CHAPTER V

THE MOUND BUILDERS

The name "mound-builders" is used simply to designate those people who built mounds and of course in this broad sense it is a perfectly good term. The word, however, has very little scientific significance, since we know that more than one group of ancient people built mounds; that the mounds were not all built during the same period, and that sometimes several different groups used the same mound at different times. Consequently the term "mound-builders" as commonly used, refers merely to a practice and not a distinct race or culture.

The popular notion that the mound-builders were a definite and well-known race who were quite different from the American Indian has few facts to support it. The more plausible theory seems to be that they were probably the ancestors of the Indians although perhaps so distant in ancestry that their customs and practices had little in common with those of Indians of modern tribes. However, this question is still a matter of dispute. Colonel Bennett H. Young, who assembled what was probably the finest collection of Indian relics ever secured in Kentucky, writes in his admirable report on "The Prehistoric Men of Kentucky" (Filson Club Publication No. 25: pp. 7-9) as follows:

"On this subject two opinions are held and strongly advocated; the first, that the people who constructed these remains were of different and superior race to the Indians. Those so holding contend that the remains found in the shape of mounds, teocallis (or places of worship), fortifications, implements of various kinds, indicate that these people were a race of superior culture to the Indians; that these remains point conclusively to the fact that those who constructed them were an agricultural people of sedentary habits, and lived in organized communities; that the works themselves bear evidences of mathematical and engineering knowledge which the Indian never possessed or exhibited; and that the fortifications show that these people were at war with other nations, and that in such warfare it became necessary for these Mound Builders to erect stone, wooden, and earthen defenses, and that the evidences show that these were displaced by more aggressive and war-like foes. They also insist that the Indians themselves declared that they knew nothing of the people who builded these structures, and that they were concluded ages before even the red men found them, and that they could tell nothing concerning the origin or use of these monuments.

"The second class insist that there is nothing in these monuments to indicate greater genius, greater skill or greater patience than the

American Indian has exhibited along many other lines; that it is established beyond all question that in historical times the Indians constructed mounds and fortifications, and further, that their burials are similar in most respects to those of the Mound Builders. They say that the mere fact of structures being erected for military purposes demonstrates nothing, because the different Indian nations were themselves constantly at war with each other and were known to make long marches in order to punish or destroy other Indian nations who had inflicted upon them some real or imaginary wrong, They say further, that there was scarcely a tribe from the Atlantic to the western plains that did not have some capital or fixed location in which large numbers of their people resided, and that these subsisted upon the products of agriculture. They insist that De Soto found all of the tribes he visited were successful in cultivating maize and various vegetables and that the early voyagers along the Atlantic shores found the same thing true from Florida to Massachussetts, and that John Smith and his colony depended largely for subsistence upon the products raised by the Indians. They further argue that as the Indians are the only people except the white who, so far as we of this age know, have ever held the region over which these remains were scattered, that therefore it requires proof of the most positive character to show that they were not the work of the red Indians. They contend that this proof is lacking, and that the reasonable conclusion is that they were built by the red man, or the American Indian."

Thus the controversy has waged, and it would be most unscientific to assume that any theory has as yet become positively established. All that we know is merely that the mound-builders were a prehistoric people who built mounds of earth for various purposes. That these mounds were prehistoric can hardly be denied. When Ponce de Leon forced his way through the Southern swamps he encountered them; when De Soto pushed through the primeval country they were in his path; when Marquette in his bark canoes floated on the bosom of the Father of Waters he noted them on the banks; when La Salle carried his boats across the portages to the Allegheny they confronted him; when Boone reached Kentucky they were even then hoary with age and when he inquired of the Indians as to their origin they answered "Our people did not build them; they belong to a people whom our forefathers fought and drove from the territory, but whence these people came and whither they have gone, we do not know."

Kentucky is very rich in these mounds, scattered all over the State, and varying in size from almost imperceptible elevations to enormous masses of earth rising thirty or forty feet above the surrounding country. The size of the mound, of course, means very little. They were doubtless of various sizes originally and through the weathering of the years and the

changes attendant an agriculture the original shapes and sizes of most of them have been much altered. This is especially true of those mounds which were not high and which are located in what are now cultivated fields. These have been plowed over regularly and with each plowing the earth has been removed from the top and spread out at the base until the original contour has been entirely destroyed. Usually the surface of such

FIG. 35. A VICTIM OF PROGRESS.
An almost obliterated mound in Scott County on the farm of W. S. Yates.

fields for many yards around the mounds in all directions is strewn with flints, bones and pieces of broken pottery which have been dragged from the mound by plow and harrow. One of the unfortunate features of this is of course the fact that many mounds have became entirely obliterated and many more will be unrecognizable in a few more years unless steps are taken to preserve them.

