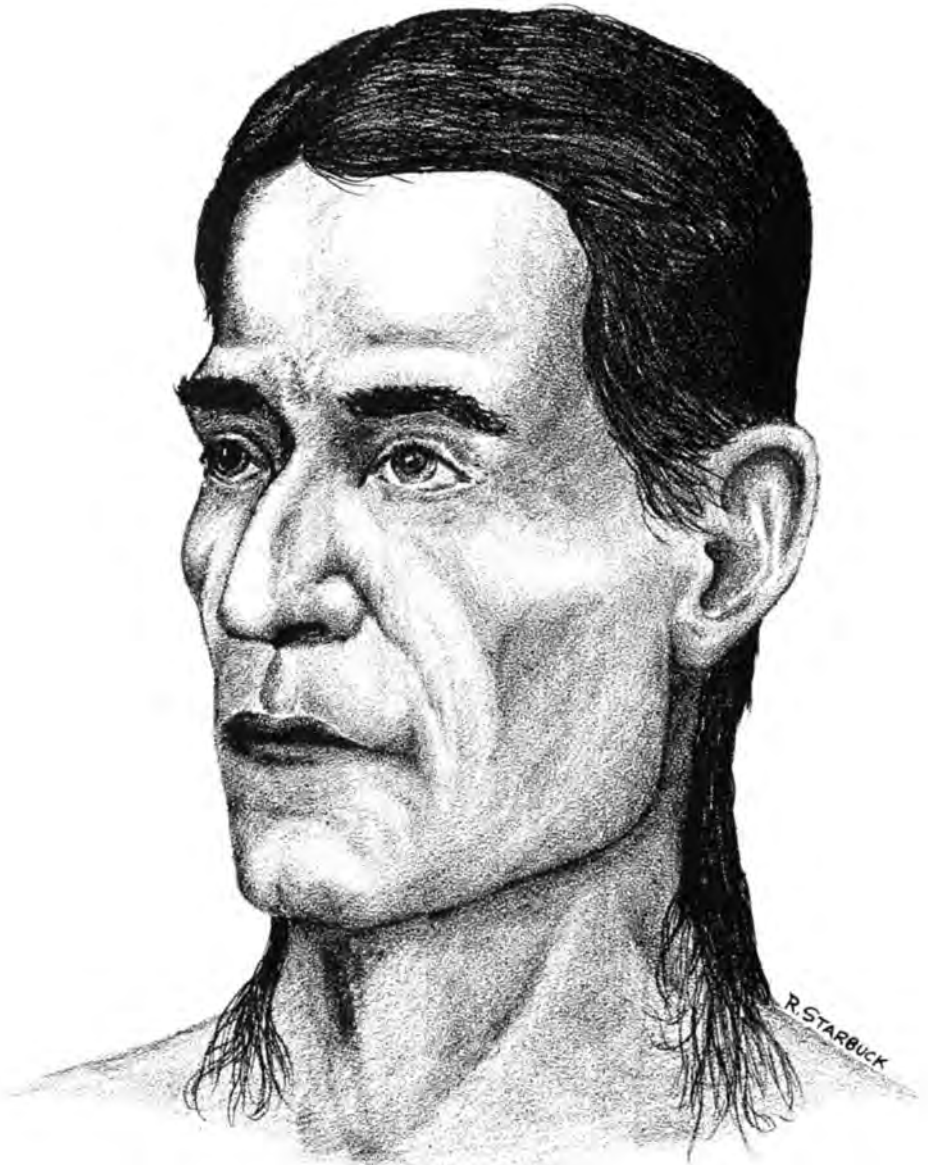
# THE DOVER MOUND

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**An Adena Man. A conjectural drawing based on skull contours, by Robert Starbuck. Reprinted through the courtesy of the Ohio Historical Society.**

## PREFACE

The Dover Mound, at the Barrett Site, Mason County, Kentucky (Ms°27), was excavated during the summers of 1950 and 1951 as a part of the statewide survey of prehistorical remains undertaken by the Department of Anthropology, University of Kentucky. As such, this report, although a separate, independent publication, may be considered a continuation of *Reports in Anthropology and Archaeology* and be cataloged as a special unnumbered issue in Volume IX of that series.

The authors are grateful indeed to Mr. and Mrs. Perry Barrett, owners of the mound, for permission to undertake the excavation and for their friendly attitude toward the work.

Our sincerest thanks are due also to Glenn Stille, who supervised the excavation from June 6 to July 5, 1950; to Richard B. and Natalie Woodbury, who continued the fieldwork to September 1; and to Raymond A. Wilkie, Jr., who completed the excavation and graded the site according to the arrangements with the Barretts during the next summer, June 12 to August 21, 1951. Indeed, had it not been for the steady efforts of these fieldwork supervisors, this report could not have been made.

We are equally grateful to student assistants under the direction of Raymond H. Thompson who toiled patiently in the museum laboratory with the cleaning, assembling, and analysis of the materials described in this report. In particular we wish to thank Ann Macklin Ham for her painstaking restoration of the mica strips found in association with Burial 9; A. E. Baxter for the plaster replica of the textile matting found with Burial 21; and William M. Bass, III, and Lee H. Hanson, Jr., for assistance in compiling the skeletal series.

To Herman L. Donovan, president emeritus of the University of Kentucky, we acknowledge our thanks for preparing the historical note on the town of Dover, near which he was born and raised.

The late William R. Allen of the Department of Zoology, University of Kentucky, identified the *Cassis* shell beads found in the Dover Mound. We gratefully acknowledge his assistance.

The Ohio State Museum has kindly permitted us to reprint the drawing of an Adena man by Robert Starbuck of the Art Department, Ohio State University. The plates for this and the other illustrations were generously provided by the University of Kentucky Research Fund Committee.

*Lexington, Kentucky*  
*March 15, 1959*

W. S. W.  
C. E. S.

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# THE DOVER MOUND

The village of Dover lies on the Ohio River ten miles northwest of Maysville in Mason County. Not more than three or four miles to the east across the river is Ripley, Ohio.

Before 1800 the pioneers had claimed the very fertile land along the Ohio at the site of Dover, and this community became one of the first settlements in Mason County. It was incorporated in 1836. Here in this region, tobacco was first produced in Kentucky, and it early became the principal money crop of the farmers.

In 1843 the Arthur Fox's addition, then known as New Dover, was brought into the Dover town limits. The village about this time enjoyed a rapid growth, and it became an important business center and the second largest town in Mason County. By 1876 it had a population of 1,332.

The Ohio River was a natural artery of trade, and the pioneers drifted down this stream in canoes and flatboats in the early days of the settlement of Kentucky. With the advent of the steamboat, trade centers emerged at strategic locations along the river; Dover was one of these thriving river towns.

For many years Dover was the largest tobacco prizing and shipping center in Mason County. Then in 1886 the Chesapeake and Ohio railroad was constructed between Ashland and Cincinnati, reducing the distance between these two cities by fifty-five miles. Transportation





**Fig. 1. The Dover Mound, looking south toward the hills marking the southern edge of the Ohio River flood plain.**

gradually shifted from the steamboat to the train, and Dover declined as a shipping point. Commerce and population left the village also, and by 1950 the census reported only 334 residents of Dover.

A prominent landmark in the Dover area was a conical mound at the southeastern edge of the small town, about 1,000 feet east of the Dover-Minerva road and 700 feet south of the present Dover High School building. At the time excavation was begun in 1950, its cover of large oak trees enhanced its striking appearance on the nearly level Ohio River flood plain, which had long been cleared for cultivation (see fig. 1).

The mound lay about halfway between the present bank of the Ohio and the line of high hills demarking the southern boundary of the flood plain. The river terrace, at this point about a mile wide, revealed much evidence of Indian occupancy in the number and variety of stone artifacts which could be picked up in the cultivated fields.

No serious damage had been done to the mound, although a few small pits had been dug into it in past years. Recently it had been fenced off as part of an area used for breeding hogs (see fig. 2). Permission to excavate this mound was readily given by the owner, Mrs. Perry Barrett of Dover, on condition that the mound be completely removed and the earth from it used to fill low spots in the adjacent area. These low spots may have been borrow pits from which the earth for the building of this mound had been obtained.

### EXCAVATION

Investigation of the Dover Mound was begun May 6, 1950. Before the actual excavation was commenced, the mound was cleared of fences and all trees except a few large ones on its skirt far enough from the area not to obstruct the operation of the trucks.

An east-west baseline was established over the highest point in the mound, which was then staked in five-foot squares right and left from this line. Excavation was begun on the western edge of the mound (see fig. 3). The profiles were revealed by taking down five-foot cuts north to south, the earth being shoveled into dump trucks and hauled away (see figs. 4 and 5). Work was continued until September 1, when the profiles were banked and the mound was put in condition for the winter (see fig. 6). Excavation was resumed June 12, 1951, and was completed August 21.

A benchmark was established southwest of the mound by driving down a heavy stake at a point which seemed to represent the original level of the flood plain. All elevations were thereafter recorded as above or below this benchmark. When staked, the mound was found to be 110 feet wide east-west, and 120 feet wide north-south at the level of the benchmark, and to have a maximum elevation above this level of 17.3 feet. However, it was soon discovered that to reach the base of the mound, i.e., undisturbed earth of an old forest floor, it was necessary that the vertical cuts on the western side of the mound be extended to a depth of 2.7 feet below the level of the benchmark. The total height of the mound at the time of excavation, therefore, was 20 feet.



**Fig. 2. The Dover Mound before clearing, showing its use as a hog pasture.**

It thus appeared that at some time after the mound had been built, a river flood had deposited on this flood plain about the western side of the mound base a layer of sand and silt containing many Pleistocene gravels and river pebbles. Since the time of this flood deposit, the mound, whatever its original height, had been eroded to its present height of 17.3 feet above the surrounding terrain. It was once much higher than this, as shown by a widespread skirt of sandy loam, containing charred and burned stone, which extended in all directions about the mound base.

The fact that the original floor on which the mound was erected was so much lower than the surrounding surface on the side where excavation began presented a difficult engineering problem to obtain natural drainage of rainwater away from the excavation. This was done by leaving a portion of the mound base unexcavated during the first field season; during the second field season, when the mound base was to be cleared, drainage trenches were dug to sump holes to carry away the rainfall.

## MOUND STRUCTURE

Excavation of the Dover Mound revealed four obviously distinct portions or zones which differed in construction as well as in appearance. They are discussed here as they appeared chronologically from the bottom of the mound upward. Fig. 7 is a schematic representation of these different zones.

*Zone One.* The humus layer of an old forest floor was revealed by a dark band of soil from eight to twelve inches thick, extending in all directions from the center of the area excavated. This area was approximately a circle about 100 feet in diameter. Because the mound skirt had in part been covered by a later deposit of river silt some 2.5 feet deep, and because several large oak trees growing on the mound skirt could not be removed, it was not possible at the time of exploration to examine this village area beyond the limits of the mound excavation.

This section of the old forest floor had been used as a village. Three distinct areas showed that fires had been built, apparently for cooking. In each case the central area was roughly circular and about six feet in diameter, and was covered four or five inches deep with clean white ashes. At the edges of these clean ash layers there were numerous partially burned animal bones, potsherds, and fire-cracked stones, mingled with the charcoal ends of sticks from one to three inches in diameter. Among these bones it was easy to recognize the ulnae, scapulae, toe bones, and cannon bones of deer and the tarsometatarsus of wild turkey. There were also many small bones of birds and mammals and the vertebrae of very large fish. In the white-ash layer were many stones and river pebbles broken by heat, and under the ashes the hearth was hard-baked and discolored by the heat of many fires. A few potsherds were found in the humus layer. In one case the fire had been made in a well-formed concave basin which was filled with ashes and had in it many river pebbles broken by heat.

On this old village area there were about a dozen holes varying in



**Fig. 3. The western side of the mound, showing the staking.**

diameter from four to fourteen inches. These were regarded as possible postmolds. They formed no regular pattern and had no associations with other features to give a clue as to their use. Scattered over the same area were some nine or ten other holes from six to fifteen inches in diameter. Upon investigation the walls of these holes were not all vertical, and their cross sections were not uniform. Frequently the opening separated into several smaller oblique channels at depths of two to three feet. These were taken to be the molds of stumps of small trees, growing on the old forest floor, which, after being covered by the mound, had decayed to leave these molds. Although sought for, no pattern of any house structure was found. As revealed by the burned bones of animals, birds, and fish and the broken potsherds, the chief activity in the area about these fires had been the preparation and consumption of food.

*Zone Two.* Over the old village and covering the western two-thirds of the excavated area the mound had been built up to a height of

from four to five and one-half feet above the old humus line by using a heavy, compact marl varying in color from white to light blue. This marl evidently was moist when laid, and each load, as laid, remained together. That is, it did not scatter as sand or friable soil would do if dry. This light clay marl thus showed in the profiles a mottled structure, commonly called "loading." Each load could be seen separated from those surrounding it by slight changes in color, in varying shades from white to blue. Being moist when deposited, the weight of the earth above any load had the effect of "puddling." Each load became lenticular in shape, tightly compacted, and united to adjacent loads. When dry, the marl seemed practically impervious to water. It was so hard as to make it quite impossible to remove any part of it with a sharp shovel. A heavy man standing on a long-handled shovel with blade nearly vertical made little or no impression on this cementlike material. It was very difficult to break up this marl with a heavy pick, even after it had been newly sharpened.

These individual loads of puddled clay, beginning at the twenty-foot profile and extending well past the center of the mound floor, showed that in general they were not all laid down on a level floor, but had been deposited beginning at selected points to form small conical mounds five to eight feet in diameter and from three to five feet high, as shown in the profile. The inclination of the major axis of each load showed the slope of the surface on which it was deposited. At least five of these small mounds of clay marl were distinctly revealed in various profiles. There may have been, originally, as many as eight or more, some having later had their tops removed due to activity in the area while their surfaces were still exposed.

Excavation revealed the seeming purpose of each of these small clay mounds as the covering placed over a deposit of cremated human remains. Such deposits seem to have been made on a bark layer laid on the old village floor. After the deposit was made it was covered with a second layer of bark. A small conical clay mound was then built over the deposit. In all save one instance, the cremations had taken place elsewhere and the residue gathered up and deposited on the bark layers. In such cases there was no evidence of fire action on the earth adjacent to the deposit. However, in one area, at the base of the twenty-foot cut, the cremation (Burials 5-6) seems to have taken place in situ. A clean clay layer had been laid down over the



**Fig. 4. Removal of slack dirt by truck.**

old village floor, and the crematory fires had burned this clay to a bright reddish-orange color. The calcined remains of more than one individual were found in this ash bed. Most of the bones had been reduced to very small pieces, but enough larger fragments were removed to permit the physical anthropologist to make his study and interesting comments. This deposit, which was about four by six feet in area and some three to five inches thick, had finally been covered by a layer of bark, and a clay mound some four feet high and seven or eight feet in diameter at the base had been erected over it.

Thus, at one stage of activity at this site, certainly five and possibly eight or more small conical mounds formed a cluster which covered about the western two-thirds of the present mound area. After this stage of construction had been reached, there later began the practice of burial of bodies extended in the flesh on bark layers. In cases where two small mounds were conveniently near, the bark layer was laid in the saddle surface between two adjacent small mounds. After the body was so placed, sometimes with artifacts, it was covered

by a bark layer, and this in turn was covered by a marl layer deposited in loads. The profiles show that these loads were laid approximately horizontal in these saddle surfaces to a depth of two or three feet and partially filled the concave depression between adjacent small mounds. Usually the covering of the first such extended burial did not quite reach to the level of the tops of the small mounds. This often permitted a second extended burial to be made in the same depression, some two feet above the first, and thus the whole area, the western two-thirds of the mound base, which was nearly covered by individual small conical clay mounds, finally had a surface more or less level at a height of some seven feet above the old village floor.

As previously explained, this very hard, compact clay marl was difficult to excavate. The use of heavy picks brought up the material in large chunks, which made the cleaning of a burial in a poor state of preservation very difficult. However, when large chunks of this material were pried loose, the plane of cleavage usually showed the imprint and the residues of roots, stalks, leaves, and the fruit of swamp grasses and reeds in appearance very much like present-day cattails. The frequency of this appearance seemed to indicate that the source of this clay marl was a swamp where this vegetation grew, and that transportation of this material to the mound fill was accomplished by pulling up a clump of these swamp plants with the earth and roots attached and bringing the whole mass to the mound. In this mass of compact clay the vegetal remains dried out under pressure and left their imprints in the clay. The remaining carbonaceous material turned a deep chocolate color and was thus preserved. Many such chunks of clay with these plant impressions and residues were brought to the laboratory for study. After exposure to the air, the actual plant residue, little more than a brown stain, oxidized quickly and passed into a very fine grained dust which was easily blown away, leaving only faint impressions on the clay marl.

Investigation of the deep soil profiles in test pits outside the mound area showed that at many points the flood plain of the Ohio River is underlaid with a deposit of this clay marl at a depth of ten to twelve feet. Some two miles from this site an outcrop of this deposit occurred. One may speculate that this deposit was derived from sedimentation in a quiet lake which may have at one time covered much of the flood plain of the Ohio River in the vicinity of Dover. An inspection





Fig. 5. The excavation by midsummer, 1950.

of the present terrain does not indicate any point at which the Adena people might have had easy access to this source of material. However, the older citizens of the community state that before the C. & O. railroad was built along the south bank of the river, there extended for many miles east-west through the village of Dover an open slough which was periodically filled with overflow from the Ohio River in season of high water. This formed a long, channel-like swamp known as Amos Lake before it was completely filled by the construction of the railroad. In this lake, swamp vegetation grew luxuriantly. One bank of Amos Lake was only a few hundred feet from the site of the mound. This fact might furnish a clue to the source of the lake-deposited white clay marl, if conditions at the time of Adena occupancy were similar to those existing at the time of early white settlement at Dover.

*Zone Three.* After much of the western area of the mound base had been covered to a depth of some seven feet with the various small

mounds of clay marl over the cremations and the bark burial of bodies extended in the flesh, burials in bark-lined tombs continued to be made, both on top of the puddled-clay section already described and on the original village floor to the east of this section. The floors of the bark-lined tombs were usually slightly concave, the body being laid fully extended along the bottom of the depression. Occasionally one or two small logs were placed parallel to the body along one or both sides. The area covered with bark varied somewhat, but was usually a minimum of eight feet wide and ten feet long. Frequently two bodies were placed in the same grave side by side, but sometimes in reversed position from head to foot. After placement of the bodies a layer of bark was used as a cover. The covering bark often was laid over the burial with the grain at right angles to the layer underneath. The graves were then covered with earth. The profiles of this portion of the mound showed that about two-thirds of the earth was a sandy loam easily obtained from the surface in the vicinity and the remaining third was the white clay marl previously used. The sandy loam contained many river pebbles and Pleistocene gravels. The sandy loam spread easily when dumped on the mound surface, but the clay marl, being moist, retained its shape. Thus the profiles, from about the eight-foot level above the mound base to about the seventeen-foot level, i.e., a thickness of nine feet at the center and deepest part of the mound, show mottled loading of white clay marl mingled with a fairly well consolidated mass of sandy, silty loam. The profiles reveal, from bottom to top of this nine feet of fill, the presence of bark-lined tombs. When first encountered, these appeared in the profile as distinct black lines about one inch thick and from eight to twelve feet long, concave upward from one to three feet above the centers. When the earth above them was excavated, it broke away along these lines to indicate a surface once covered with bark. The bark had long since passed to a dark powder, but its impression still remained. By careful removal of all residues and by blowing out dust with a small bellows, the type of tree furnishing the bark often was revealed. At this site there was some indication that sometimes bark was used which had not been entirely separated from the tree but remained on a relatively thin slab of wood which had been split off from its log. Such slabs, when used, produced an unevenness of several inches in the floor of the log tombs. Always



**Fig. 6.** The mound put in condition for the winter of 1950-1951. Mr. Perry Barrett is standing at the edge of the excavation.

the outside of the bark was presented away from the body in the bark tomb.

In the center and highest point of the mound, at a height of about seventeen feet above the old floor of the forest, an area some twelve feet in diameter, were found not fewer than four bodies, Burials 40 to 43 inclusive, laid extended on a floor of bark and small logs. These burials had been covered with bark and a layer of earth. Later, a large fire, covering an area thirty feet in diameter, had been built on the top of this mound. This fire seems to have found access to the combustible material below the earth layer covering these bodies and, in burning in this atmosphere of reduced oxygen, had charred the bark and small logs on which the bodies lay, had heavily burned some sections of the bodies, and had smoked the remainder—thus producing a partial cremation. The evidence seems to point to this burning of bodies as an accident rather than an intentional cremation. While the partial cremation of these four skeletons may have been

accidental and probably took place some time after the burials were made near the mound top, there can be no doubt that this large fire built over the whole top of the mound was clearly intentional. It was in appearance similar to Feature 25 reported from Site Mm6, Montgomery County, Kentucky. It was obvious that a considerable amount of fuel had been consumed, and many charred log fragments with diameters of from four to six inches remained. After the fire had burned low, but while it was still hot enough to discolor earth in contact with it, the site of the fire was covered over with earth to a depth of some ten inches or more. From this mass of charcoal, Sample 117 (V42) was taken for radiocarbon dating. It was found by W. F. Libby at Argonne Laboratories to have an age of  $2,650 \pm 170$  years. The covering of this fired area seems to have completed what may be called the mound "core." The surface of this core, or inner mound, was obviously the exposed mound surface for some time, long enough for trees a foot or more in diameter to have grown, as shown by the charred stumps remaining on its surface.

*Zone Four.* The last and fourth phase of building at this mound consisted of covering the whole mound with a mantle of sandy loam in which there was no marl and which showed no loading. Before the placing of this mantle, the trees growing on the surface were burned down. After falling, the tree limbs were burned as they lay, those too large to burn completely were covered by earth, and the unburned centers of these large branches later decayed, leaving their carbonized coating in situ. How thick this mantle was is impossible to say, but it was four feet deep at the mound center at the time of excavation. Because of the obvious amount of erosion which had occurred since the mound's completion, this mantle may well have been ten feet thick at the top.

In this mantle a number of burials were found which were inconclusive. For these, little or no evidence of bark tombs remained. Surface water had penetrated to the bottom of this sandy layer, and trees growing on the surface sent out lateral roots which sought out the available food in the soil. Where burials had been made in this mantle, tree roots had penetrated the graves and had so disintegrated and encased the bones that the bony tissue had disappeared, leaving only an impression in the grave, filled with a mass of fine rootlets,

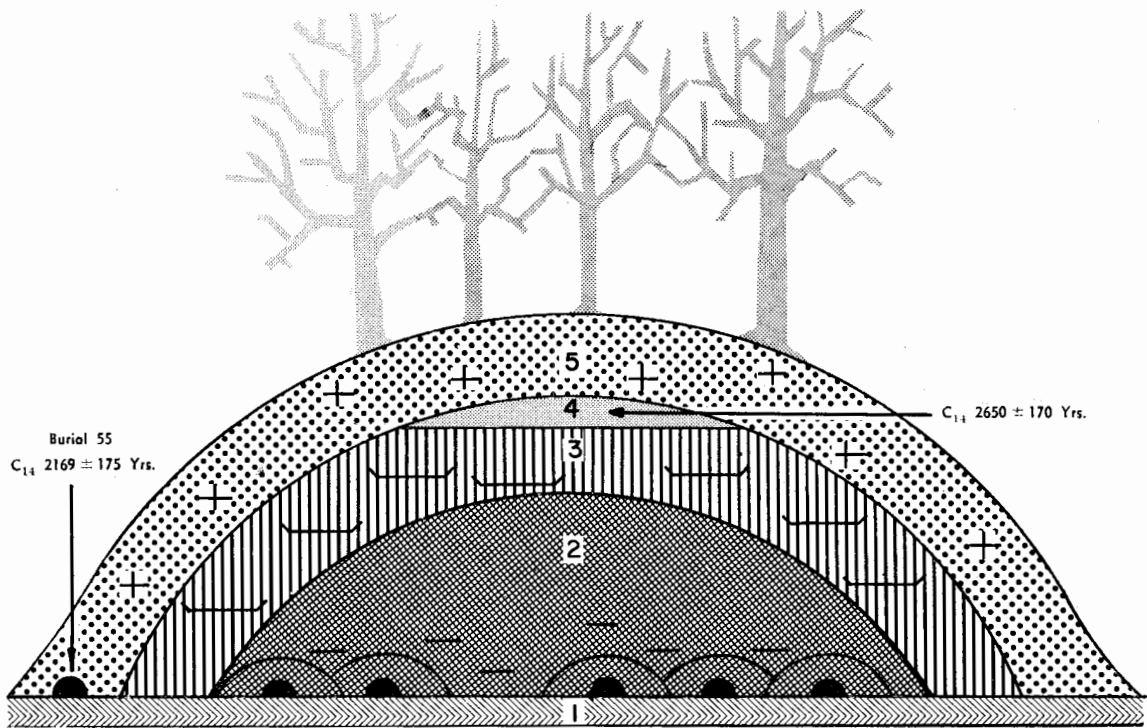


Fig. 7. Schematic profile of the Dover Mound.

1. Old humus layer.
2. Cremations under small mounds of marl;  
Extended burials in bark, covered by marl.
3. Log and bark tombs in mound section of mingled loads of marl and sandy clay loam.
4. Big fired area.
5. Burials in sandy clay loam.

and a stain in the sand. If a bark layer had been used in such graves, it too was not detectable in the mass of tree roots coming from the mound surface. Frequently in this mantle the finding of copper bracelets, which had preserved adjacent areas of the arm bones and some bark, was the first and only clue to the existence of a burial. Before the placement of the mantle of earth over this mound core, a deposit of cremated remains, Burial 55, had been made in Square 15 L 65 on the surface of the earth adjacent to the mound edge. Gathered up and deposited with these burned human bones was a mass of wood ashes containing a considerable amount of charcoal, together with scattered shell beads, also smoked by the fires of crema-

tion. A sample of this carbon, 148 (V38), was taken for carbon dating. The sample was found by Libby to have an age of  $2,169 \pm 175$  years.

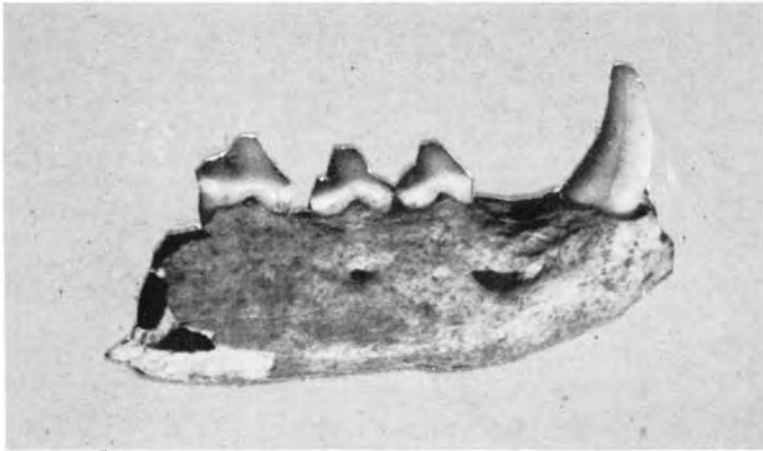
*Summary.* Thus this mound revealed by its profiles that it was built on an old forest floor, the site of a village. A layer of blue-white clay marl, about seven and one-half feet thick, was used to cover cremations and extended burials in bark tombs. This construction was later covered to a depth of about nine feet with a sandy silt mingled with loads of clay marl, in which many bark-lined tombs were included. Finally, a mantle at least four and one-half feet thick of sandy loam, containing no marl, covered the whole mound. In this mantle a number of burials had also been made, but all those found were in a state of poor preservation.

## BURIALS

The skeleton material from this excavation was in general very poorly preserved. Some had been disturbed by groundhog burrowing and other rodent action. Due to earth pressure, the skulls and long bones usually were found badly crushed. Much mechanical disturbance had been caused to the graves by large roots of oak trees growing on its surface. In most cases the small roots of the trees had followed along the lines of burial and had absorbed the bones, leaving only traces of stain and bone impressions in the earth.

Certain burials because of special associations have been selected for brief descriptions; a complete census is presented in Table 2. Table 1, following this description, summarizes the total burial content of this mound.

*Burial 2.* This was a deposit of cremated remains in Square 5 R 20 at the mound base. On an area two by three feet, ashes containing burned and broken human bones had been spread. On top of this deposit, at the center of the area, a large flint "spear" point had been placed and covered with red ocher. Over all a layer of bark had been placed, which in turn was covered by a concentration of fist-sized river pebbles in a layer about six inches thick. The flint point, prob-



**Fig. 8.** A dog jaw recovered from Burial 4.

ably ceremonially broken in two, had red ocher also on the broken surfaces. Laboratory examination of these bone fragments indicated an adult male cremation.

*Burial 3.* This was an extended burial on white puddled clay in Square 0 25 at 0.2 feet below the benchmark. On the clay a layer of bark had been placed, on which the body of a male, aged 18 to 20 years, had been laid. This body was covered from hip to feet with red ocher. It was then covered with a bark layer, and then by a layer of white puddled clay which was very hard. The bone had disintegrated, and along channels formed where the bones once lay, fine tree roots had grown in masses, feeding on the bones. Only small crumbs of bone remained. Of the skull, only the teeth remained. Two copper bracelets at the left elbow had preserved short sections of the arm bones thrust through them.

*Burial 4.* This was an extended burial of a female, 16 to 18 years old, at Stake 25 L 5 at the base of the mound, 2.5 feet below the benchmark. The body was laid on puddled clay and covered with bark. Three shell beads were found at the right shoulder, and fragmentary animal bones by the right arm. Among these fragmentary bones the right mandible of a dog, *Canis familiaris*, has been the only one identified (see fig. 8).

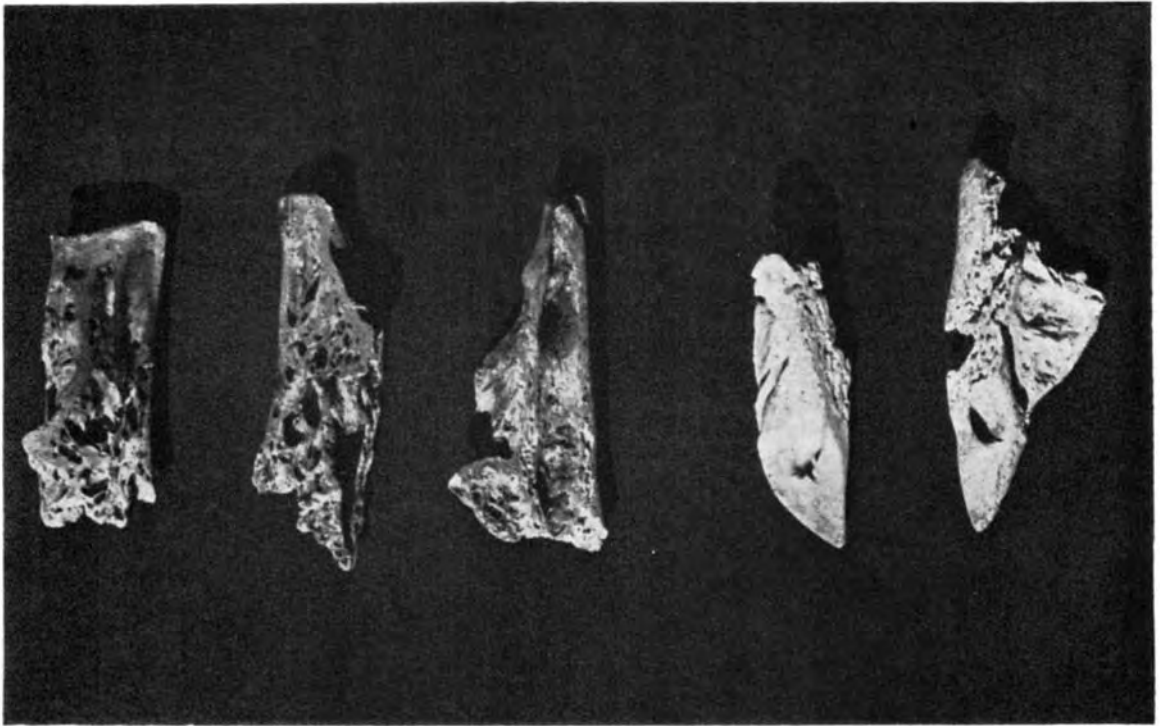
*Burials 5-6.* This was a multiple cremation in situ. Under Stake 15 L 10 and at a depth of 2.5 feet below the benchmark, an area some twelve feet or more in diameter had been subjected to heavy burning for sufficient time to convert a hard clay layer to an orange-red color. This area had been demarked by traces of an unburned log lying north-south on the west side, and another similar partially burned log on the east side. These logs were about ten feet apart. Between these logs there was a compact layer of ashes some five inches thick in the center and diminishing in thickness toward the edges. At the edges small chunks of charcoal appeared, as well as fragments of burned human bone. This ash layer seemed to have been burned in situ and to have been preserved by being covered by a dome of hard clay marl some five inches thick in the center.

The remains of at least four individuals were separated from this cremation—two adult males and two children. With these remains were found the terminal phalanges of *Lynx rufus*, also calcined, and some disk and globular shell beads, cut polished-bone cylinders, and five worked pieces (cut and polished) of unidentifiable animal bone, two of which were well calcined (see fig. 9).

Under the layer of burned clay on which the cremation was found was another layer of ashes on the old village floor. These ashes contained broken and burned animal bones, and may represent a cooking fireplace which was selected as the site for a cremation, being first covered by the clay layer which was later burned orange-red.

*Burial 9.* This was the extended burial of a rugged male, 35 to 40 years old, with a young woman on top, at 15 R 35 at an elevation of 4.6 feet above the benchmark. The body of the man, some 66 inches tall, had been laid on hard clay and covered with sand. The bones had nearly disappeared. The head had rested at the junction of two large sheets of mica which were laid horizontally and extended some six inches beyond the skull on either side (see fig. 10). Under the mica at the right side of the skull lay a deposit of white pigment, and on each side below the chin were two animal jaws of the puma (mountain lion) containing canine and incisor teeth. The left elbow was encircled with a pair of copper bracelets, which had preserved sections of the arm bones as well as bits of cloth and bark. On the left hand was a copper spiral ring. At the right hip was a deposit of





**Fig. 9. Associated unidentifiable, calcined, worked bone pieces from the crematory area of Burials 5-6.**

red ocher, and near the right shoulder was a flint chip and a triangular copper pendant. Adhering to this pendant was a small section of woven textile, both over and under it.

In a semicircle at the feet of this man, a few inches removed, was a mass of curved mica strips piled together, the concave side of the semicircle toward the feet (see fig. 11). On top of this mica deposit was a flint projectile point and four broken pieces of flint; outside the semicircle were three lumps of deposits of pigment, one orange-brown, one white, and one red-ocher. Each was separated from the other in a small pile as if it had once been in a container, the white pigment being slightly under the mica deposit.

A laboratory examination of the remains of this skeletal material from Burial 9 revealed fragmentary bones of a young adult female about 20 years old, laid on top of the male burial. The bones of this second skeleton were in such poor condition of preservation that no separation was possible in the field.

The animal jaws found on each side of the chin of the man's skeleton, being much better preserved than the human bones, were sent to the National Museum at Washington, D. C., for identification. They were found to be the broken-off rostrum portions of the skulls of the puma, *Felis concolor*.

In view of the discoveries made in recent years that Adena had "medicine men" or shamans, who wore animal masks when performing in their official capacities (Webb and Baby 1957, p. 61-71), one must conclude that here is evidence that this shaman was a "panther man" who was highly regarded in his time and place. It is not thus surprising that this burial was unique in this mound, in that his head rested on two sheets of mica. He was the only one found to have a copper ring and a copper pendant and three samples of pigment, each a different color (red, orange, and white) and in its own container. He also probably had a cloak or some form of garment elaborately decorated with curved strips of mica. This may have been part of his professional paraphernalia when he was impersonating the great cat. This garment, possibly of leather, was folded and laid at his feet, and had largely disappeared due to decay, leaving these folded broken and perforated strips of mica as a residue. Under these circumstances, one may speculate about the presence of the second individual in the grave. This young woman may have been a daughter or a "magician's assistant" who died at the same time as the shaman, but one can imagine that she was sacrificed, willingly or not, to accompany him into the world of spirits.

*Burial 11.* This was an extended burial of a male, 19 to 20 years old, at 15 R 40 at 4.7 feet above the benchmark. The body had been laid on a bark layer sloping to the north, and was continuous with a log impression along its northern edge. Two copper bracelets were on the left forearm.

*Burial 20.* This burial, probably of an adult male, was in Square 15 R 55 at a depth of 3.8 feet below mound surface. It was very badly disturbed and decomposed by the tree roots. Traces of bark layer were found, and small pieces of long bones not individually identifiable were located. There were two copper bracelets found showing traces of preserved leather, cloth, red ocher, and bark.



**Fig. 10.** Sheets of mica under the skull of Burial 9, in situ. Part of the skull is adhering to the larger sheet.

*Burial 21.* This was an extended burial of a male, 24 to 26 years old, placed on the back at a depth of 6.5 feet below Stake 5 R 55. Seven barrel-shaped shell beads were among the left ribs below the shoulder. Two copper bracelets were at the left elbow, and disk shell beads at the left wrist. A stave of wood (a spear thrower or a bow?) and woven cloth extending about one foot along the left side were preserved by the presence of the copper bracelets.

*Burial 23.* This was an extended burial of unidentified sex and age on a bark layer showing traces of leather in Square 10 L 45 at an elevation of 9.5 feet above the benchmark. The bones had largely disappeared except where preserved by two copper bracelets on the right forearm. There were traces of cloth between the bracelets.

*Burials 26 and 27.* These were extended burials of a woman, about 22 years old, and a boy, 7 to 8 years old—possibly mother and child—

at a depth of 6.9 feet below the surface in Square 5 R 50. There were black stains on the skull fragments. The bodies lay side by side but in reversed directions on a bark layer. The mother (Burial 26) had at her left wrist a pair of copper bracelets showing preserved textile and a piece of two-ply cord. Shell beads were found at the right shoulder. The burials had been covered by a bark layer.

*Burials 31 and 32.* These extended burials of females, 25-30 and 22 years old respectively, were side by side 3.9 feet above the benchmark in Square 15 L 50. A log mold extended at right angles to the skeletons just beyond the skulls. The bark, both under and over the skeletons, had practically disappeared, but observable remnants beyond the skeletons could be found in all directions. About the left wrist of Burial 32 was a pair of copper bracelets.

*Burial 33.* This extended burial of an adult of undetermined sex at 6.0 feet above the benchmark in Square O R 85 was badly disturbed by tree roots so that only traces of bone remained on a bark layer. Two copper bracelets lying together on the bark layer were found.

*Burials 34A and 34B.* In this extended burial two adult bodies were laid side by side on a massive bark layer about eight by twelve feet, centered under Stake 15 L 50 at a depth of 0.5 feet above the benchmark. The bones were badly crushed by earth pressure and were fragmentary. At the right wrist of Burial 34A, a tall man (6 feet) of about 30 years, was a pair of copper bracelets. Burial 34B—too fragmentary to be assessed as to sex or age—at the right side of Burial 34A, had, parallel to the right arm and in line with it about opposite the right hip, an expanded bar “gorget” made of limestone and broken by earth pressure into four pieces (see fig. 12). On the left humerus a single flint projectile point lay with the point toward the feet.