A study of these mounds leads us to a number of important conclusions. First it is evident that some are much older than others and therefore were not built by contemporaneous peoples. Some were doubtless constructed many years, perhaps many centuries ago; others are apparently quite recent. In fact there seems to be no doubt but that certain tribes of modern Indians, as for example the Shawnees, were constructing or at least using mounds at the time of the arrival of the first white settlers in Kentucky. Again it is evident that the same mound was used

by more than one group of people; this is plain from the intrusive burials which indicate that later tribes took advantage of the mound long after the original builders had abandoned it or had disappeared. Also it is clear that all mounds were not use for the same purpose and we conjecture that they were sometimes erected for ceremonial or sacrificial purposes, sometimes for observation or signaling, sometimes for defense, sometimes for the burial of the dead, and sometimes, perhaps, represent nothing more than the dirt roof of a tepee or the gradual accumulation of camp refuse. Mounds have been examined which seem to represent all of the above types. In excavating a mound, our practice has been to first trench the mound completely through from north to south and from east to west. This gives vertical sections and shows the nature of the soil layers, which usually consist of made earth, quite evidently brought from the surface of nearby fields, clay, charcoal and often rock. Such sectioning usually exposes enough of the interior of the mound to give the "leads" to the parts of interest. Out of the large number of mounds which we have thus investigated and regarding which we believe our field notes and photographs to be fairly complete we may mention a few illustrating the various types without going into technical details or embodying in this brief report any burdensome number of tables, figures or computations.

OBSERVATION MOUNDS

We occasionally find on the tops of mountains, knobs or ridges or other high elevations, mounds which upon examination prove to be made merely of earth and rocks with no indication of artifacts, fires or burials.

We assume that these mounds were used for observation or signaling since their location would seem to fit them for such a purpose and since we can discover no evidence of their having had any other use.

Sometimes these mounds are near camp-sites and sometimes there is no indication of such a site, but always the spot chosen for the mound offers a splendid view of the surrounding country and would afford an excellent lookout post or an ideal point on which to build or from which to observe signal fires or smoke-blanket semaphores.

An interesting mound of this type found in Breathitt County, near Quicksand, consisted merely of an immense heap of stones, many of which must have been carried from some distance to the top of a ridge. No artifacts were found in or near this enormous stone pile but in a neighboring valley there is undoubted evidence of a village site of considerable proportions.

FIG. 36. A CEREMONIAL MOUND.
On the Joe Reed farm, Nicholas County.

CEREMONIAL MOUNDS

Mounds which show layers of burned clay with deposits of charcoal and occasional animal bones but which contain no artifacts and no human skeletons, are believed to have been used for ceremonial purposes. Such mounds are often quite large and contain several layers of fire hardened and heat colored clay and often layers of charcoal of considerable thickness. There is no question but that they were once the scene of huge fires but their usual location, often in low valleys, preclude their use for signal fires.

Such a mound, (figure 36), about four miles south of Carlisle was 9 feet high in the center when investigated and was of an oval shape, 26 yards in diameter east by west and 16 yards north by south. This mound rested on an ash layer which averaged about four inches in thickness at the edge and more than a foot in thickness in the center. The body of the mound was

almost entirely of clay above the ash bed with a few sandstone rocks scattered through it. It contained no artifacts or bones of any kind.