*Burial 35.* In Square 65 L 20 at an elevation of 6.5 feet above the mound base there was a bark-covered area much disturbed by tree roots of a large oak which had grown to maturity on the mound surface above. This bark layer, poorly preserved, had the appearance of a grave, but no bones could be detected except those evidently of



**Fig. 11. Curved mica strips piled at the feet of Burial 9, in situ.**

an adult, that were thrust through the two copper bracelets found on this layer. These fragmentary arm bones were preserved. Verily, "the oak shall send his roots abroad and pierce thy mould."

*Burials 40 to 43 Inclusive.* This was a group of four extended bodies—three males between the ages of 25 and 30, and a female about 13 years old—placed at the center of a heavy bark layer about fifteen feet in diameter. This bark layer was laid on a floor of small logs and poles placed side by side and centered about Stake 5 R 55 at an elevation of 15.5 feet above the benchmark. The bodies had been placed side by side, three close together and the fourth slightly separated, but head to foot. The remains of Burial 40 is one of the largest known to Adena; the skull-foot field measurement is 84 inches. The bodies had been covered with heavy bark and a layer of earth some nine to twelve inches thick. Later, on top of this earth layer a heavy fire had been built. This fire gained access to the grave below and completely burned some of the small logs and bark, reducing much of the re-

mainder to charcoal. It produced a partial cremation of some of these skeletons. Some of the bones were calcined; the remainder were heavily smoked. The grave showed evidence of the use of red ocher at the time of burial. Some of the shell beads accompanying these burials were partially calcined and broken, and others covered with soot. The earth layer covering these burials was burned on top and discolored by the large fire on the top of the grave. The underside of this earth layer was also colored red by the fire which burned the logs and bark constituting the tomb covering. There was thus much charcoal remaining from this fire. Sample V42 was taken for radio-carbon dating, with the results indicated above.

*Burial 45.* At the base of the mound on an old village floor, under Stake 75 L 25, a bark layer was observed covering an area of about twelve feet square. The dark soil under this layer made the boundaries of the bark layer difficult to determine.

This area was first partially exposed near a weekend of rainy weather, and when work closed for the week on Saturday noon, it had been largely cleared of superencumbant earth, but had not been swept and cleared for careful investigation. It was, therefore, covered over with tarpaulins to await clear weather and the resumption of work on the following Monday.

On Sunday afternoon a local resident visited the site, and being intrigued by the covered area, he removed the canvas covering and walked about over the covered area, thoroughly tramping it down. This area at one point began to show some "green specks," as the intruder called them, on the black bark. These he picked up and put in his pocket. Taking them home, he showed them to some of his friends. One of the intruder's friends visited the site the next Monday morning when work was resumed. The intrusion was obvious, and this second visitor readily volunteered the information (when he understood that these "green specks" were copper beads) that his friend who had tramped over the area still had the beads, not knowing what they were. They were later returned.

Careful investigation revealed that a layer of bark had been placed on the old village floor, and on this the bodies of two children had been laid extended side by side. A second heavy layer of bark had been set on top of these burials and covered with the sandy loam

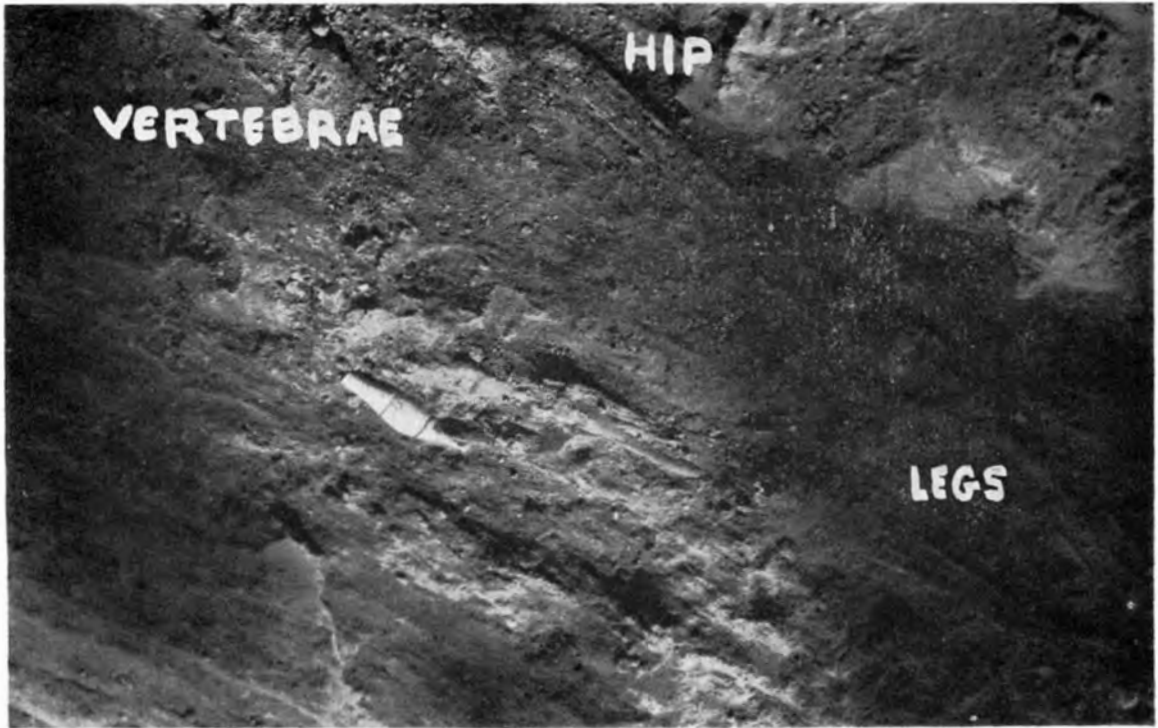


Fig. 12. An expanded bar "gorget" found in Burial 34B, in situ.

of the village. The bones of these children had all but disappeared, leaving only crumbs between the bark layers. When the top layer was lifted in small pieces, the bone remnants adhered to the top layer of bark as well as to the lower layer.

On the left arm of Burial 45A there was a group of three small copper bracelets, and under the lower jaw, which was partially preserved by their presence, was a group of copper beads. These had seemingly been worn as a string about the neck. Some still remained attached by corrosion to each other end to end. This was the source of the "green specks" noted above. On the left arm of Burial 45B was another group of three copper bracelets of delicate construction and of small diameter as befitting a young child. This group was badly broken due to the trampling of the area by the intruder.

*Burial 46.* This was a burial of undeterminable sex and age, placed on a bark layer in Square 5 R 70 at an elevation of 11.5 feet above the mound base. Burial was badly disturbed by the large tree roots

Table 1  
BURIAL STATISTICS

<i>Form of Burial</i>	
Bodies fully extended in the flesh .....	37
Bodies partially flexed (legs bent) .....	1
Burials in which only skulls were found .....	4
Deposit of cremated remains, single .....	4
Cremation in situ, multiple .....	1
Burials in which disturbance and decay had rendered form of burial doubtful .....	8
Total	55
<i>Multiple Burials</i>	
(The following burials occurred within the group listed above.)	
Grave of mother and child .....	1
Two adults side by side, parallel .....	2
Two adults side by side, reversed .....	1
Four adults in same grave .....	1
Two children extended in same grave .....	1
Multiple cremation .....	1
<i>Grave Construction</i>	
Logs used in grave construction .....	5
Bark used on grave floor only .....	8
Matting on floor of grave .....	1
Bark used both above and below skeleton .....	12
Burials on puddled-clay base .....	3
Burials covered by small clay mounds .....	8
Red ocher observed in graves .....	11
Black stains on bones .....	4
<i>Artifact Associations</i>	
Total burials with artifacts in association .....	19
Burials with copper artifacts .....	14
Burials with mica artifacts .....	3
Burials with flint artifacts .....	3
Burials with shell beads .....	4
Burials with leather or textile fragments preserved .....	10+

which had penetrated it. The crushed skull fragments remained, about which were some fragments of mica.

*Burial 51.* This burial of unknown age or sex consisted of much decayed fragmentary bones in Square 20 L 65 at an elevation of 8.5 feet above the mound base. Small tree roots had so encased the bones that they had nearly disappeared. This extended burial had two copper bracelets on the left arm.





**Fig. 13.** Views of the skull of the younger man from the cremation of Burials 5-6. About half of the skull was restored from many small fragments of thoroughly calcined bone. Note the prominent square chin and other typical vault and face features.

*Burial 54.* This was an extended burial of a woman, about 27 to 30 years old, on a bark layer. It was covered with bark and was at an elevation of 3.0 feet above base in Square 10 L 75. The skeleton was only fairly well preserved. It was stained with red ocher along the left side and had disk shell beads to the left of the chin. This woman, quite tall (five feet six inches) and muscular, had suffered an old injury to her left shoulder.

*Burial 55.* In an area covered by ash and charcoal under Stake 15 L 65 on the old village floor at a depth of 2.0 feet below the benchmark were found disk shell beads burned and sooted black. This was a redeposit of cremated remains, made in the old village near the base of the mound core. None of the calcined fragments were definitive other than to indicate probable adult age. The burial was later cov-

ered by the heavy earth mantle which extended over the mound core. From this cremation, charcoal Sample V38 was taken for radiocarbon dating. It was measured by W. F. Libby to be  $2,169 \pm 175$  years. This would seem to indicate that after the great ceremonial fire had been made on the top of the mound core, considerable time elapsed during which burial and building at this mound site were discontinued. At the close of this period of inactivity, Burial 55 may have been laid on the forest floor at the edge of the mound, and shortly thereafter the large mantle of earth put over all.

### SKELETAL MATERIAL

The skeletal remains of some 60 individuals from 55 excavated burial places make up the series from the Dover Mound. These can be grouped by age and sex as: adult men—21; adult women—9; adults of indeterminate sex—10; youths of indeterminate sex—2; children of indeterminate sex—6; persons of indeterminate age and sex—12.

For the most part, these remains are extremely fragmentary. The rather sandy nature of the mound fill as well as the collapsed condition of the tombs worked in conjunction with the usual processes of decomposition. Nevertheless, some very well preserved individual bones are present, and in some cases within the same skull there are varying degrees of preservation from the most friable bone to that of a "fresh" nature—strong and elastic. In these instances the burial position, fully extended on the back with the bottom of the grave a source of decomposing tissue in the natural course of time and events, may account for this range of bone condition.

Table 2 classifies the remains of the Dover burials by sex and age as far as their fragmentary nature permits. The high incidence of the remains of men is probably attributable to two factors. First, the more rugged and heavier nature of male bones tends to withstand the ravages of time better than the lighter, more delicate bones of the average female. Secondly—and there is much evidence to support the view—these Adena mound burials are of a highly select group, with men predominating.

From the point of view of the individual census, Burials 5-6 are



**Fig. 14. Front and side views of the skull of Burial 10, a typical adult male.**

perhaps the most interesting and unusual. The cremated remains of at least four persons were comingled in what is believed to be a crematory in situ. In the field the entire cremation, consisting of charcoal, ash, and thoroughly calcined fragments of the four individuals, was carefully scooped up, placed in containers, and brought in to the museum laboratory. There all of the material was carefully screened twice through fine-meshed sieves. The fine ash dust was discarded. The charcoal and bone fragments were separated and studied apart.

The physical anthropologist made first a rough sorting, separating the identifiable fragments of skull, backbone, long bone, and other bone into separate boxes. All of the material was gone over repeatedly, so that it can be stated that all recognizable fragments of any size at all were identified by the specific particular bone. From these fire-hardened identifiable fragments, it was possible to isolate the remains of two men, one younger and one older, and the remains of two infants, one older than the other.

Table 2 – BURIAL CENSUS

No.	Sex	Age	Remarks
1	?Male	Adult?	Cremation redeposited (few fragments).
2	?Male	Adult	Cremation to the lower limb bones (at waist). Hips.
3	?Male	Young adult 18-20 yrs.	Only tooth fragments present. Bones lay coated with red ocher. Large, long-rooted teeth.
4	?Female	Adolescent 16-18 yrs.	Very fragmented thin skull, occipital very flat. Neck bones and few long bone fragments. Dog mandible present.
5-6	A	Male Young adult 23 yrs.	(Figs. 13 and 22-28.) 1/2 skull repaired. Large male with prominent bilateral chin. Smaller, older man with arthritis.
	B	Male Adult 30+ yrs.	
	C	?Male Child 3-5 yrs.	
	D	? Infant 2-3 yrs.	
7	?Male	Adult	Crown of the skull flattened. Skull fragments. Red ocher and black-stained bone.
8	Male	Young adult	Left foot and lower end of tibia. All fragments black-stained.
9	A	Male Adult 35-40 yrs.	Large man with rugged head and face, wide bilateral deep prominent chin, and curious black-stain blotches on right jaw. Red stain on frontal. Bark-covered occipital, black-stained, deep binding groove above inion (2 cm.). Huge mastoids. Jaws and occipital saved; rest fragments. Black-stained limb bones. Measured length approximately 66 inches. Tooth fragments, bits of skull. Lower left molar, two cavities in center. Occipital flattened.
	B	?Female Young adult 20 yrs.	
10	Male	Adult 30? yrs.	Reburial face downward. Nearly whole but warped skull, back and left side blackened. Long-faced, with deep suborbital fossae. Medium lambda flattening. Protostylid, lower right third molar. (Fig. 14.)
11	Male	Young adult 19-20 yrs.	Protostylid cusp right lower third molar. Skull fragments virtually black. All the rest disintegrated fragments.
12	?Female	Young adult	Few teeth and long bone fragments. Bone black-stained. Measured length approximately 64 inches.
13	Male	Young adult ± 26 yrs.	Best preserved male skull of Kentucky Adena. Similar to Cowan Creek, Ohio, skull. Deformed at lambda. High-vaulted, large-faced, robust male skull. Could belong with Burial 15. (Fig. 15.)
14	Female	Young adult 23-24 yrs.	Very fragmented, globular thin-walled skull cap, deformed. One head femur and bits of shaft bone, black-stained.
15	Male	Young adult	Lower extremities only of a very large man, red ocher and black stains, squatting facets on both shin bones present. Skull 13 could go with these remains. Skin? covering about hips.

Table 2 — *Continued*

No.	Sex	Age	Remarks
16	?Male	Adult Middle-aged	Skull only. Very robust, large-browed man. Bones black-stained and red ocher. Deep wear on teeth.
17	Male	Young adult 23 yrs.	Breast bone with bark on lower side. Many well-preserved bones including both feet, ribs, and hip bones. All "fresh"-like, solid bone. Bark strips laid parallel with body under hip bones. Squatting facets present on tali. One small thoracic vertebra and the tip of the coracoid process of right scapula. Measured length approximately 68 inches. (Fig. 16.)
18	Female	Young adult 22 yrs.	Black-stained bones.
19	Female	Young adult 25-30 yrs.	Very fragmentary skeleton. Teeth all cracked and broken apart. Wide ischiatic notch in pelvis. High narrow forehead suggested.
20	?Male	Adult?	Copper-stained arm bone fragments. Bones blackened from red ocher? Right temporal, one lower molar tooth with protostylid. Femur very black-stained. Copper salts preserved leather? and cloth? on bones. Charred sticks over bracelet.
21	Male	Young adult 24-26 yrs.	Left elbow bones green-stained, and left leg, big pilaster, very muscular. Burial indicates a large robust man. Inca bone (one piece) undeformed, protruding occipital. Shell necklace of barrel-shaped beads. Cloth and strip of wood, possibly a spearthrower, present.
22	Male	Young adult 28-30 yrs.	Disturbed burial. Red ocher on frontal fragments. No nasion depression. Few large bone fragments.
23	?	?	Copper-stained bark or leather? One section right ulna, wrapped in cloth.
24	?	Young adult?	Skull fragments only with open sutures.
25	Male	Adult 35 yrs.	Skeleton of a large, strong man. Loss and absorption of all lower molars and alveoli ridges. Bones coated with bark. Hard, "fresh" small bone fragments. Large skull with flat backhead and prominent wide (52 mm.), bilateral chin. Bark clinging to lower surface of all bones. Measured length approximately 71-72 inches (Fig. 17.)
26	Female	Young adult 22 yrs.	Well-preserved, undeformed restored skull. Left lower arm copper bracelet and shell beads at right shoulder. Black on bones, lower extremity only. Bark adhering. Right femoral head 44 mm., and both humeri 45 mm. Right humerus length 313 mm. Red ocher on humerus. Left hip height 203 mm., breadth 156 mm. Present were fragments of whole burial with abundant red ocher. (Fig. 18.)
27	?Male	Child 7-8 yrs.	Skull fragments with teeth in very poor condition. The lower extremities show open epiphyses. Left femur 355 mm. Bark under skull.

Table 2 — *Continued*

No.	Sex	Age	Remarks	
28-	?Female	?	Thin fragments of cremated skull bones. One rib fragment present.	
29	Male	Young adult 22 yrs.	Small muscular man with prominent, wide bilateral chin. Black stains, some bark on bones. Also cremated fragments of very thin bone possibly of an infant?	
30	?	Child 6-7 yrs.	Teeth and a few long bone fragments.	
31	Female	Young adult 25-30 yrs.	Very fragmentary skeleton. Teeth all cracked and broken apart. Wide ischiatic notch. High narrow forehead suggested. Measured length approximately 64 inches.	
32	Female	Young adult 22 yrs.	Very fragmentary skeleton. Bones blackened. Bark adhering to many black-stained teeth. Squatting facets at ankle joints. Measured length approximately 66 inches.	
33	?	Adult	Disturbed. One foot bone (navicular). Two copper bracelets.	
34	A Male	Adult 30? yrs.	Very fragmentary, bark on most parts. Measured length approximately 72 inches.	
	B ?	?	Very fragmentary. Atlatl weight broken near femur, and spear point, tip toward feet, on upper arm bone.	
35	?	?	Disturbed. Two copper bracelets present.	
36-	Male	Young adult 26-30 yrs.	Skull only.	
	37	Male	Adult	Fragments of very large robust man with thick skull and massive mastoids. Lower right parietal and occipital show binding groove. Left temporal base sphenoid and parietal smoked black. Shaped, vault with flat occipital. Measured length approximately 66-67 inches.
38	?	?	Very fragmentary.	
39	Female	Young adult	Skull fragments only but no teeth. Skull base, parietal, occipital, both temporals (partly burned) smoked black and slightly calcined. (Accidental firing of tomb of Burial 5 superimposed.)	
40-	Male	Young adult 25-30 yrs.	Very thick, black-stained skull. Five dental pearls on upper and lower second molars. Two femoral shafts bowed "green." Blackened, stained, smoked parietals and right sphenoid bones. Measured length approximately 84 inches. Tallest Adena man.	
	43	Male	Young adult 22 yrs.	Right femur, estimated length, 488 mm. Femoral heads, left 47 mm., right 48 mm. (diameters estimated). Well-developed pilaster. Laid on bark. Black stain on bones.
		Male	Young adult 25-30 yrs.	Large-faced, hook-nosed man with flattened skull. Right side of skull gone. Fragments of both thigh bones are also black-stained. (Fig. 19.)
		?Female	Adolescent 13-15 yrs.	Ischium separated from rest of hip bone. All bones smoked black except left foot. Skull blackened inside. Five shell disk beads present. Bark? Leather? Measured length approximately 63 inches. (Figs. 29 and 30.)