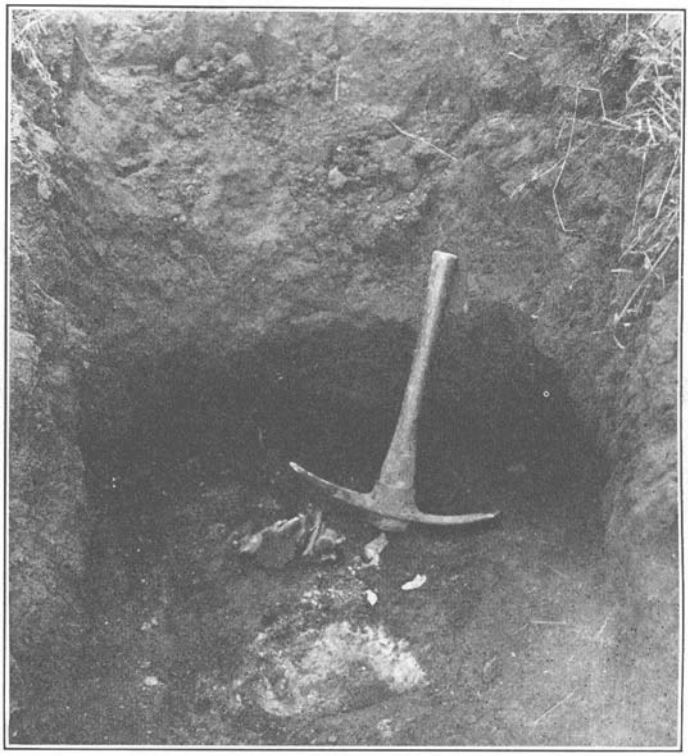

FIG 37. AN ANCIENT HEARTH.
Layer of fire-hardened clay in mound on W. S. Yates farm, Scott County.

A characteristic feature of these ceremonial mounds is the fire-hardened clay which appears in layers and shows undoubted evidences of great heat, sometimes being burned almost to brick. The lines of demarkation of these clay layers are very distinct and it is apparent that they have served as some sort of a hearth.

Usually this clay layer is covered with a layer of charcoal which often contains fragments of animal bones. These mounds show few stones, but the dirt of which they are composed sometimes contains objects which have apparently been brought in with the earth when the mound was built.

A similar mound, but one which showed a slight variation from the usual type, was excavated on the R. D. Glover farm in Christian County about five miles southwest of Trenton. This mound was nearly circular, about 200 feet in diameter and 20 feet high. A large walnut tree grew on the top.

This mound took advantage of a natural elevation and the actual depth of the made earth proved to be only 3 feet 4 inches. Eighteen inches from the top and extending in a straight line across the mound was a layer of fire hardened clay two inches thick. Ten inches below this was a four inch layer of almost pure charcoal. Near the center of the mound, beginning 2½ feet from the top and extending five feet downward was a hole four inches in diameter suggestive of a post hole but which may have been the location of the root of a tree.

While we may speculate as to the purpose of such mounds as these and conjecture as to the religious or other uses to which they may have been put, it is after all hardly more than mere speculation and it is from negative rather than from positive evidence that we judge them to have been erected for ceremonial rather than utilitarian purposes.

FORTIFICATIONS

Fortifications are of various types but are often in the form of mounds or at least of elevations of earth so that they may properly be described in this chapter. When true mounds they are usually identified by the presence of a surrounding moat or ditch and by their location, generally at some strategic spot commanding the entrance to a valley, the crest of a hill or the bend of a river. We have never found artifacts or skeletons in such mounds nor any layers of clay or charcoal in their construction so we are forced to conclude that they were built merely for purposes of defense. When of other types than mounds they may be earthworks or rock barricades or simply rough piles or rock and earth but in some cases these are extremely well built and show considerable ingenuity in their structure and strategy in their locations. Probably the most interesting, well-built and extensive of such structures is that in Madison County which is described at length by Colonel Young in his chapter on "Kentucky's Largest Fort." (Prehistoric

Men of Kentucky: pp. 75-84) and recently studied and mapped by Professor Burroughs of Berea College.* In this ancient breastwork a considerable portion of the face of a cliff has been fortified by filling in natural depressions with rough masonry so that a really imposing barricade has been obtained which would make the scaling of the cliff by enemies an extremely difficult procedure. Incidentally, in this locality has been found some of the few copper articles which have been discovered in Kentucky and certain of these objects were very evidently intended to serve as parts of a crude armor for the protection of the body.