Table 2 — *Continued*

Age	No.	Sex	Remarks
44	Female	Young adult 19-20 yrs.	Very decayed skull fragments, including teeth, short-rooted upper-central incisors. Roots equal crown lengths. Black stain on most bones. Very fragmentary.
45	{ A ? B	Children	Skulls only. Very fragmentary "crumbs" of bone. Six small delicate copper bracelets. Disturbed by visitor. "Green specks" were small copper beads.
46	?	?	A crushed skull only. Few mica fragments nearby.
47	?	?	Skull and other bones disintegrated. Measured length approximately 60 inches.
48	Male	Young adult 23-24 yrs.	Fragment of the left side of the skull only. Thick bone of chalky nature.
49	?	?	Burned skull only. Disintegrated.
50	?	?	Burned. Only some skull and foot bone fragments.
51	?	?	Two copper bracelets with left arm bone fragments.
52	?	?	Nothing remained.
53	Male	Adult 35 yrs.	Rugged heavy skull. Arthritic lipping on temporomandibular joints. Large muscle works of neck and mastoids. Lower jaw teeth worn to gum line on outside. Wide prominent bilateral chin. Large abscess lower right second molar. Very flat-faced with large cheek bones. Neck vertebrae show arthritic destruction. Flattening at lambda pronounced. Fragmented right femur very rugged and quadrilateral in cross section. Left side of skull, black stain. Measured length approximately 72 inches.
54	Female	Young adult 27-30 yrs.	Tall muscular woman with diseased left humeral head—a bone injury to shoulder from above-fracture? Bark still on bones. Well-curved short clavicle. Short incisor teeth, supernumerary in left maxilla above incisors. Arthritis in the neck vertebrae. Bark over face on left malar. Big flat face. Red stain on the bones, especially of left leg and foot. Shell beads found at chin. Measured length approximately 65 inches. (Figs. 20 and 21.)
55	?	?	Cremation. See charcoal specimen V38. No bones available for examination.

*Cranial Analysis.* The metrical information (measurements and indices) and the morphological data presented in Table 3 indicate that these Adena men and women buried in the Dover Mound are typical of Adena people in every respect. Not only do the Dover people show the results of head shaping (deformation), but they exceed the total Kentucky series in the great width and height of the skull vault!



**Fig. 15. Front and side views of the skull of Burial 13, one of the best preserved male Adena skulls. All the features are typical.**

All of the values of and the features themselves fall within the normal range of variation as exemplified by the other known and studied Adena skeletons in Kentucky and Ohio (Webb and Snow 1945, p. 254).

The measurable skulls from the Dover Mound are typical of Adena people in every respect. Small as the group is, it is to be noted that the head shaping, again as found commonly practiced among the Adena people, has been extreme in these skulls.

In general, the skulls of the people from the Dover Mound may be described as having short, broad, and high vaults. The skull base as measured at basion extends far below the porionic plane. The vault size, as measured by capacity and the cranial module, is large. Faces are of average proportions but large in size. Females characteristically have longer and narrower faces with obtuse jawbone angles. Orbit and nasal dimensions and proportions are all average. The palates are large and very broad compared with their lengths.

The short, high nature of the brain boxes along with the broad,



Table 3  
DOVER SKULLS COMPARED WITH TOTAL KENTUCKY ADENA CRANIA

<i>Measurements in millimeters</i>	Males						Females			
	No.	Dover		Total		No.	Dover		Total	
		Range	Average	No.	Average		Range	Average	No.	Average
Glabello-Occipital Length .....	5	160.0 — 173.0	164.6	38	166.2	2	149.0 — 166.0	158.0	24	160.0
Maximum Breadth .....	4	146.0 — 160.0	155.5	41	148.3	2	139.0 — 144.0	141.0	28	144.4
Basion-Bregma Height .....	2	156.0 — 164.0	160.0	20	151.0	—	—	—	17	145.0
Auricular Height .....	3	132.0 — 135.0	133.7	28	129.0	1	128.0	128.0	11	126.3
Mean Thickness Left Parietal .....	3	5.0 — 6.2	5.7	44	5.6	2	5.3 — 5.5	5.4	27	5.4
Minimum Frontal Diameter .....	6	90.0 — 100.0	94.5	41	91.6	3	87.0 — 91.0	89.3	21	88.4
Maximum Frontal Diameter .....	3	128.0 — 130.0	129.3	28	121.6	1	129.0	129.0	14	118.2
Frontal Chord .....	6	110.0 — 120.0	115.0	42	114.5	2	106.0 — 110.0	108.0	24	109.3
Horizontal Circumference .....	4	505.0 — 512.0	509.2	34	498.4	2	455.0 — 485.0	470.0	18	481.0
Nasion-Opisthion Arc .....	3	354.0 — 362.0	359.0	28	364.6	1	347.0	347.0	19	351.8
Transverse Arc .....	6	334.0 — 365.0	356.5	38	335.5	2	305.0 — 337.0	321.0	22	324.5
Sagittal Arc .....	3	113.0 — 120.0	116.3	41	117.8	1	124.0	124.0	20	115.6
Sagittal Chord .....	3	98.0 — 105.0	101.0	41	102.3	1	105.0	105.0	22	100.3
Calculated Capacity (in cc.)* .....	3	—	1586.2	27	1495.4	1	—	1366.4	10	1395.0
Measured Capacity (in cc.) .....	1	1590.0	1590.0	3	1405.0	—	—	—	2	1280.0
Basion-Nasion Length .....	2	104.0 — 121.0	112.5	19	104.2	1	103.0	103.0	14	103.6
Basion-Prosthion Length .....	1	102.0	102.0	18	99.4	1	99.0	99.0	8	97.0
Basion-Poria Height .....	2	28.0 — 32.0	30.0	10	26.1	1	27.0	27.0	5	24.2
Bizygomatic Diameter .....	2	144.0 — 148.0	146.0	30	141.0	2	129.0 — 133.0	131.0	12	134.1
Mid Facial Breadth .....	4	99.0 — 109.0	104.2	23	101.9	2	93.0 — 99.0	96.0	10	97.8
Total Facial Height .....	5	120.0 — 137.0	128.2	32	124.9	2	114.0 — 116.0	115.0	13	116.8
Upper Facial Height .....	5	69.0 — 82.0	74.6	33	73.8	2	68.0 — 69.0	68.5	16	70.3
Total Facial Angle (in degrees) .....	2	84.0 — 96.0	90.0	20	84.4	2	80.0 — 81.0	80.5	9	82.0
Mid Facial Angle (in degrees) .....	2	91.0 — 100.0	95.5	21	90.6	1	87.0	87.0	9	88.8
Alveolar Angle (in degrees) .....	2	67.0 — 91.0	79.0	20	66.8	1	63.0	63.0	9	62.2
Nasal Height .....	5	44.0 — 60.0	53.6	33	52.9	2	50.0 — 51.0	50.5	18	50.5
Nasal Breadth .....	5	22.0 — 27.0	24.4	34	24.7	2	25.0 — 26.0	25.5	17	24.7
Mean Orbital Breadth .....	8	41.0 — 46.0	44.0	27	41.7	2	40.0 — 41.0	40.5	11	40.1
Mean Orbital Height .....	6	31.0 — 37.0	34.7	20	33.7	2	33.0 — 34.0	33.5	10	33.1
Interorbital Breadth .....	6	18.0 — 24.0	21.0	29	20.9	2	20.0 — 21.0	20.5	12	20.1

\* Pearson Karl, using Auricular Heights.

Table 3 — *Continued*

<i>Measurements in millimeters</i>	Males					Females				
	No.	Dover		Total		No.	Dover		Total	
		Range	Average	No.	Average		Range	Average	No.	Average
Biorbital Breadth .....	2	98.0	98.0	29	99.6	2	96.0 — 98.0	97.0	12	94.8
Maxillo-Alveolar Length .....	4	<i>52.0 — 60.0</i>	<i>55.8</i>	31	53.9	2	50.0 — 50.0	50.0	17	53.4
Maxillo-Alveolar Breadth .....	3	65.0 — 70.0	67.3	30	67.5	2	61.0 — 67.0	64.0	17	64.9
Condyllo-Symphysial Length of Mandible ....	5	<i>102.0 — 118.0</i>	<i>110.0</i>	37	107.9	3	100.0 — 110.0	104.3	14	104.7
Biangular Breadth .....	5	<i>100.0 — 120.0</i>	<i>111.4</i>	31	108.1	2	100.0 — 105.0	102.5	15	98.2
Height of Symphysis .....	6	36.0 — 42.0	38.0	32	36.1	3	30.0 — 38.0	33.3	17	34.7
Mandibular Height .....	4	58.0 — 66.0	61.5	33	59.0	3	48.0 — 50.0	49.7	12	52.8
Minimum Breadth Left Ramus .....	6	30.0 — 37.0	35.0	37	35.9	3	30.0 — 38.0	33.3	16	35.2
Gonial Angle (in degrees) .....	5	<i>110.0 — 131.0</i>	<i>120.6</i>	28	120.2	2	121.0 — 122.0	121.5	14	124.6
<i>Indices</i>										
Cranial Module .....	2	158.0 — 161.0	159.5	19	155.3	—	—	—	16	149.8
Cranial .....	4	84.4 — 98.2	93.8	35	89.3	2	<i>87.7 — 96.6</i>	90.2	24	89.9
Length-Height .....	2	94.8 — 95.7	95.2	19	92.1	—	—	—	16	90.9
Breadth-Height .....	2	100.6 — 112.3	106.5	19	101.9	—	—	—	17	101.5
Length-Auricular Height .....	3	80.9 — 82.8	81.7	26	78.1	1	85.9	85.9	10	80.2
Mean Height .....	2	98.1 — 102.8	100.4	19	96.7	—	—	—	16	95.9
Flatness of Cranial Base .....	2	17.9 — 19.6	18.7	10	17.3	—	—	—	5	15.4
Frontal (Maximum Frontal—Frontal Chord)	3	106.2 — 118.2	112.0	26	106.9	—	—	—	12	108.5
Fronto-Parietal .....	4	56.2 — 68.5	61.4	36	62.8	2	60.4 — 65.5	62.9	19	61.2
Total Facial .....	2	85.1 — 95.1	90.1	26	88.2	2	87.3 — 88.4	87.8	7	89.6
Upper Facial .....	2	50.7 — 56.9	53.8	27	52.2	2	51.9 — 53.5	52.7	9	53.1
Mid Facial .....	4	66.9 — 76.8	73.0	23	71.9	2	74.2 — 68.7	71.4	9	72.9
Cranio-Facial .....	2	90.0 — 95.5	92.7	28	95.7	2	89.6 — 95.7	92.6	11	93.2
Zygo-Frontal .....	2	61.5 — 69.4	66.4	27	65.1	2	67.4 — 68.4	67.9	9	64.6
Zygo-Gonial .....	2	72.3 — 77.8	75.0	26	76.9	1	75.2	75.2	9	74.9
Fronto-Gonial .....	5	<i>111.1 — 135.4</i>	<i>117.8</i>	30	117.3	2	110.0 — 116.7	113.3	10	111.6
Mean Orbital .....	6	72.1 — 90.2	79.8	25	80.7	2	80.5 — 85.0	82.8	9	80.2
Interorbital .....	2	18.4 — 24.5	21.4	22	21.4	2	20.4 — 21.9	21.1	8	20.3
Nasal .....	5	42.9 — 50.0	45.7	31	47.1	2	50.0 — 50.9	50.5	16	48.9
Maxillo-Alveolar .....	3	114.3 — 128.8	126.1	25	124.5	2	122.0 — 134.0	128.0	16	121.6
Mandibular (Height-Length) .....	4	49.0 — 62.0	55.9	—	—	3	45.0 — 49.0	47.3	—	—

Italicized figures are approximations. The total Kentucky Adena cranial series have many approximate values.



**Fig. 16. Front and side views of the skull of Burial 17, showing the typical features of an Adena male.**

short frontal bones, the great breadth of the face, which in turn would include the dimensions of the orbits, the nose, and the palate—all probably reflect the effects of head-shaping practices. From what can be discerned from the skulls of adults, youths, and children, the Adena people bound the heads of their infants as well as binding the infants themselves to a cradleboard. The high, steep occiputs, along with the grooves across the lower posterior borders of the parietals and their articulations with the temporal bones, indicate the manner in which the deforming stresses were applied. Occasionally a plane-occipital surface is present among younger individuals. In these cases, we can assess the shaping effects before the adult growth has had time to alter them. Undoubtedly this cultural mark—head shaping—so characteristic of the heads of Adena people, accounts for the peculiar but typical shape of head. These people as a group, selected though they are, have the highest skull vaults reported anywhere in the world (Webb and Baby 1957, p. 55).



**Fig. 17.** Front and side views of the skull of Burial 25, a middle-aged man. Note the square lower jaw with the very wide chin.

The better preserved skulls of these Dover people are illustrated in figs. 13 through 21. Indeed, the frontispiece portrays admirably the Adena type of prehistoric Indian, as restored on the original skull framework. One of the best preserved Adena male skulls ever described is illustrated in fig. 15. In fig. 13 are shown the typical contours of a male skull put together from cremated pieces. It can be demonstrated that red ocher was applied to the mandible, probably prior to cremation. Moreover, the roots of all of the mandibular dentition were found and placed properly in the jaw—a singular example of what can be done through painstaking care in the restoration of cremated remains when a sufficient number of recognizable fragments are available.

Since nearly all of the Adena skulls known have been so shaped, it is difficult to determine what the original heritable tendencies of these people may have been. One detailed study of the various racial types among the prehistoric American Indians lists a new series



**Fig. 18. Front and side views of the skull of Burial 26, a young woman.**

which might be compared with or considered as similar to the Adena people (Neumann 1952, p. 213). We have indicated before that the Adena people selected for the elaborate mound burial—the honored dead—cannot be regarded as representative samples of the Adena population. It seems certain that many, if not most, of the ordinary people must have been cremated in the common form of burial preparation. Therefore we are dealing with a most unusual group. It is no little surprise perhaps to conclude that the Adena people stand alone and have few counterparts in the usual skeletal series of archeological origin.

One of the outstanding and un-Indianlike traits present among the Adena people is their prominent and often bilateral chins. This characteristic structure has been noted before (Webb and Snow 1945, p. 254, 255, and illustrations), and it may be observed in the illustrations of most Adena skulls. One of the skulls from the Dover Mound, Burial 25 (that of a very large, robust, middle-aged man), represents a bilateral chin with a width of 52 mm. (2.05 inches) (see fig. 17).



**Fig. 19. Left-oblique view of the skull of Burial 42, an adult male with very prominent nose and chin. The back of the skull shows a pronounced degree of flattening.**

Although this measurement has not been taken routinely on many skulls, observation verifies the fact that these people had prominent wide chins. Perhaps sexual and social selection factors may be involved here.

Most of the indices of the skull vault reflect the effects of the head-shaping practices. The cranial index of almost 90 per cent for both sexes clearly shows this. Moreover, a study and comparison of other parts of the vault, including the forehead, the frontal index, the saggital chord and arc, as well as the contours of the head, show the amount and degree of foreshortening which has taken place. Sleeping habits (body on back) also would tend to continue the shaping process.

If the comparison is made limiting the examination to the dimensions and proportions of the face, including the lower jaw, the Adena people show their closest affinities with the Walcolid type described by Neumann (1952, p. 23).



**Fig. 20.** Front and side views of the skull of Burial 54, an adult female with typical Adena features. Note the very flat back head and the high crown presented in the side view.

Whatever the ultimate effect of infant head shaping on head and facial contours, it can be said that the crown was piled up in an impressive fashion and that these Adena people had big heads and big brain spaces within them. Shaped as they are in the large majority (90 per cent), the few measurable skulls have a large capacity.

*Postcranial Skeleton.* Careful examination of the postcranial (limb) bones of the burials from the Dover Mound reveals the usual variations of sex differences in size and massiveness. The range extends from the very large bones of several big men down to the small delicate ones of little women.

In spite of the fragmentary condition of most of the burials found within the Dover Mound, the postcranial parts of one female and four males are available. These have been carefully repaired, measured, and studied.

Table 4  
POSTCRANIAL BONES

Measurements (in millimeters) and Indices	Males		Females	
	<i>Left</i>	<i>Right</i>	<i>Left</i>	<i>Right</i>
<i>Humerus</i>				
Physiological Length .....	303.0	2 — 307.0	—	285.0
Maximum Length .....	309.0	2 — 314.5	—	290.0
Maximum Middle .....	2 — 23.5	2 — 23.5	—	20.0
Minimum Middle .....	2 — 16.0	2 — 16.0	—	14.0
Middle Circumference .....	2 — 67.0	2 — 63.5	—	56.0
Maximum Diameter of Head .....	2 — 44.0	2 — 44.0	39.0	39.0
Middle Index .....	2 — 68.0	2 — 68.0	—	70.0
Humero-Femoral Index .....	—	72.2	—	72.5
Index of Robustness .....	20.0	2 — 20.2	—	19.3
<i>Radius</i>				
Maximum Length .....	256.0	257.0	—	221.0
Middle Circumference .....	41.0	39.0	—	38.0
Humero-Radial Index .....	—	81.5	—	76.2
Index of Robustness .....	16.0	15.2	—	17.9
<i>Ulna</i>				
Maximum Length .....	270.0	271.0	—	244.0
Middle Circumference .....	47.0	41.0	—	42.0
Index of Robustness .....	17.4	15.1	—	17.2
<i>Clavicle</i>				
Maximum Length .....	158.0	156.0	133.0	130.0
Middle Circumference .....	38.0	37.0	28.0	29.0
Claviculo-Humeral Index .....	—	49.5	—	44.8
Index of Robustness .....	24.0	23.8	21.0	22.3
<i>Lumbar Vertebrae</i>				
I .....	28.0	31.0	25.0	30.0
II .....	30.0	31.0	26.0	29.0
III .....	27.0	28.0	26.0	29.0
IV .....	28.0	28.0	27.0	27.0
V .....	—	—	28.0	23.0
Index .....	95.8*		95.6	
<i>Sacrum</i>				
Height .....	138.0†		—	
Breadth .....	122.0		—	
Index .....	88.5		—	
<i>Pelvis</i>				
Total Breadth (Bi-iliac) .....	257.0		—	
Maximum Breadth (Superior Strait) .....	117.0		—	
Antero-Posterior Diameter (Superior Strait) .....	127.0		—	
Bi-ischiatic Breadth .....	141.0		—	
Interspinous Diameter .....	87.0		—	
Brim Index .....	108.5		—	
Total Pelvic Index .....	77.0		—	

\* Only four lumbar vertebrae.

† Includes fifth lumbar.



Table 4 — Continued

Measurements (in millimeters) and Indices	Males		Females	
	<i>Left</i>	<i>Right</i>	<i>Left</i>	<i>Right</i>
<i>Innominate</i>				
Height .....	201.0	195.0	200.0	200.0
Breadth .....	154.0	154.0	156.0	147.0
Index .....	76.6	79.0	78.0	73.5
<i>Femur</i>				
Bicondylar Length .....	2 — 458.5	2 — 459.5	405.0	400.0
Maximum Length .....	2 — 461.0	2 — 463.5	414.0	410.0
Maximum Diameter of Head .....	3 — 48.5	3 — 47.5	41.0	39.0
Subtrochanter Antero-Posterior .....	3 — 28.5	2 — 23.5	22.0	23.0
Subtrochanter Lateral .....	3 — 34.5	2 — 33.0	29.0	30.0
Middle Antero-Posterior .....	3 — 29.7	2 — 28.0	23.0	24.0
Middle Lateral .....	3 — 28.0	2 — 25.5	23.0	24.0
Middle Circumference .....	3 — 89.0	2 — 84.0	71.0	74.0
Platymeric Index .....	3 — 82.5	2 — 71.3	75.8	76.7
Middle Index .....	3 — 94.2	2 — 91.1	100.0	100.0
Index of Robustness .....	18.1	2 — 18.1	17.2	18.0
<i>Tibia</i>				
Maximum Length .....	373.0	—	—	336.0
Nutrient for Antero-Posterior .....	37.0	—	—	30.0
Nutrient for Lateral .....	24.0	—	—	21.0
Middle Antero-Posterior .....	30.0	—	—	24.0
Middle Lateral .....	21.0	—	—	20.0
Middle Circumference .....	79.0	—	—	72.0
Middle Index .....	70.0	—	—	83.4
Platycnemic Index .....	64.9	—	—	70.0
Tibio-Femoral .....	86.5	—	—	84.0
Index of Robustness .....	21.2	—	—	21.4
<i>Fibula</i>				
Maximum Length .....	—	355.0	—	332.0
Middle Circumference .....	—	45.0	—	45.0
Index of Robustness .....	—	12.7	—	13.6

Italicized figures are approximations.

These long-bone data have been arranged in Table 4 as far as the measurements go. Like the bones of the skulls, many of the long bones show remarkably good preservation; others, like Burial 25, the "grand old man," were extremely fragmented. The repair of the bones of this large man was most worthwhile, since the sections (mid-shaft diameters and circumferences) of both thigh bones are very large indeed. The bones of Burial 17, a young man, are of interest because the larger dimensions of the bones of the left arm suggest that he may have been left-handed.

The observations which were made on each of the more intact

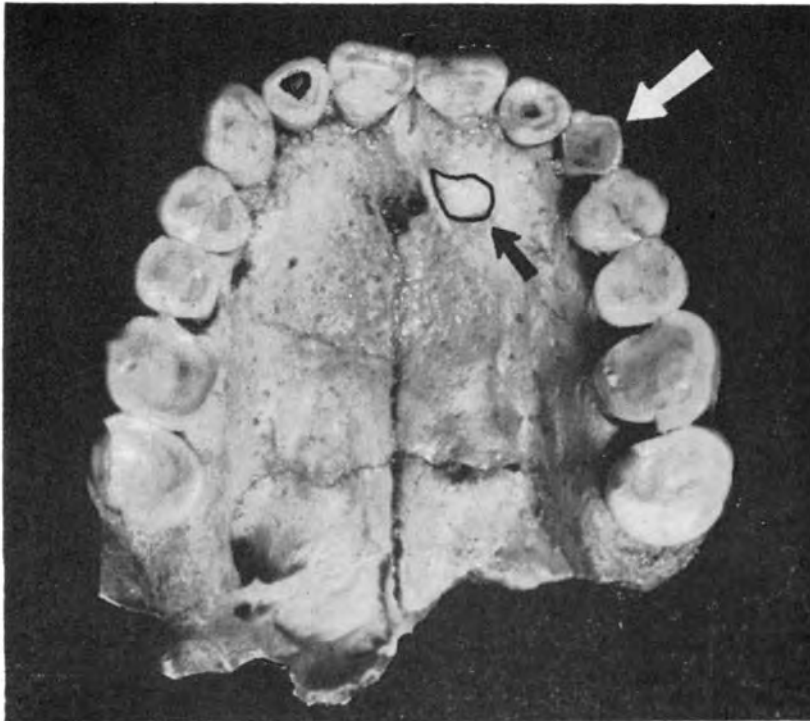
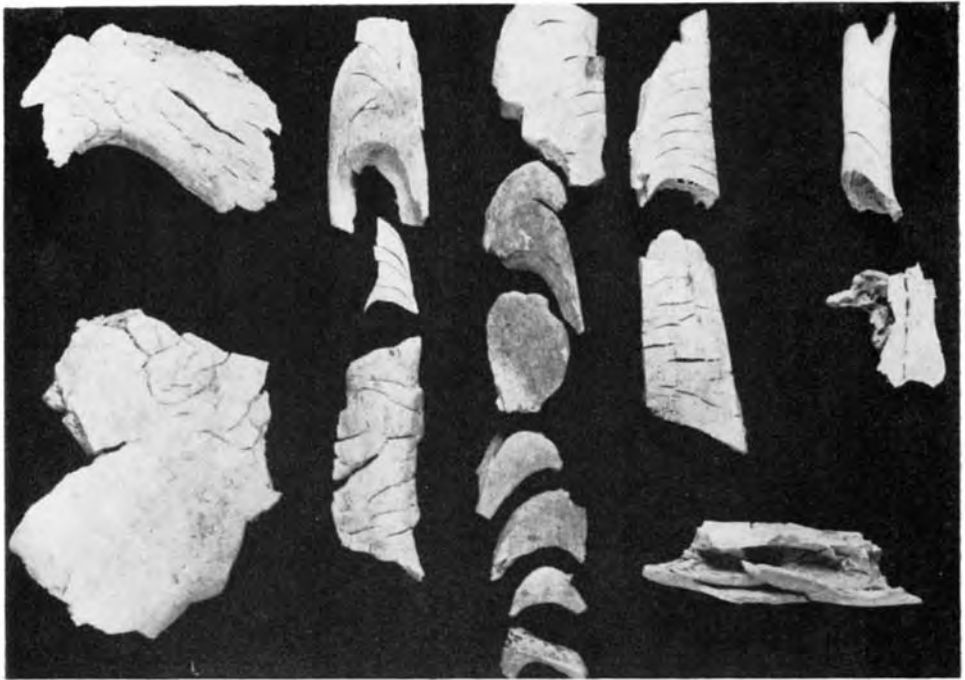


Fig. 21. A view of the upper jaw of the adult female, Burial 54, showing a marked right asymmetry and dental anomalies. The black arrow points to a supernumerary tooth with twin cusps, lying diagonally in the left maxilla near the incisive foramen. The white arrow indicates a deciduous canine tooth which was still in use. Note the complex, shovel-shaped lateral incisors in which the edges or rims of the teeth have joined, forming a tube surrounded by enamel. Such incisors are occasionally called barrel teeth. The inward twist of the central incisors is also typical of most American Indians.

limb bones all fall within the usual range of other Kentucky Adena skeletal material. (Webb and Snow, 1945, p. 267-73). Measurements made on the extended skeletons in their graves have indicated some large-sized men. No other data are available for like comparisons.

*Stature Estimations.* The estimation of the individual's size is based on the lengths of the major long bones (limbs) multiplied by a standard which has been derived from a comparison of the standing heights with leg-bone lengths of a given population. There are several different sets of formulae available. Unfortunately, none of these stature-estimation methods are based on peoples of Mongoloid or Indian



**Fig. 22.** Different bones of the skeletons of Burials 5-6 which show checking and cracking characteristic of flesh cremations and/or green bone. At the upper left is a hip bone, and below it, a skull fragment; the remainder are pieces of limb bones.

ancestry. The stature estimates which follow are based then on methods used for the bones of Caucasians and Negroes.

According to Manouvrier's scale (Wilder 1920), the average height of the Dover Mound male would be 168.0 cm. (66.1 inches), exactly the same as the stature estimate for the total Kentucky Adena male. A more recently devised standard (Trotter and Gleser, 1952, p. 463-514) would place the height of the Dover Mound male at 170.6 cm. (67.2 inches). A greater variation appears in the stature estimates for the Dover Mound females. Manouvrier's method sets the height at 155.3 cm. (61.1 inches), and Trotter's, at 156.6 cm. (61.7 inches), but the Manouvrier estimate for the total Kentucky Adena female is 158.8 cm. (62.5 inches).

It is interesting to compare the estimated stature of several of the individuals with the measurements of the skeletons lying at full length within the graves. Eight males averaged 179 cm. (70.5 inches)

from crown to heel; five females averaged 162.5 cm. (64 inches). Compared with the other Kentucky Adena people, the men and women from the Dover Mound are the tallest found. Indeed, three of the measured lengths run more than six feet, while only one of the women was very short, her total length measuring just five feet.

### A MULTIPLE CREMATION

The discovery in the Dover Mound of a cremation in situ (Burials 5-6) has brought to light much interesting information. Here, in a pile of ash, charcoal, and calcined bone spread over a considerable area, is evidence of a crematory place which apparently had not been disturbed, but had been covered with earth in the final burial rites.

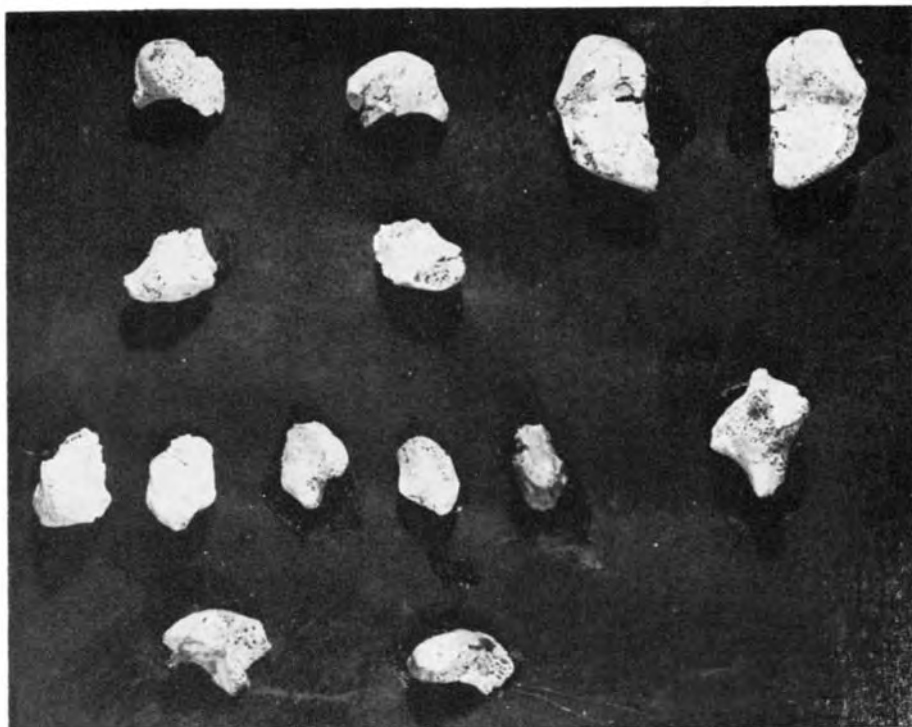
In the laboratory both artifacts and bodily remains were found among the ashes, which were carefully sieved in order to separate the bone fragments from the fine dust. It was impossible, of course, to determine any sort of orientation or position of the multiple remains, since the fragmentary bones were so small as to preclude immediate identification in the field.

As the result of much painstaking and careful work, the remains of at least four individuals were isolated in the answer to the problem of how many individuals were present in this crematory pile. Indeed, the object was to find out as much as possible about the feature.

On the basis of the temporal bones alone, four individuals, two adults and two children, were identified. There were three duplicated sets of nose structures, three sets of spinal columns, the remains of four sets of dentition, and so forth.

As a result of the very careful reexamination of the cremated fragments, repeated several times over the period of nearly a year's study, the remains of two adult men and two children were isolated along with almost countless numbers of small, unidentifiable fragments consisting of all portions of the human skeleton. These remains will be described as they were identified by individuals.

*The Younger Man.* The numerous and thoroughly calcined fragments of virtually the entire skull were present. Nearly half of the



**Fig. 23.** Paired wrist bones of the younger man, Burials 5-6. From left to right, top to bottom, are the lunates, the capitates, the lesser multangulars, trapezoids, pisiforms, and a right greater multangular. Portions of both naviculars are at the bottom.

skull was repaired, working from the contacts of both vault and face. All of the roots of the lower teeth, some of which had crowns also, were placed back in the jaw, and parts of virtually all the teeth were preserved. Many unusual fragments were preserved and could be identified (see figs. 22 to 25). Fragments of such delicate bones as the hyoid, the sphenoid, one of the occipital condyles, the right mastoid process, and both temporal bones, including one with a very large styloid sheath, were present.

Perhaps the most remarkable thing about this young man's remains is the fact that the lower jaw, three-fourths of which is very well preserved, shows a border of red-ocher stain along the left outside surface below the tooth level and a spot on the lower right body of the jaw below the premolars. The mandible is typical Adena in the prominent bilateral chin eminence. These chin points measure 47.8 mm. (1.9 inches) across. Moreover, the teeth of the upper right

Table 5  
YOUNG ADULT MALE MEASUREMENTS, BURIALS 5-6 CREMATION

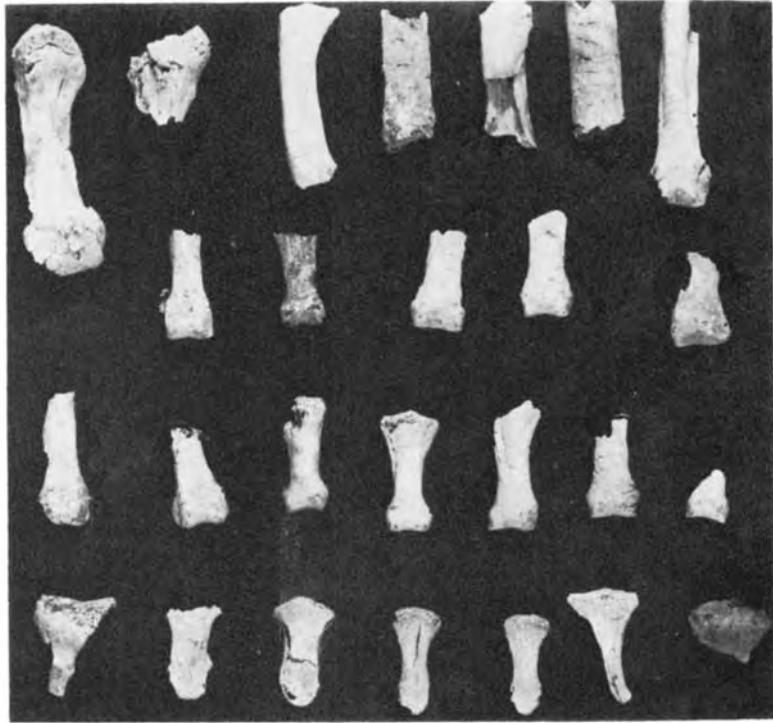
<i>Measurements in millimeters</i>			
Minimum Frontal Diameter .....	96.0*	Bigonial Breadth .....	120.0*
Frontal Chord .....	115.0	Right Minimum Ramus Breadth .....	35.0
Total Facial Height .....	120.0	Length of Mandible .....	106.0
Upper Facial Height .....	69.0	Height of Ascending Ramus .....	62.0
Anterior Interorbital Height .....	22.0	Gonial Angle .....	120.0°
Right Orbital Breadth .....	43.0	Transverse Arc .....	350.0*
Right Orbital Height .....	31.0	<i>Indices</i>	
Nasal Height .....	44.0	Right Orbital .....	72.7
Nasal Breadth .....	22.0	Nasal .....	50.0
Minimum Nasal Breadth .....	11.0	Nasal Bone Height .....	36.4
Subtense Nasal Breadth .....	4.0	Fronto-Mandibular .....	135.4
Maxillo-Alveolar Length .....	60.0	Frontal .....	83.5
Height of Mandibular Symphysis .....	37.0	Mandibular .....	58.5

Italicized figures are approximations.

\* For these dimensions only half of the measurement could be obtained. This value has been multiplied by two to give the whole measurement. This partial skull was assembled from many calcined fragments.

maxilla show very deep wear with possible repair of secondary dentine. It is noteworthy that the upper central incisors, judging from the preserved right maxilla, had very stubby, probably absorbed roots. This trait has been noted before in Adena remains (Snow and Webb 1941, p. 282). It was remarkable to observe that certain fragments of a white, ashy color (apparently from more intense heat) fitted on to portions which were darker and thicker (less reduced). Indeed, this remarkable specimen afforded some measurements which are believed to be, within limits, useful. These are presented simply to indicate again the surprising amount of information obtained.

The task of assigning postcranial bones to either the younger or older man was much more difficult. The fortunate occurrence of duplicated, identifiable bones made it possible, however, to show parts of two neck sections. Those of the younger man were found to be normal and larger in size with no signs of arthritic lipping. Indeed, the lower neck and upper thoracic vertebrae show, like the mandible, the presence of red ocher on them. The anterior and curved section of the atlas was duplicated, as well as the other portions of the cervical bones (see fig. 25). It was assumed that unlippped vertebrae (size difference, too) probably were those of the younger man, since some fragments were found which presented outstanding

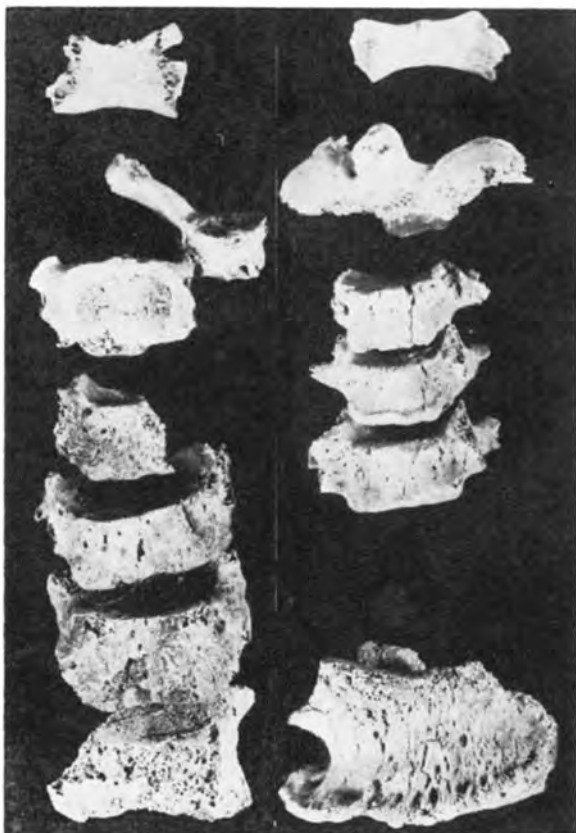


**Fig. 24.** Palm and finger bones of the younger man, Burials 5-6. Beginning at the upper left are fragments of metacarpals with left first, middle, and terminal phalanges.

arthritic lipping. Again, the less well calcined fragments of a darker colored right collarbone, which also bore the unmistakable stains of red ocher, were assigned to the younger man.

Judging from the contours of the skull (see fig. 13), there can be little doubt that the younger man was typical of the Adena people as we know them.

*The Older Man.* The easily identifiable duplication of most of the bones of two skulls proved the existence of the second and older male. Without exception, all the bones which were assigned to this individual were very thin, extremely light, nearly white in color, and very thoroughly checked, twisted, and warped. Fig. 26 shows some of the identifiable and duplicated parts of this individual. The majority of the suture lines were recovered, as well as most of the bones of the face, including parts and teeth of the lower jaw. On several



**Fig. 25. Cremated vertebrae from Burials 5-6. To the left are parts of the atlas and five other neck bones of the younger man. On the right are the atlas, the axis, and three other neck bones and one lumbar body with arthritic lipping—all of the older man.**

of the twisted and cracked vault bones there are the unmistakable signs of red-ocher stain. It would appear that both skulls had been in such a relationship to a red-ocher source that the traces have remained on the bones even through and after the cremation. There can be little doubt as to the sex of these two individuals, since the lower edges of the frontal bones of both are well preserved. These borders show the large brow ridges, prominent glabellar eminences, and the rounded edges of the upper borders of the orbits, characteristic of male skulls.