One of the best preserved of the ancient fortifications is in Fayette County about six miles northwest of Lexington on the Newtown Pike. This consists of a huge, nearly circular earthwork on the bank of Elkhorn Creek. The wall is about fifteen feet in width and some two hundred feet in diameter. Inside this embankment is a moat or ditch about ten feet deep and more than twenty feet across. Inside the moat is a mound about one hundred and fifty feet in diameter and higher, even now, than the surrounding earthwork. On the west side, the embankment is cut down to form a sort of gateway into the enclosure but the moat is no shallower at this point. The dirt from the moat has been thrown to the outside in the digging. Across the creek and stretching for some distance across the fields is the remains of a second and smaller surrounding earthwork which is now, however, almost obliterated and can barely be traced but indicates that here the dirt was thrown to the inside. The inner structures are, however, remarkably well preserved, and although the field in which it stands is in cultivation, the contours of the wall, moat and mound are plainly seen.

One of the largest of the supposedly prehistoric fortifications in the State is situated near the bank of the Ohio River just south of Fullerton. This is an immense earthwork covering many acres with well built walls and definite approaches which strongly suggest that it is the work of modern man. However, it has always been known locally as the "Indian Fort" and we can find no reference in history to its occupancy by white men.

*Geography of the Kentucky Knobs, Ky. Geol. Survey, Series VI, Vol. XIX. 1926.

If it is truly prehistoric, it is one of the outstanding examples in Kentucky.

Other well-known and important ancient structures which are believed to represent fortifications are those on the Green River in Warren County, one known as the "O'Byam's Fort" in Hickman County, a remarkable stone barricade on the banks of Rolling Fork in Larue County, and an unusual series of earthworks in Greenup County nearly opposite the former mouth of the Scioto River. Professor Gordon Wilson of Western Teacher's College reports that in Hickman County, about five miles west of Moscow there is an ancient canal connecting Obion and Bayou du Chien creeks which is about two miles long, thirty or forty feet wide and is still from eight to fifteen feet deep. This canal runs approximately north and south and shows evidence of long, careful and continued labor. On the south end in Fulton County there are a series of mounds which were probably used in the defense of this canal. Such structures have apparently received attention from very early times. Collins in his "History of Kentucky" describes a number of these old fortifications, Colonel Young records many more, and there is hardly a writer on early Kentucky history who does not mention some of them. The present authors have made records of all that they have been able to visit but this includes only a small percent of the total number recorded and there are doubtless many that have never been discovered or recognized.

It is interesting to note that by far the largest number of ancient defense sites are along the rivers. They are common on both sides of the Ohio River and most of the streams within the state show similar structures. This seems to be another indication that the rivers were the chief highways for the early inhabitants of the country and it can be easily appreciated that the navigable streams would offer a far safer and more comfortable means of travel than the rough trails through the brush, cane, thickets and timber.

It seems evident, therefore, that war played no small part in the life of these early people and that as a result of their strife they had developed a system of defense in which the erec-

tion of earthworks, walls, barricades and enclosures were important.

SHELTER ROOFS

A type of mound which has apparently never attracted attention, or at least, so far as we can discover in the literature, has never been described, is that which suggests that it may have been the earth covered roof of a shelter which has collapsed and left only the heap of earth as evidence of its location. In a number of mounds which we have examined there seems to be indications of the remains of a framework of logs or piles beneath the earth. Generally we find on the basal level of the mound a hardened layer which might have been a floor. This floor often shows signs of a hearth or fire-place. Often, too, on this floor are discovered artifacts which might well have been used inside a tepee or lodge. Above this, and leaning in such positions as to suggest fallen walls are the undoubted remains of logs which although of course largely decomposed are sometimes recognizable as oak or walnut. The whole is entirely covered with the earth and sometimes with stones as in the case of mounds of other types.

It may not be unreasonable to suppose that shelters made of logs probably arranged in conical form with the bases far apart and the tops together, were sometimes covered with earth as a protection against the elements. Perhaps skins with flat stones to hold them in place were also used to cover the structure. Such a shelter would offer considerable protection against cold, rain and wind and would be more or less permanent. Inside fires could be built with a smoke hole at the top in the typical Indian fashion. If this sort of a structure, after abandonment and decay, finally collapsed, it would give just such a mound as we have described.

We have even found burials in these mounds but this would not invalidate the theory. It is not impossible that in severe winters when the ground was frozen, the burials might have been made in the thick soft earth of the roofs by the inhabitants themselves. Even if this were not the case, it would be probable that later tribes would take advantage of the mound after the

structure had fallen in, and use it for burials as they undoubtedly did in other kinds of mounds.