The assignment of an older age to this man rests upon the finding of several vertebrae, likewise very light in color, which presented



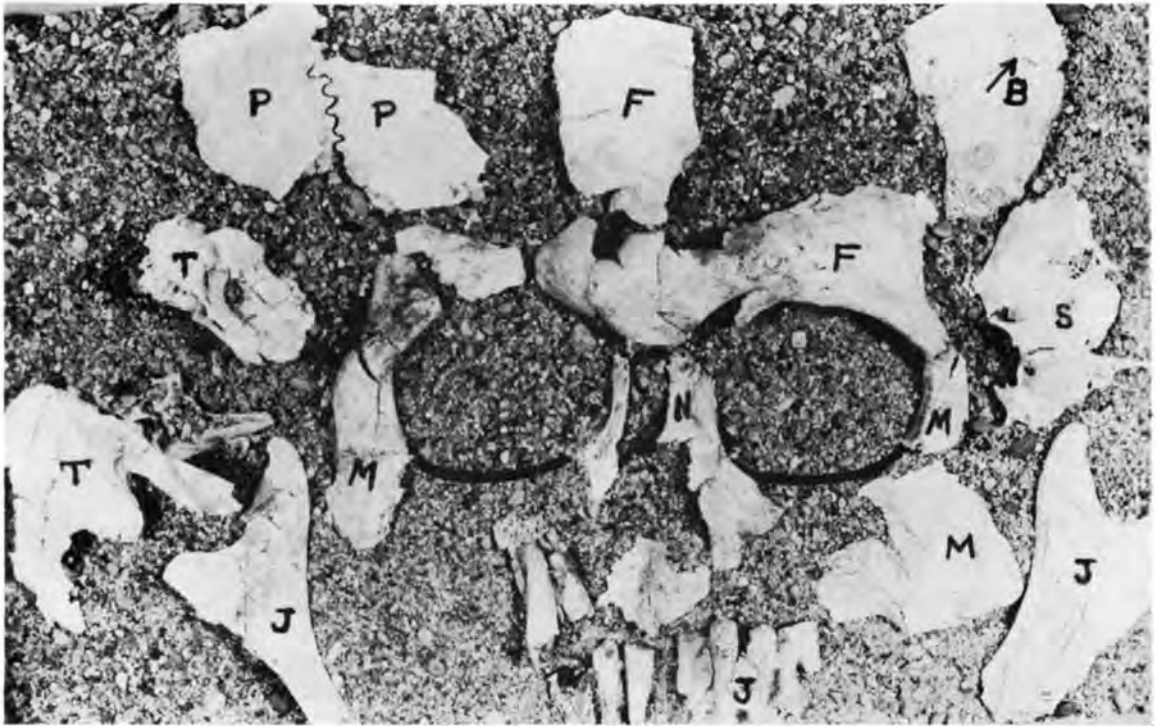


Fig. 26. The facial and vault bones of the older man from the cremation Burials 5-6.

B. This fragment from the crown of the skull contains portions of both the coronal and sagittal sutures and the well-known landmark bregma (arrow) at their point of intersection.

F. These are portions of the frontal bone, including the almost continuous rounded lower border of the forehead, with the upper orbital edges, both eyesockets, the brow ridges, and the glabellar eminence. These fragments along with B are the identifiable pieces of the frontal bone.

J. Portions of both ascending rami of the mandible were easily identified from the curvature of the anterior border which terminates in the coronoid process, as well as the alveolar border of the center of the dental arch. It was possible to place several teeth into their root sockets.

M. The frontal portions of both malars were found and articulated with the frontal processes of the frontal bone. On the left side is a fragment of the maxillo-malar joint.

N. This is the identified and nearly whole portion of the left nasal bone and its articulation with the left maxilla along the maxillo-frontal suture.

P. These are two articulating fragments of both parietals, somewhere along the sagittal suture close to obelion.

S. A large fragment of the external wing of the left sphenoid bone was isolated.

T. Portions of both petrous parts of the temporal bone were easily identified.

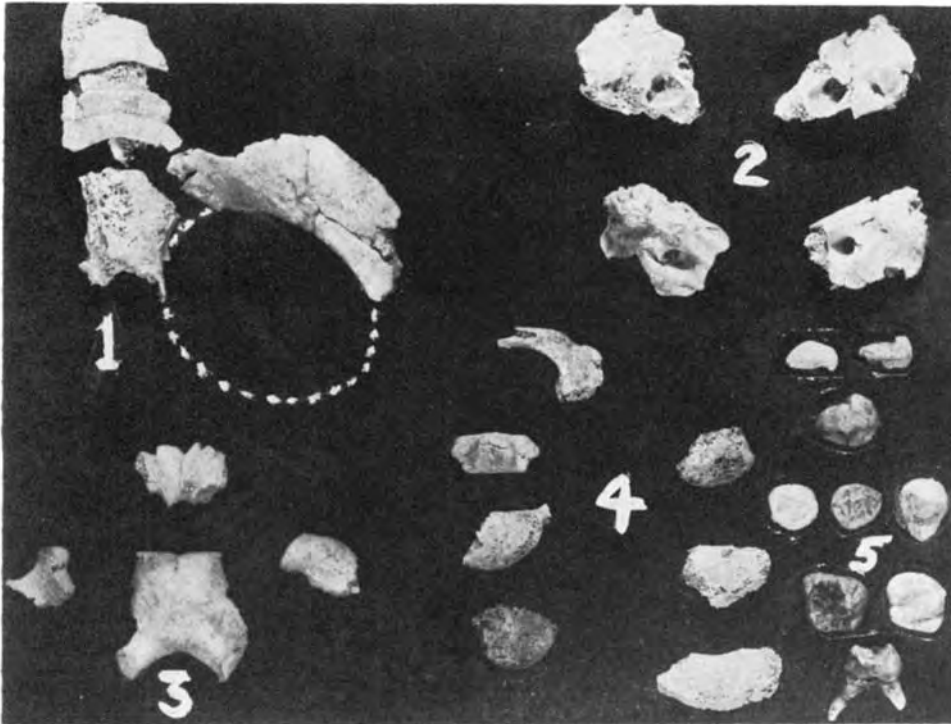
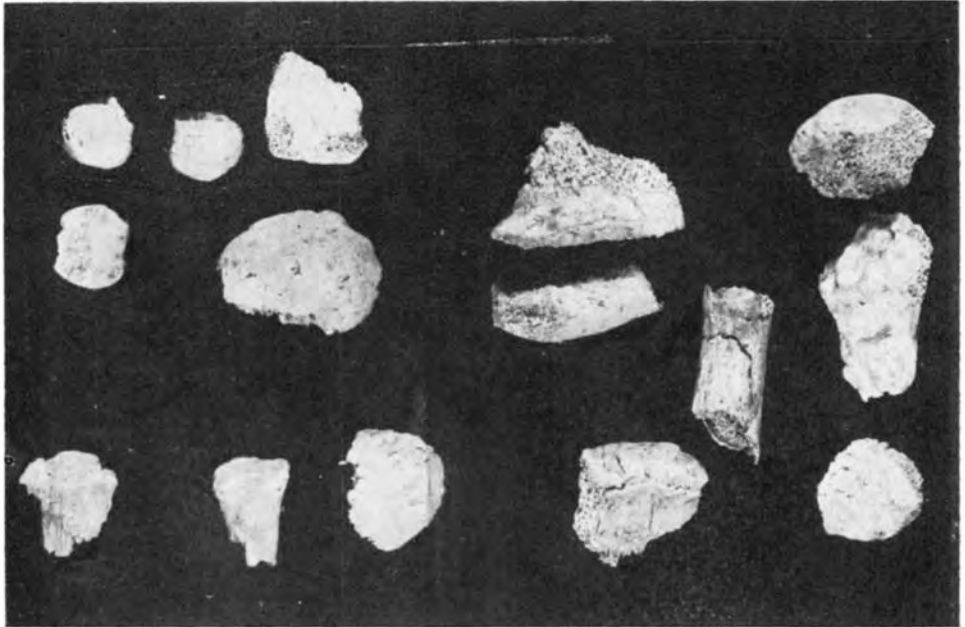


Fig. 27. The cremated remains of the children, Burials 5-6.

1. Forehead fragments, including the root of the nose and the border of the left orbit.
2. Petrous portions of two paired temporal bones.
3. Basilar portions of an occipital bone.
4. Vertebral bodies.
5. Crowns of permanent teeth and two deciduous molars.

the lipped edges characteristic of osteoarthritis. This lipping is present not only on the atlas, the very uppermost neck bone, but can be followed down through the other vertebrae into the thoracic and lumbar sections as well. In addition, there is a condyle of the femur which shows an edge border which suggests arthritic lipping. This has been assigned to the older man. Fragments believed to be of the right hip bone are likewise present; one piece shows a lipping along the muscular border of the ilium and along the iliopectineal line, and another shows a narrow sciatic notch. There is also a fragment of the right kneecap which likewise shows lipping along its articular borders.

Among identifiable but unassignable long-bone fragments were the head of a radius, the nearly whole distal end of a left humerus,



**Fig. 28. Fragments of different limb-bone ends, including several epiphyses and shaft sections, of the children, Burials 5-6.**

a part of a second humerus, the neck of a left femur, fragments of another patella, parts of the hip bones, including the auricular facet and the acetabulum, and joint surfaces including the heads and condyles of different long bones.

There were numerous sections and split portions of the long bones which could not be assigned to either of the men. Without exception, they all show extreme checking, twisting, warping, and, in those which were more tubular, the characteristic fracture (see fig. 22, where the concentric pattern typical of conic sections is exhibited). It is interesting to note the curved type of long-bone fracture produced by stresses of torque which always results in this very characteristic break.

No clue, however detailed or small, was overlooked in this attempt to sort out identifiable parts of the Indians so disposed of. Strangely, the portions of two elbow joints are demonstrable. These include the distal articular portions of two humeri and the heads of two radii. It is impossible to indicate whether they are paired or not, or to



Fig. 29. Characteristic bones from Burial 43, that of a female (?) aged 13-15 years, showing effects of an unintentional burning of the tomb. At the center is the epiphysis for the head of the left femur; at the left, top to bottom, are the left ischium and pieces of femoral condyle. At the right is a partially restored right parietal bone. It is smoked black inside and brownish gray outside, but it is not carbonized. The lamboidal suture is to the left. In the jar are disk shell beads found with these bones.

which man they may have belonged. Those sections of tubular bones which are more or less intact show typical cross-section portions of the humerus, the radius, the femur, and the tibia. We have mentioned above the portion of right clavicle associated with the younger man. There are identifiable fragments of the femora showing fairly well developed pilasters.

*The children.* The presence of four small-sized petrous portions of temporal bones, clearly of immature individuals, which can be paired, prove the presence of two children, one 3 to 5 years old and the other 2 to 3 years old. The evidence is strengthened by the duplication of portions of the skull and of the teeth. Numerous long-bone ends,

Table 6 – COPPER ARTIFACTS

Burial No.	Sex	Cat. No.	Form	Diameter (cm.)		Thickness (cm.)		Weight (gms.)	Remarks	
				Max.	Min.	Max.	Min.			
3	?M	M 5	Bracelet	8.2	7.1	0.7	0.4	45	Copper sheet rolled into rod and bent into oval; ends butted; squared cross section; at left elbow	
		M 6	Bracelet	8.3	7.4	0.9	0.4	50		
		M 7	Bracelet	9.0	7.6	0.8	0.8	114		Solid bar; oval cross section; bark, cloth, bones still attached; at lower left arm
		M 8	Bracelet	9.2	7.3	1.0	0.9	118		
9A	M	M 4	Ring	2.2	2.0	0.15	0.1	—		On finger, left hand; four separate coils
		M 3	Pendant	5.1	2.0	0.4	—	—		Flat triangle, tip blunt, perforated near base
11	M	M 1	Bracelet	8.7	6.1	0.4	0.2	14		Ends squared, not closed; at left wrist
		M 2	Bracelet	8.3	6.3	0.3	0.2	10		
20	?M	M 9	Bracelet	9.6	7.6	1.1	1.0	224		Solid, bent into oval; ends squared, meet closely; exceptionally massive
		M 10	Bracelet	9.4	7.6	1.1	1.0	206		
21	M	M 11	Bracelet	9.7	8.3	1.3	1.3	318	Solid; ends meet squarely; exceptionally massive; at left elbow	
		M 12	Bracelet	9.6	8.4	1.4	1.3	318		
23	?	M 13	Bracelet	9.2	7.8	1.0	0.7	120	Solid bars; ends meet squarely	
		M 14	Bracelet	9.5	7.8	1.0	0.9	167		
26	F	M 19	Bracelet	9.0	—	0.4	0.2	14	Sheet-rolled; ends squared	
		M 20	Bracelet	9.0	—	0.4	0.2	15		
32	F	M 15	Bracelet	7.3	6.7	0.9	0.4	20		
		M 16	Bracelet	7.1	6.6	0.5	0.4	19		
33	?	M 17	Bracelet	Bent & deformed		0.9	0.4	17	Made of tightly rolled thin sheet; burial disturbed	
		M 18	Bracelet	Bent & deformed		0.9	0.4	18		
34A	M	M 31	Bracelet	7.2	6.0	0.5	0.3	19	Ends round-pointed, not closed	
		M 32	Bracelet	7.5	6.3	0.6	0.3	25		
35	?	M 35	Bracelet	7.9	6.8	0.6	0.5	46	Ends cut squarely off, open one cm. Ends cut squarely off, closely abutted	
		M 36	Bracelet	8.0	6.7	0.6	0.5	50		
39	F	M 26	Bracelet	7.5	5.7	0.9	0.7	99	Solid bar; ends squared, abutted	
		M 37	Bracelet	7.5	6.5	0.6	0.5	90		
45A	?	M 30	Beads	—	—	—	—	—	58 beads on string; rolled sheets; length of bead 3 to 5 mm., diameter 4 mm.	
		M 23	Bracelet	5.1	4.5	0.4	0.3	7		
		M 24	Bracelet	5.4	4.4	0.4	0.3	7		
		M 25	Bracelet	5.0	4.4	0.4	0.3	7		
45B	?	M 27	Bracelet	5.9	4.2	0.4	0.3	5.5	Rolled sheet; hollow center; tapered at ends	
		M 28	Bracelet	5.2	4.2	0.4	0.3	5.7		
		M 29	Bracelet	Broken		0.1	0.3	5.8		
51	?	M 33	Bracelet	9.4	7.1	0.8	0.7	87	Solid bar; ends cut square, abutted	
		M 34	Bracelet	9.6	7.6	0.8	0.7	92		

including some with their epiphyses, are identifiable. Perhaps the most interesting part of these youngsters is the finding of two diminutive left foot bones—the articulating talus and calcaneus. Other fragments of extraordinarily thin vault bone, some along the sutures, and bits of identifiable long bones complete the description (see figs. 27 and 28).

Of course there was a large residue of very small splinters, pieces, and all manner of fragments of bones which defy identification, either as to individual or bone. These make up a mass equal to that of all the other remains.

Along with these human remains were animal bones, consisting mostly of the claw-pad digits of a wildcat (*Lynx rufus*). A number of disk shell beads and several globular shell beads, as well as cut, ground, sharpened, and polished sections of split long bones of animals, were likewise segregated from the ashes and human fragments.

*Burials 40 to 43.* Presumably the tomb containing these burials was accidentally set on fire when the mound was “purified.” The skull of the teen-ager, Burial 43, was black on the inside, but a “smoky” brown on the outside. The bones of the hip region were partially carbonized by the heat (see fig. 29). This is, of course, the area of the body covered by the heaviest fleshy tissue—thigh and buttock muscles (Baby 1954, p. 1-7).

## ARTIFACTS

The Dover Mound was built largely of sterile soil and so yielded few artifacts except those in burial association. The only other source of artifacts was the old village area under the mound which contributed all the potsherds found at the site (see fig. 30).

*Copper artifacts.* Since copper artifacts were the most numerous and constitute the major contributions at this site, they will be described first. Fourteen burials yielded 35 artifacts, counting copper beads as a single string. Many of the copper bracelets are remarkably massive for Adena. Descriptive data are tabulated in Table 6.

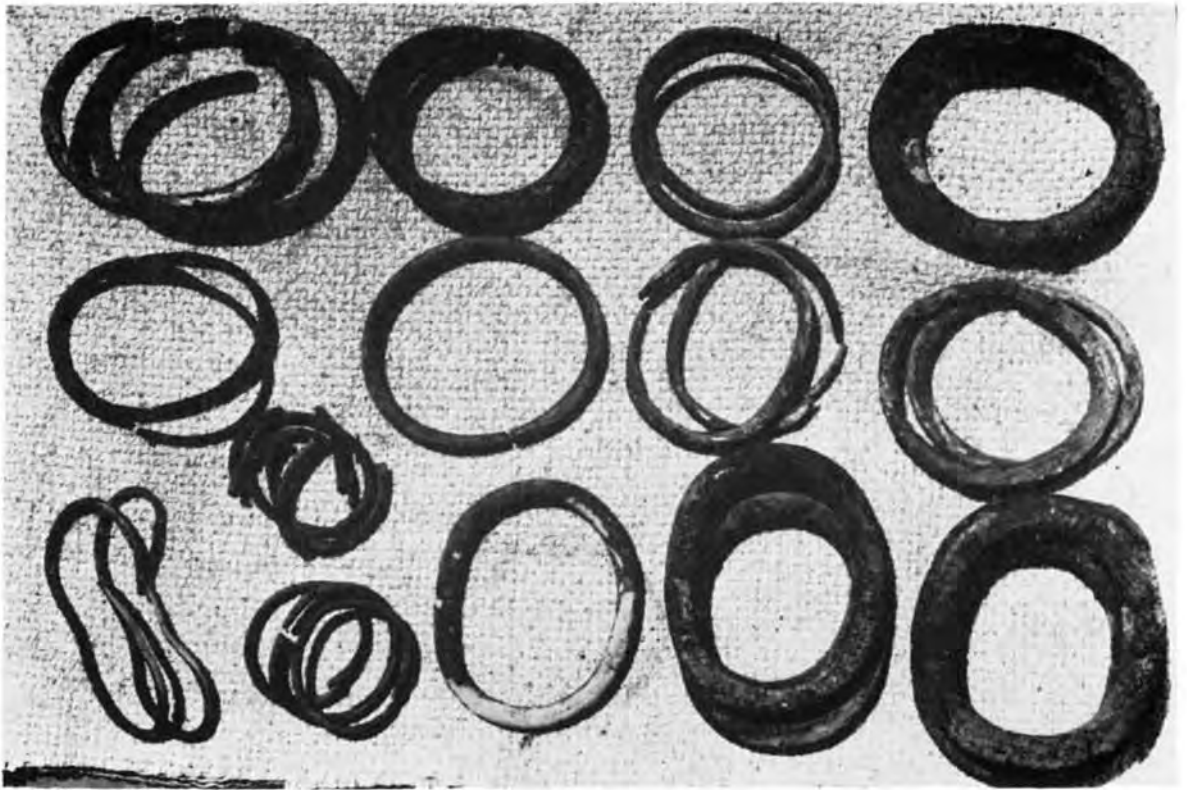
Of the 35 copper artifacts listed, there were 32 bracelets, a finger



**Fig. 30.** Typical potsherds from the old village under the Dover Mound.

ring, a triangular pendant, and a string of beads. The bracelets were made up of two triads and thirteen pairs (see fig. 31). These reveal two distinct methods of manufacture (see fig. 32).

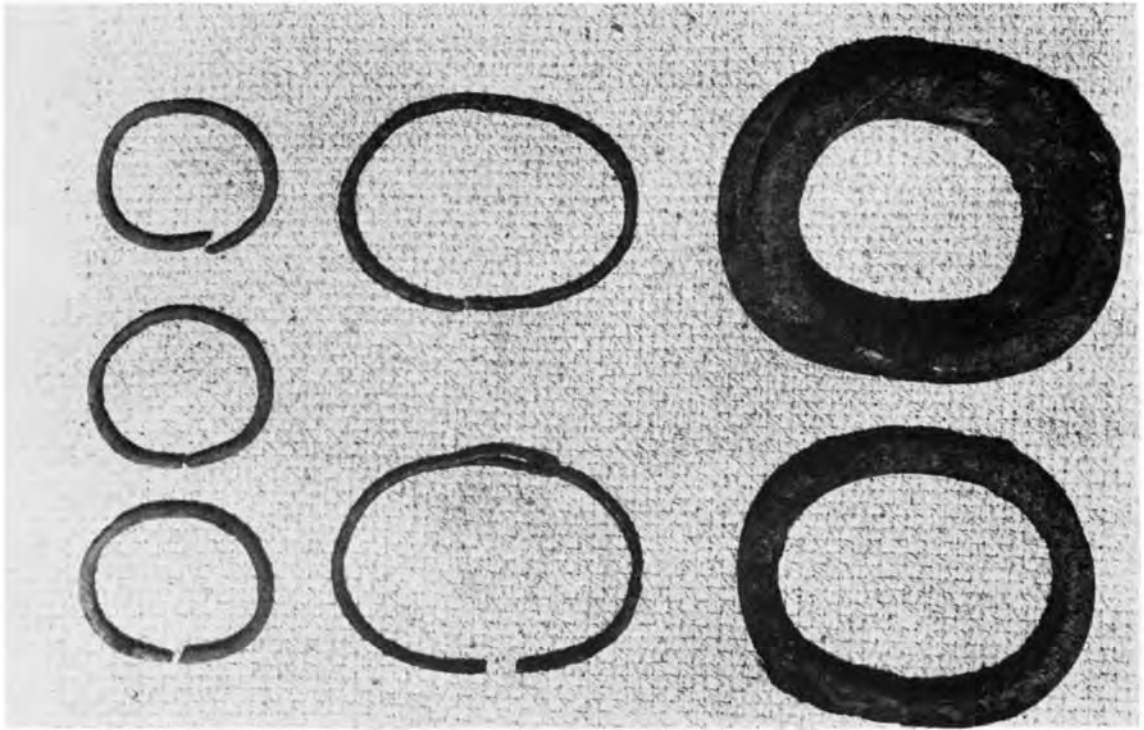
Six pairs of bracelets, from Burials 9A, 20, 21, 23, 39, and 51, were made by hammering a copper nodule into a nearly cylindrical rod of fairly uniform cross section, cutting off the ends squarely, and then bending the rod so that the end faces were brought face to face, abutting closely. This process produced a very massive bracelet, with the enclosing ring of near-uniform cross section and of a sufficiently large area to slip readily over the wearer's hand. Such bracelets were much too heavy to permit any adjustment about the arm. It may well be that these very massive bracelets were formed and bent but not completely closed until the arm had been thrust through. In such case they could not easily be removed. The individual bracelets varied in mass from 87 to 318 grams, although the bracelets of a pair were not greatly different in mass as shown by this comparison: 318/318, 206/224, 120/167, 114/118, 90/99, and 87/92 grams.



**Fig. 31. Bracelets recovered from the Dover Mound. These are the largest number of copper bracelets found at one site in Kentucky.**

Bracelets associated with Burials 3, 11, 26, 32, 33, 34A, and 35 were made by beating a copper nodule into a thin sheet, nearly circular in form. The sheet was then folded along a diameter, and about this straight edge as center, the doubled sheet was rolled into a cylinder. This cylinder was tightly rolled, and since it came from a near circular sheet, it usually had a larger diameter in the center than at its ends. It was further consolidated by hammering the free edges of the sheet into place. The ends of the cylinder were often cut squarely off, leaving a cylinder diminishing in diameter toward its ends. This was bent into an elliptical bracelet, with ends either close together or separated by a gap of one centimeter or more. These bracelets could not be made with as large an average density as the solid bars, and thus, for the same size, they weighed much less. They had paired weights as follows: 46/50, 45/50, 19/25, 19/20, 17/18, 14/15, and 10/14





**Fig. 32. Types of bracelets from the Dover Mound. On the right are two bracelets made of heavy copper bars; those in the center are made of rolled sheet copper. On the left is a triad of rolled sheet-copper bracelets for children.**

grams. These bracelets, because of their lighter mass and smaller diameter of rods, tapering toward the ends, were much more readily deformed and could more readily be adjusted to fit the arm.

The bracelets constituting the two triads (Burials 45A and 45B) were obviously designed for children; they had smaller openings and lighter construction. Their masses were, in order, 7/7/7 and 5.8/5.7/5.5 grams. They were rolled from thin copper sheets. The finger ring and copper beads were all rolled from smaller thin sheets, probably scraps left over from the manufacture of bracelets.

It would appear that in the early stages of this mound construction, copper was relatively scarce and most bracelets were bent from rolled sheets. When copper was more plentiful and could be obtained in nuggets large enough to produce a solid bar, the massive bracelets came into use. By that time the village area under the mound base had been covered with a layer some eight feet thick of white

marl, and the middle section of the mound was being constructed of sandy loam, with an occasional load of marl.

The triangular copper pendant 21 x 51 mm. was so thin that little of the pure metal remains (see fig. 33). Some of the string of 58 copper beads found with burial 45A are shown in fig. 34.

*Mica Artifacts.* A series of mica strips were found rolled together and deposited at the feet of Burial 9 (see fig. 11), others were recovered from Burial 46. When these strips were cleaned in the laboratory, they were seen to be pierced by many small holes as if they had been sewed to some type of background. Many pieces were identical in form and had a similar pattern of perforations; these were at once superimposed and glued together. Many others could not be demonstrated to fit together, and so were left as unattached segments (see fig. 35). It appears that these strips all have one concave and one convex edge. The curvatures differ considerably, most radii varying between 30 and 39 cm. The convex radius is generally measurably longer than the concave radius of any strip, and thus the strip, no matter how long or short, appears to be part of a crescent. The widths of these strips vary from 15 mm. to 38 mm., and the longest fragments are about 25 cm. long. They show they have been folded, and the ends are thus irregularly broken. It was observed in the field that at most points of folding, the mica, because of its friability, fell into numerous small thin flakes, so that few ends show any faces of contact with each other. Thus the total length of such a strip, now available, represents only a part of the total used to form such crescents. As explained in the description of Burial 9, these mica crescents are believed to have been sewed (perhaps as stripes) on a garment, possibly a leather cape or cloak of a shaman, which, at his death, was rolled or folded into a bundle and placed in his grave.

The two sheets of mica associated with Burial 9 are 12.5 x 16 cm. and 16 x 21.5 cm., respectively, and both are about 6 mm. thick (see figs. 10 and 36).

*Stone Artifacts.* Other than flint artifacts, there was only one other stone artifact taken from this mound. This was the expanded bar "gorget" in association with Burial 34B (see figs. 12 and 37). It was 13.2 cm. long. It was conically drilled from the flat side only with



**Fig. 33. A small copper pendant found with Burial 9.**



**Fig. 34. Beads of rolled sheet copper found with Burial 45A.**

two holes, which were symmetrically located and 3.6 cm. apart, center to center. Made of a light-colored limestone, it had been broken into four pieces by earth pressure. It was found with the flat face down, lying parallel to the extended skeleton near the head of the right femur. It is believed to represent the remains of an atlatl buried with this man, who had on his left humerus the flint point, 6.7 cm. long, shown in the lower left corner of fig. 37.

The flint artifacts taken from the mound consisted of three projectile points, two flint knives, one spear point, and one flake side scraper (see fig. 37). The spear point, of beautiful black flint, was 15.2 cm. in length and had a maximum width of 5.2 cm. It was found on top of the deposited cremated Burial 2, heavily encased in red ocher, which still remains in its surface depressions. It had been

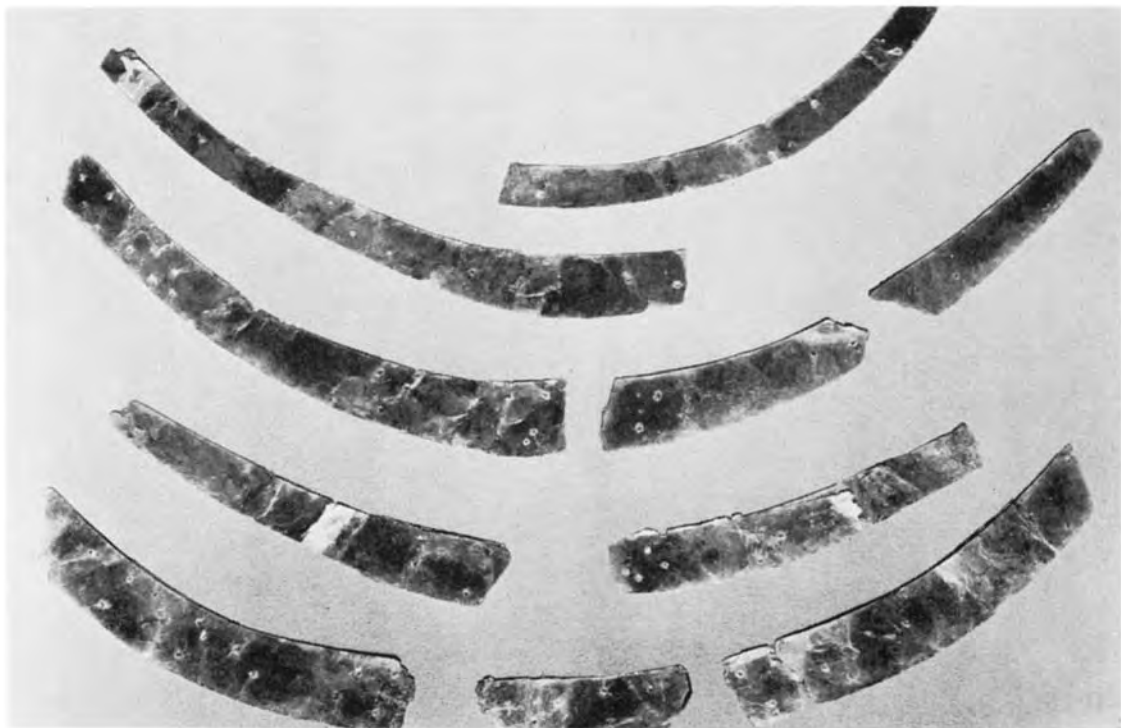
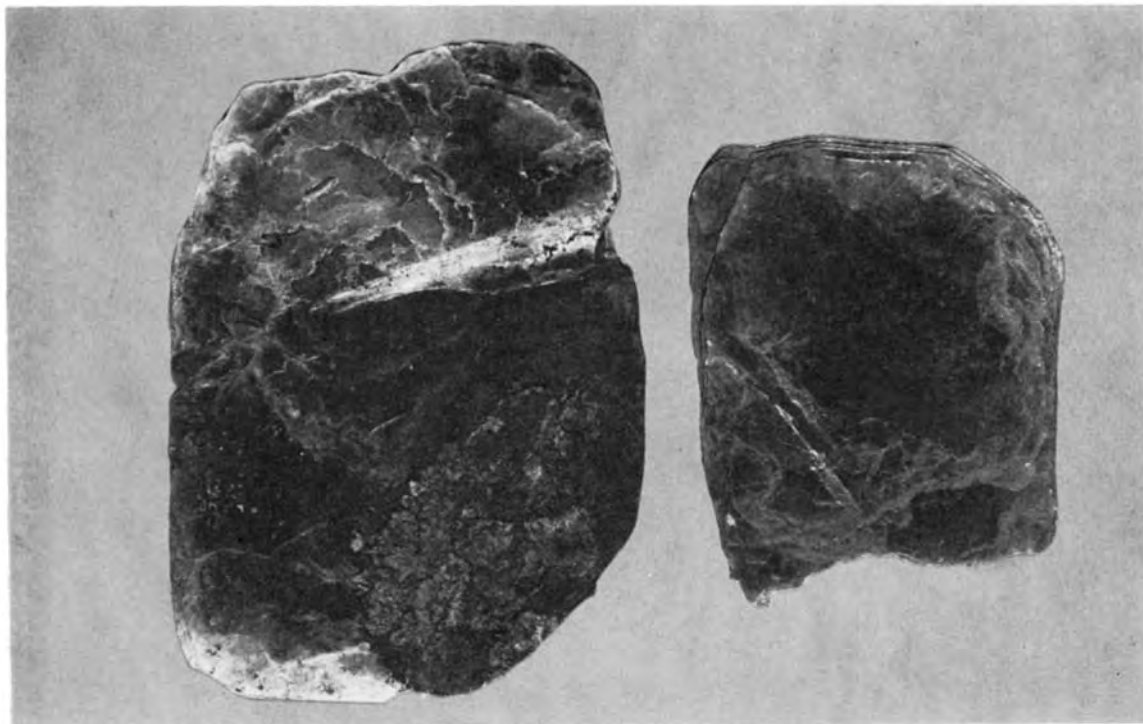


Fig. 35. Some of the mica strips with Burial 9, as restored by Ann Macklin Ham.

broken in two about 5 cm. above the point, and since red ochre covered the broken surfaces, it seems to have been broken before being deposited, probably ceremonially.

The two remaining points, the two typical Adena knives, and the flake scraper were found "floating" in the mound without observable associations with any burial or feature. The scraper was 7.2 cm. long and was made from a flake thrown off from a concretion. It shows a conchoidal face, and has been minutely chipped on both edges to produce an exceedingly sharp scraping edge. Both the ends show remnants of the "country rock" or outside surface of the concretion.

*Shell Artifacts.* The only shell artifacts found in this excavation were beads, samples of which are shown in fig. 38. Several sizes of these circular disk beads, probably made from fresh-water mussels, are shown. The beads from Burial 54, shown in upper left of fig. 37, vary in outside diameter from 6.8 to 7.5 mm. and are only 1.2 mm. thick. The short cylindrical beads from Burial 21, shown in upper



**Fig. 36.** The mica sheets on which the head of Burial 9 rested. Note part of the skull still attached to the larger sheet.

right, are obviously made from the columella of a large marine conch. They are 12 mm. in length and 12 mm. in diameter. The blackened and sooted disk shell beads, shown in the lower left of fig. 37, are 5 mm. thick and 11 mm. in diameter. They were associated with the group Burials 41-43, which were partially cremated by the ceremonial fires built over them. With these beads were others made from a small gastropod. These small gastropod beads were submitted for identification to a zoologist, William R. Allen, who reported: "These shells are present in Kentucky evidently as trade goods, and are of marine origin. In several genera we have close similarities in the early or juvenile stages, making exact determination difficult even when the details have not been obliterated. Young *Cassis*, *Olivella*, *Marginella*, and other genera are much like these. However, the preponderance of characters would point to *Cassis*, a 'conch,' abundant on the Florida and Gulf coast. The lip of the adult shell appears much later in life, and some juvenile characters such as these spiral

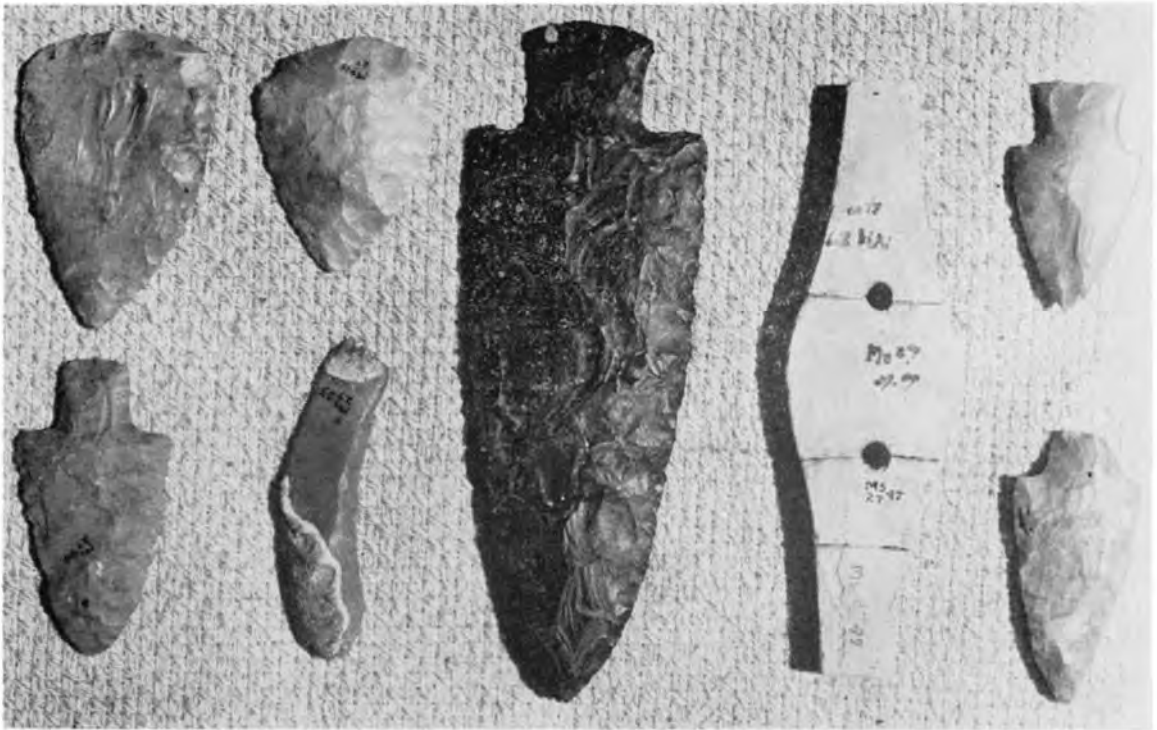
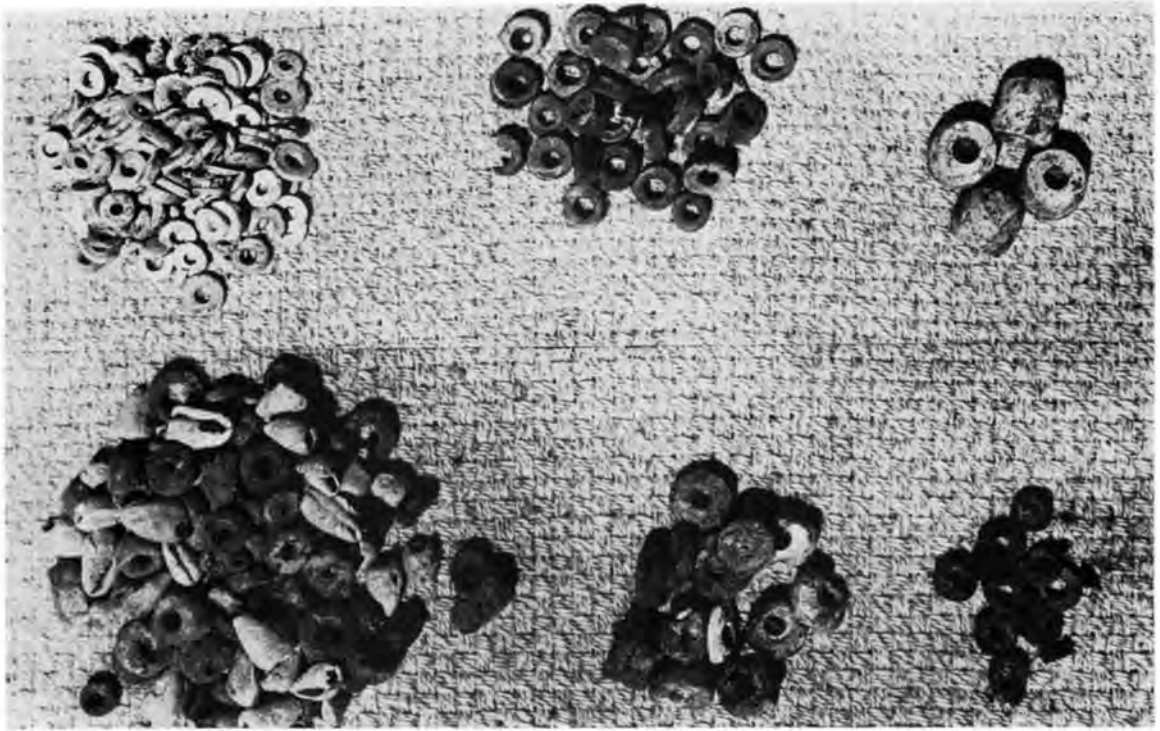


Fig. 37. The expanded bar "gorget" (second from the right) and the flint artifacts from the Dover Mound.

ridges in the aperture become overlaid with nacre. They are retained in Olivella. The aborigines would have found that in shells of this age the apex, or protoconch, is very fragile and easily rubbed off to produce the perforations. The close similarity in all of them indicates that all were collected and made up at one time and site."