A typical mound of this sort was found in Scott County and showed the structure indicated in the following diagrams the measurements and records for which were made by Professor J. M. Davis of the Department of Mathematics of the University of Kentucky.

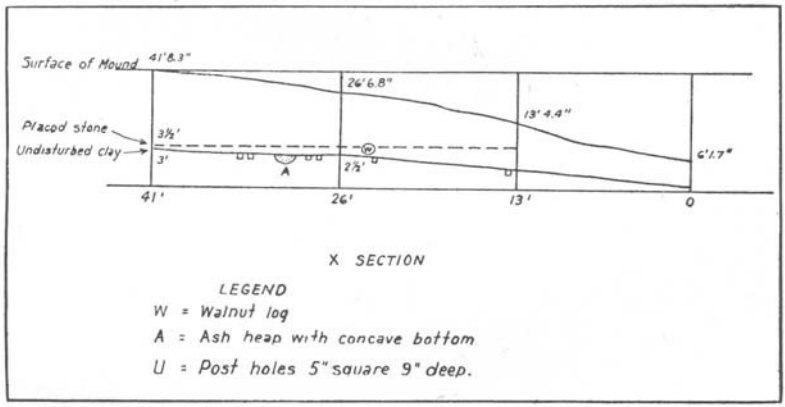

FIG. 38. A SHELTER-ROOF MOUND.
Cross section of a mound in Scott County.

This mound had a base of hard clay which might have served as a floor on which were found broken pottery, some broken artifacts, mussel shells and a few animal bones. In this floor were many post-holes, one containing the remains of posts and scattered through the mound were the fragments of walnut logs. A sloping layer of flat stones was found a few feet below the surface in all parts of the mound and a low rough wall of stone seemed to encircle the entire structure. All of this would seem to indicate the type of dwelling which we have assumed.

Occasionally these shelter-roof mounds are of a shape which would suggest the "lean-to" rather than the conical or pyramidal form of construction but in all cases the general characteristics are similar.

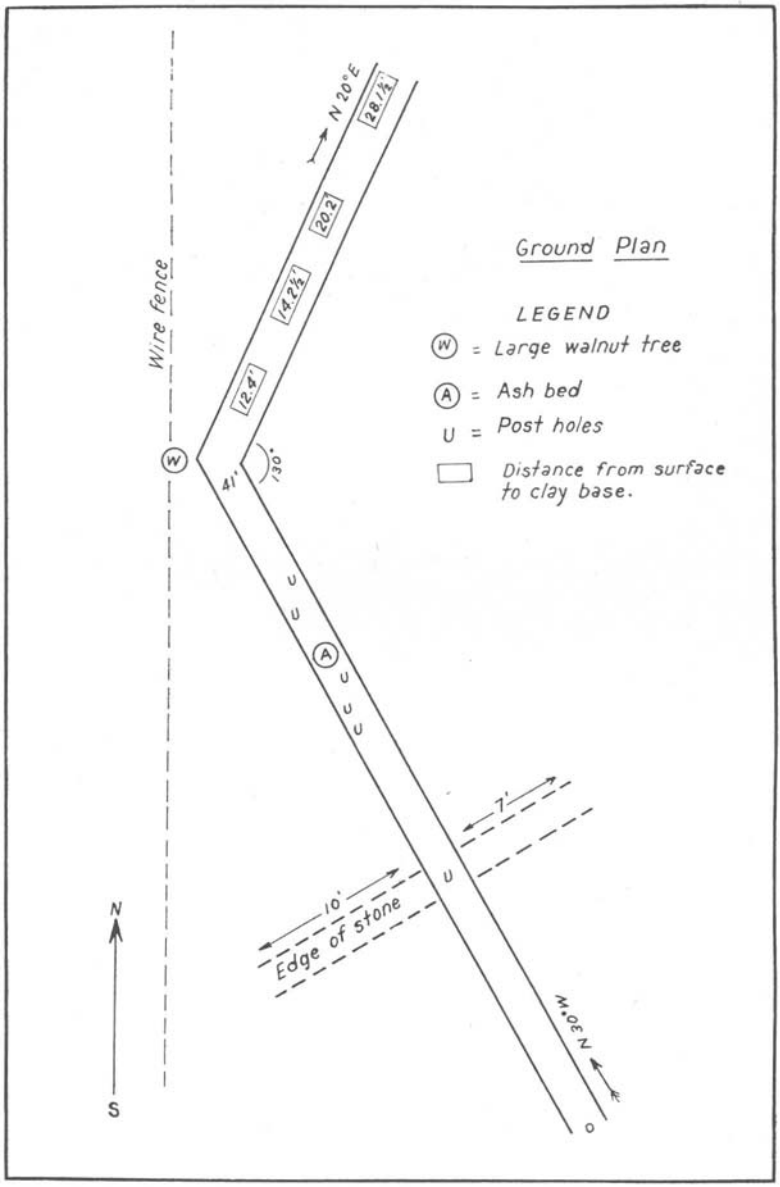

FIG. 39. SHELTER-ROOF MOUND.
Ground plan of Scott County mound.

REFUSE MOUNDS

Many mounds which have been examined seem to be nothing more than enormous heaps of camp refuse or exaggerated kitchen-middens. Such mounds contain a great amount of discarded and broken flints, pottery and shells together with a large number of animal bones of many kinds and occasionally a human bone. Generally these mounds are so completely filled with such material that every spadeful of earth yields some evidence of the activity of man in former days and the excavation of such a mound inspires the constant hope that the next stroke of the pick or spade will yield something of interest but this hope is seldom realized. Once in a while, to be sure, a really good artifact is found, such as a stone knife or an unbroken pot. Usually these mounds contain nothing of value and the excavation is a waste of labor.

These mounds are generally on or near extensive village sites and we assume that they must represent merely the accumulation of camp debris. In some cases these mounds contain such a large quantity of broken or partly made flint artifacts that we imagine it represents the site where some workman or workmen made these objects. In fact we believe that the very large number of broken arrow-heads and other articles which are so commonly found does not represent implements broken in use or injured by accident after having been lost, but represents instead objects which were broken in the making and which were never used at all. It is easy to imagine that often when an artifact had been almost completed, a chance blow or a pressure in the wrong way would ruin the article so that it would have to be discarded. We are convinced that a few of these scrap-heaps, located near out-cropping edges of flint actually represent the site of the work-shop of some ancient arrow-maker.

Such a workshop site is located on the farm of Mat Garvin about two miles west of Rowlets in Hart County and another is on the C. A. Smith farm two miles north of Bowling Green in Warren County.

Perhaps it is merely imagination but it seems to us that it is possible in rare instances to actually recognize handiwork of an individual arrow-maker. It is not unreasonable to suppose

that in a tribe there might be some individual whose ability in that craft was superior to that of his fellows and who made most of the arrows for his tribe. Even though his arrows were not superior in construction to those of others, if for any reason they were believed to be lucky or "good medicine" they might have been in unusual demand so that at last his long practice and peculiar methods might give his product a "hall-mark" of its own. Who knows but what there may have been such a Stradivarius or a Hepplewhite devoted to the craft of fashioning flint rather than violins or furniture?

Naturally a refuse mound might be used by a later tribe as a burial mound and since in a few cases we have found skeletons close to the surface of such mounds we assume that these burials were intrusive.

In spite of the fact, however, that these refuse mounds yield very little of scientific value they are not without interest for they suggest in many striking ways much which represents the lives and habits of the early tribes. One must indeed lack imagination who, when confronted with these relics of the past, does not let his fancy picture something of the activity of the life represented. The warriors preparing for the fray, the hunters going forth to the chase, the old men sitting beside the camp fires engaged in the task of making weapons for the younger braves, the women engaged in their domestic duties, the children at play, adding to the bustle, noise and confusion of the camp or village, all have left the mute testimony of their forgotten existence in these sordid heaps of refuse.

BURIAL MOUNDS

Of all of the different types of mounds, those which invariably attract the most attention and are the subjects of most interest are the ones which contain the skeletons. These mounds are of various kinds and here again we must call attention to the fact that they were not all erected during the same period, nor by the same people and that therefore they may represent different cultures. Also that groups of different periods and of different times may be represented in a single mound, showing that after the mound had been abandoned by the original

builders, other and later tribes took advantage of its presence and used it as a convenient burial place.

On the whole, however, these mounds have much in common and a brief description of two or three which seem to be most typical will suffice to give a general idea of their construction.