*Bone Artifacts.* No bone artifacts were found in the sterile earth of this mound, and none in the village midden below the mound. The only occurrence of animal bone in any form was in association with three burials, Numbers 4, 5-6, and 9.

With Burial 4, near the right arm, was a small accumulation of bone fragments, only one of which was identifiable at the National Museum. This was a right mandible of dog, *Canis familiaris* (see fig. 8). This fragment was broken, but unworked. In line with recent interpretation of the meaning of animal jaws found in Adena burial association, evidence seems conclusive that worked animals jaws are



**Fig. 38.** Beads from the Dover Mound. At the upper left and center are disk beads from fresh-water mussels; at the upper right, cylindrical beads from conch columella. The lower row shows smoked disk beads and juvenile *Cassis*.

the residues of masks worn by shamans when impersonating animals, and unworked but broken jaws are the residues of medicine bags buried with the dead. On this basis, one may believe that this dog jaw and pile of broken but unidentifiable bone fragments may represent a medicine bag made from the rostrum portion of a dog skull.

Burials 5-6 were a cremation in situ. When the remains were sifted in the laboratory, bone fragments were revealed demonstrating that at least four individuals, two adults and two children, were represented in these ashes. Also 22 fragments believed to be animal rather than human were separated (see fig. 9). Of these, the National Museum was able to identify seven terminal phalanges of a wildcat, *Lynx rufus*. In addition, another terminal phalanx and two tarsal bones of a wildcat have been taken from these ashes (see fig. 39). This seems to indicate that a medicine bag made from the foot of a wildcat was the property of one of the known four individuals

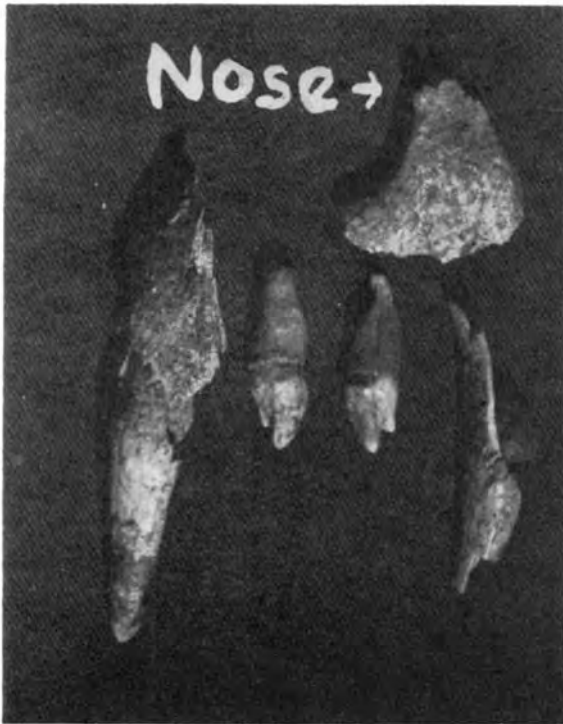


Fig. 39. Wildcat claws from Burials 5-6 as evidence of a medicine bag placed with the dead.

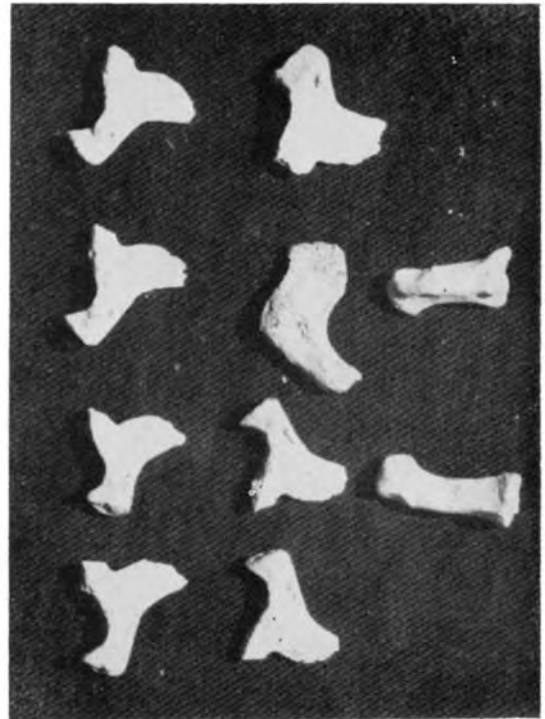


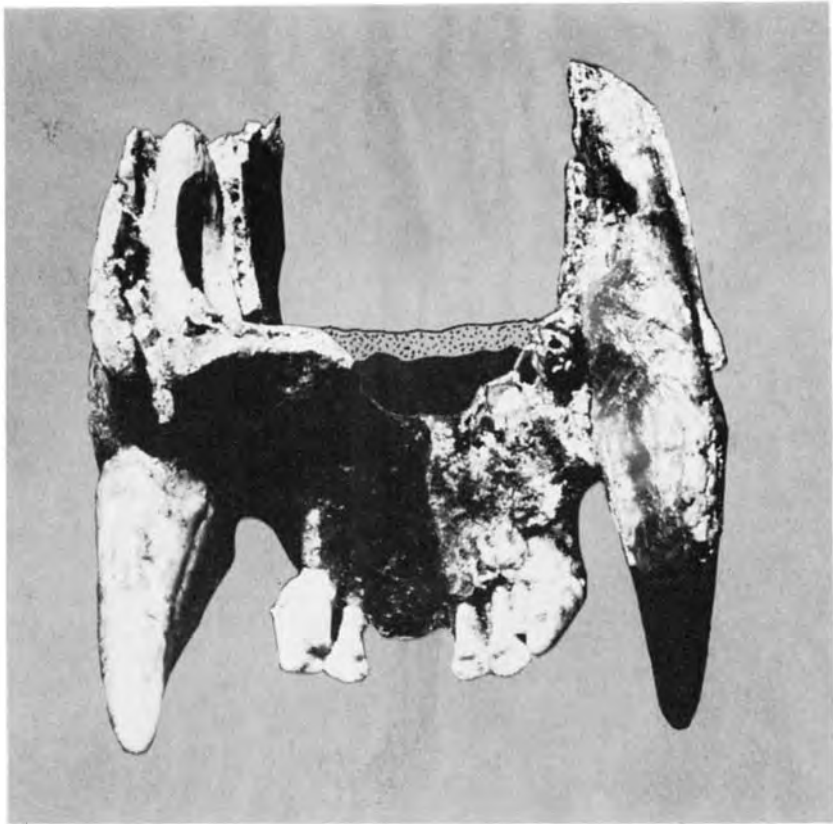
Fig. 40. Puma teeth from Burial 9, probably constituting a medicine bag.

(probably one of the children) and was cremated along with the body of its owner. At least, the contents were found along with the calcined fragments of human bone. Possibly the bag may have been an offering for any one of the four persons cremated here.

With Burial 9 was found a group of animal teeth from which the National Museum identified the right upper canine tooth and the right and left incisor teeth of a puma, *Felis concolor* (see fig. 40). Since they are wholly unworked, these too, probably constitute the residue of a medicine bag.

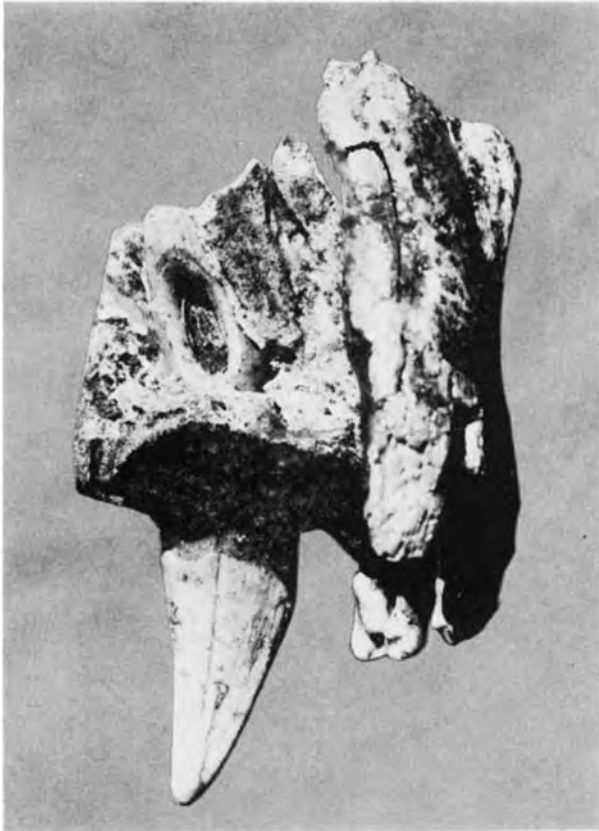
Also with this same burial was a fairly complete rostrum of the skull of puma, which showed much working. The outer edges of the two halves and a portion of the palate had been cut squarely off and ground to a flat surface (see figs. 41 and 42). Further, the roots of both canines had elliptical holes cut longitudinally in them. These holes, 6 x 12 mm., penetrated to the hollow interior of each tooth, and





**Fig. 41.** The rostrum of a puma skull used as a mask, found in association with Burial 9.

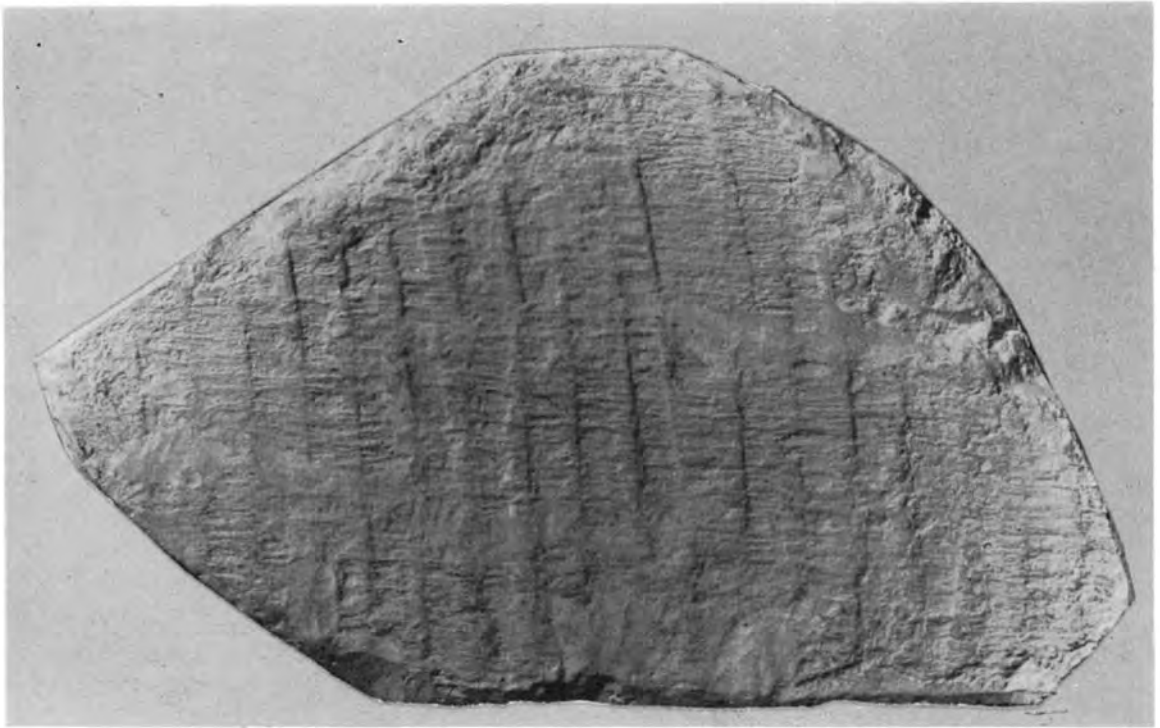
when the parts of this rostrum were restored in anatomical order, the holes faced each other in such a way that had a bone or wooden strip been set in these opposing holes and the strip held in the shaman's teeth, the rostrum of the puma would have fallen in conventional position just outside the shaman's mouth (Webb and Baby 1957, p. 61-71). This considerable and unique form of working of this bone shows that it was thus modified to suit a peculiar purpose. In the light of other evidence on the use of masks by the shamans in Adena in the impersonation of animals, there can be little doubt that this is the remains of a puma mask owned by a shaman and buried with him at death. Other evidence previously reported on Burial 9 indicates that this burial was that of a very special and highly important individual.



**Fig. 42. The left side of the puma skull with Burial 9, showing the cutting of the bone and the perforation of the teeth.**

*Textiles.* Many small scraps of textiles preserved by contact with bracelets, as well as bits of what seemed to be leather, were observed as copper artifacts were lifted from burial associations. Such fragments, however, were too small to permit any analysis of the material or the form of weaving.

However, in the basal portion of the mound where burials were made on clay marl, the body was often laid on a woven matting, which was frequently covered with a layer of marl. Because of the toughness of the plastic marl, good impressions of these woven mats were frequently made in the clay. In breaking up this hard clay covering, frequently a section of clay would part along the plane of the matting and the impression of the textile would be revealed. Such surfaces were brown in color, and the impressions were at first usually in-



**Fig. 43.** A positive impression of matting made in the clay floor of the grave of Burial 21 by textile on which the body was laid. Plaster replica by Dr. A. E. Baxter.

visible. However, after an hour's exposure to the air this color changed to a very dark brown, and the surface was observed to be covered with dust which was easily blown away, leaving clear negative impressions of the textile. By covering the surface with plaster of paris, a positive impression of the textile could be obtained (see fig. 43). It is obvious that very fine threads were woven under and over relatively broad reeds to form this matting. The actual weaving technique is difficult to determine, but ten reeds and their intervening spaces covered three inches, while some fifteen double threads were used to obtain a width of one inch in this matting.

Such textiles were much too heavy to have served as clothing, but may well have been mats commonly used on the floors of the dwellings and, in this case, on the floor of a grave, that for Burial 21.

*Summary.* The Dover Mound is quite obviously an Adena burial mound built in an Adena village. The degree of completeness of the

Table 7  
 TRAIT LIST FOR THE DOVER MOUND

7 Mound Conical .....	x	83 Use of bark in graves .....	16
8 Mound one of group .....	x	84 Use of puddled clay in graves .....	3
11 Mound built on own village .....	x	85 Red ocher on skeleton .....	11
13 Mound shows stratigraphy .....	x	87 Red ocher on artifacts .....	2
15 Later mound section built of sterile clays .....	x	101 Leaf-shaped blades, flint .....	2
17 Village midden in situ under mound	x	104 Flint points, stemmed parallel sides ..	2
18 Mound shows individual earth loads	x	110 Scrapers, side flake .....	1
19 Impression of grass, twigs, leaves .....	x	111 Gorget, bar, expanded center .....	1
20 Fired areas at mound base .....	x	116 Gorget, conically perforated from one side only .....	1
21 Fired areas at mound surface .....	x	164 Claws, animal .....	1
22 Primary purpose to cover burials .....	x	168 Animal jaws, worked .....	1
23 Mound built by increments as burials added .....	x	175 Beads, shell circular disk .....	x
25 Horizontal log tomb on bark floor ....	6	178 Beads, shell cylindrical .....	x
26 Single log rectangle about body .....	3	179 Bracelets, copper .....	32
27 Multiple parallel logs about body .....	1	180 Rings, finger, copper .....	1
31 Horizontal log burial platform in tomb .....	1	181 Beads, rolled sheet copper, one string	58
54 Fire basin in village circular .....	2	185 Pendant, copper .....	1
55 Fire basin held burned broken stone in ashes .....	1	189 Mica, fragments of designs .....	25
63 Cremation total, left in situ .....	1	190 Mica crescents .....	x
66 Cremation remains redeposited separ- ately .....	4	191 Adena plain potsherds .....	x
72 Communal deposit of cremated re- mains .....	1	205 Pottery vessels not used as mortuary offering .....	x
73 Artifacts burned with body .....	1	206 Plain plaiting, basket or checker weave .....	x
74 Unburned artifacts placed with re- deposited cremation .....	1	207 Twilled plaiting, rectangular mesh ....	x
75 Artifacts intentionally mutilated .....	1	208 Twilled plaiting, oblique mesh .....	x
76 Cremated remains accompanied by red ocher .....	2	210 Plain twining .....	x
77 Body extended in flesh, no tomb .....	24	233 Extensive burning over earth-covered burials .....	x
79 Bodies extended in log tombs singly	5	236 Animal jaws, unworked .....	1
81 Three extended burials in same log tomb .....	1	237 Mica, unworked sheets, in graves .....	2
		239 Beads, Cassis shell .....	x
		244 Plain twining, large warp .....	x

x—occurrence.

total Adena complex manifested by this site may best be stated by listing the Adena traits found at this site by number (Table 7).

*Trait No. 244. Plain twining, large warp.* Fine double-weft strands, fifteen pairs to the inch, enclose a single reed (rush) as warp, ten reeds to three inches. This matting probably could be rolled parallel to the warp elements, but may have been too stiff to serve as a textile, since folding it at right angles to the warp would be difficult. Hence, it possibly may have been the type used as a floor covering or a wall

curtain for a house. When found, it covered apparently a wooden board which possibly was in grave association. The large diameter of the warp distinguishes Trait 244 from Trait 210. This trait is based on the occurrence at Dover Mound, Mason County, Kentucky (Site Ms°27).

## CONCLUSION

The Dover Mound is surely an Adena site. There are listed for it 58 traits out of a possible 244 which are descriptive of Adena.

The radiocarbon dates 2,650—2,169 ± 175 years available from this site place the probable occupancy at Dover before 700 B.C. and extending down to about 100 B.C. Thus, this occupancy lay within the early to middle Adena periods. The excavation revealed no postmold pattern of any house structure. The burials, for the most part, were laid in graves prepared with tree bark instead of the elaborate log-tomb burials so characteristic of late Adena. It is significant that the copper bracelets made of thin rolled copper sheets, characteristic of Adena, should occur in the lower and early strata at this site. The later graves, in the upper strata, have many copper bracelets made of heavy bent copper bars. These are unique to Adena but are common among Hopewell graves in Ohio. Again, animal masks, as represented by two cut cougar (mountain lion) jaws found below the chin and on both sides of the man's face, link Adena and Hopewell cultures at this mound. One expanded bar "gorget" or atlatl weight was found lying alongside the right arm of a six-foot man, opposite his right hip joint. This, together with the strip of wood also in burial association, is additional evidence for the use of the spear thrower by the Adena. As far as is now known, these spear-thrower weights have not been located with any Hopewell remains. In addition, a piece of matting described as plain-twined with a large warp was found. This is a new trait for Adena.

It certainly appears possible that these Adena people at the Dover site may have adopted these new copper bracelet techniques and other items by contact through trade and travel from their Hopewell neighbors at Chillicothe, fifty miles up the Scioto River, which comes into the Ohio River just sixty miles upstream from the Dover Mound.

We note also the occurrence of mica crescents and large unworked sheets of mica, which likewise link the Dover Mound with Hopewell traits.

Another unique uncovering at the Dover Mound was the finding of a crematory place or pit (in situ) which contained the comingled calcined, bony remains of at least four individuals, two adults and two children. With one of these persons was the bony remains of a wildcat and some other unidentified pieces of bone, probably part of a medicine bag. The significance of this find is amplified in Webb and Baby 1957, p. 75.

The study of the skeletal remains buried in the mound revealed some of the tallest individuals known to Adena. Many of these skeletons could be measured for length as they lay undisturbed in their graves. One very well preserved male skull was recovered, and some of the others portrayed striking features of deformed skull vault, nose, mouth, and chin. The measurements and other descriptions of the skeletal morphology definitely relate these Dover Mound people with those from other Adena sites in Kentucky. A new total Adena series, compiling all the metrical and classified feature data for adult skeletons, has been presented.

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