FIG. 40. A BURIAL MOUND.
On S. S. Clay farm, Nicholas County.

One of the most interesting of many which the authors have investigated carefully is located on the farm of Mr. Samuel Sidney Clay on the Moorefield-Blue Lick Pike about one mile northeast of Moorefield in Nicholas County. This farm has a number of mounds and ridges which show evidences of prehistoric occupation, but the largest and the one which was most carefully examined stands in the fork of the Moorefield-Blue Lick and the Jordan pikes, and in fact the Jordan Pike was cut through one side of the mound. The farm has long been known for its abundance of "Indian relics" and has been cultivated for many years. According to the present owner it was owned by Harrison Whaley from about 1860 until 1883, by Joe Wilson during the years 1883 and 1884, to Mrs. Jim Myers from 1886 until 1892 and by Mr. Clay since 1922.

The mound when examined, was about 60 feet in diameter and five feet high but had been cultivated and plowed over for many years so that it had doubtless been considerably reduced in height. The field had been last in tobacco in 1922.

The mound was opened by means of eight radial trenches dug from circumference to center and proved to be built on a

foundation layer of hard clay. On top of the clay was a layer of ashes varying in depth from two inches to over two feet. In these ashes were found considerable charcoal, some broken pottery and a few animal bones. Above the ashes in most but not all parts of the mound were limestone rocks, mostly laid flat, some at an angle and a few on edge; these rocks were most noticeable and most abundant in a rough circle around the outer part of the mound. Above the rocks, the mound consisted of made dirt to the top and in this black dirt were scattered animal and human bones, much mussel shell, broken pottery,

FIG. 41. PREHISTORIC SKELETONS.
Burials in the Clay Mound, Nicholas County.

complete and broken shell and bone artifacts and a very small amount of flint. About one-fourth of the distance in from the edge of the mound the clay bottom seemed to show a decided "step-up" of a foot or more in each of the trenches. This was most noticeable on the north and east sides, on which sides, also, there seemed to be the most rocks.

Fifteen skeletons were found in this mound—twelve in the made dirt and three deep in the clay. Some of those in the made dirt were very close to the surface, some were lying on the rocks above the ashbed, some were between these rocks and other rocks deeper in the ashes.

At the risk of boring the reader with details we may quote a few excerpts from our field notes which have to do with these

skeletons and might be of interest. In regard to some of the references in these notes it should be explained that the authors were assisted in this investigation by Honorable W. J. Curtis, an enthusiastic collector of archeological material, and that it was our practice for each worker to excavate a separate trench.

FIELD NOTES—(August 31-September 5,1925). S. S. Clay Mound. Nicholas County. Skeletons.

No. 1. Found by Curtis. Trench 7. Old woman. Flat on back: skeleton complete except below knees. Shell beads around head.

No. 2. Found by Curtis. Trench 7. Middle-aged man. On right side with knees flexed. Right arm under body. Skeleton complete. Shell beads around head.

PHOTO BY LEWIS SCOTT

FIG. 42. A FLEXED BURIAL.
Skeleton No.2, from the Clay Mound.

No. 3. Found by Curtis. Trench 5. Old man. Skeleton complete but badly disarranged. In sitting or slanting position with head forced down on chest. Shell beads on head. Sandstone pipe between knees. Large flint knife at side. The skull of a hawk perched on top of head and apparently part of a head dress.

No. 4. Found by Funkhouser. Trench 8. Incomplete skeleton of woman. Bones somewhat disarranged. Lying on right side with knees flexed. Shell beads around both arms. Bone beads around neck. Bone awl and one shell pendant at side.

No. 5. Found by Webb. Trench 3. Headless man. 13 shell pendants around the neck vertebrae and one shell gorget on breast.

No. 6. Found by Curtis. Trench 4. Adult skeleton almost prone. In bad shape. Pelvic bones decomposed. Head decayed. Sex uncertain. Shell beads around head. Flint knife by side.

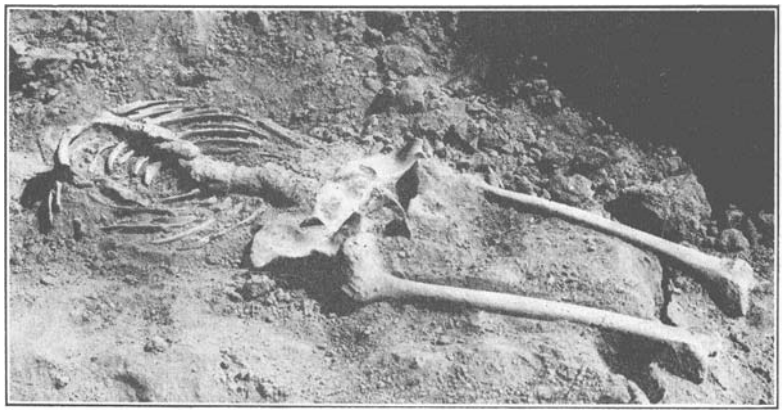

FIG. 43. A HEADLESS SKELETON.
An extended burial in the Clay Mound.

No. 7. Found by Funkhouser. Near center of mound. Complete skeleton of adult man. Skull and bones of pectoral region badly decomposed. Lower parts better. A coon-jaw pendant under body. Flint arrow-head and sandstone discoidal near hips.

No. 8. Found by Webb. Trench 3, near side. Incomplete skeleton. Head missing or decayed. Shell and bone beads around leg.

No. 9. Found by Webb. Trench 3, near center of mound. Skeleton practically complete but somewhat disarranged. Body ap-

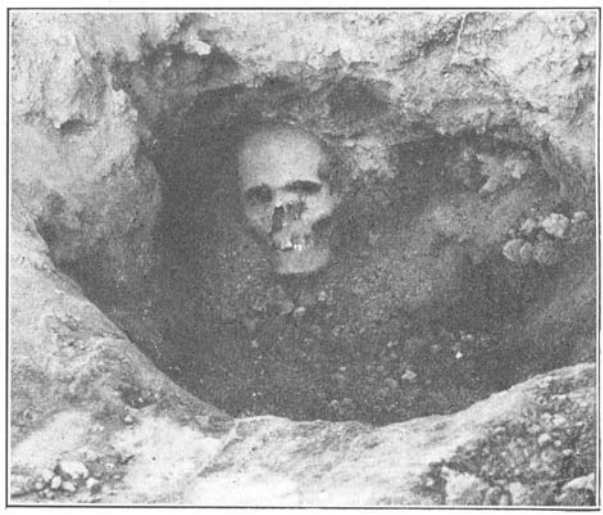

FIG. 44. MAN WITH SHELL HEAD-DRESS.
Skeleton No. 13, from Clay Mound.

parently flat on back. Near surface. Shell and bone beads on arms and legs as well as on head and a fine shell gorget on one leg below the knee.

No. 10. Found by Curtis. Trench 3. Skeleton incomplete. In slanting position and deeply buried. Vertebrae and legs in good condition. Arms partly decomposed. Head entirely decayed.

FIG. 45. MAN WITH CRUSHED SKULL.
Skeleton No. 14, from Clay Mound.

No. 11. Found by Webb. Trench 2. Practically complete. Male. Bones well preserved. Almost upright position. Leg bones extending downward deep into clay. No artifacts. Bone needle found near.

No. 12. Found by Curtis. Near center of mound. Skeleton incomplete, but evidently an adult male. Skull missing, vertebrae badly decomposed, thigh and leg bones in good shape. Shell beads and gorget on neck.

No. 13. Found by Webb. Trench 2. Near center of mound. Deepest burial in the mound. Skull six feet below surface and facing outward, other bones packed together beneath skull in disarray. Bones well preserved but in no order. Apparently a different type of burial from the others. On top of the skull a great mass of shell beads numbering many hundred which had evidently formed some kind of a cap or head-dress.

No. 14. Found by Funkhouser. Directly under skeleton No. 1. The rock which was under No.1 rested on No. 14. Adult male. Complete skeleton. On right side with knees flexed. Face badly mashed. A shell pendant on breast and a shell ear-ornament on each side of head.

No. 15. Found by Funkhouser. Center of mound. Only a few inches below surface. Skeleton complete but bones badly decayed. Skull in fragments. Young female. Lying on right side; left arm across body; right arm under body; knees flexed. Unusually large number of shell beads on arms, wrist and neck. Beads picked up by Webb and Funkhouser; Webb alone picked up 396. Shallowest grave found.

The location of the skeletons in this mound is shown in the accompanying diagrammatic chart:

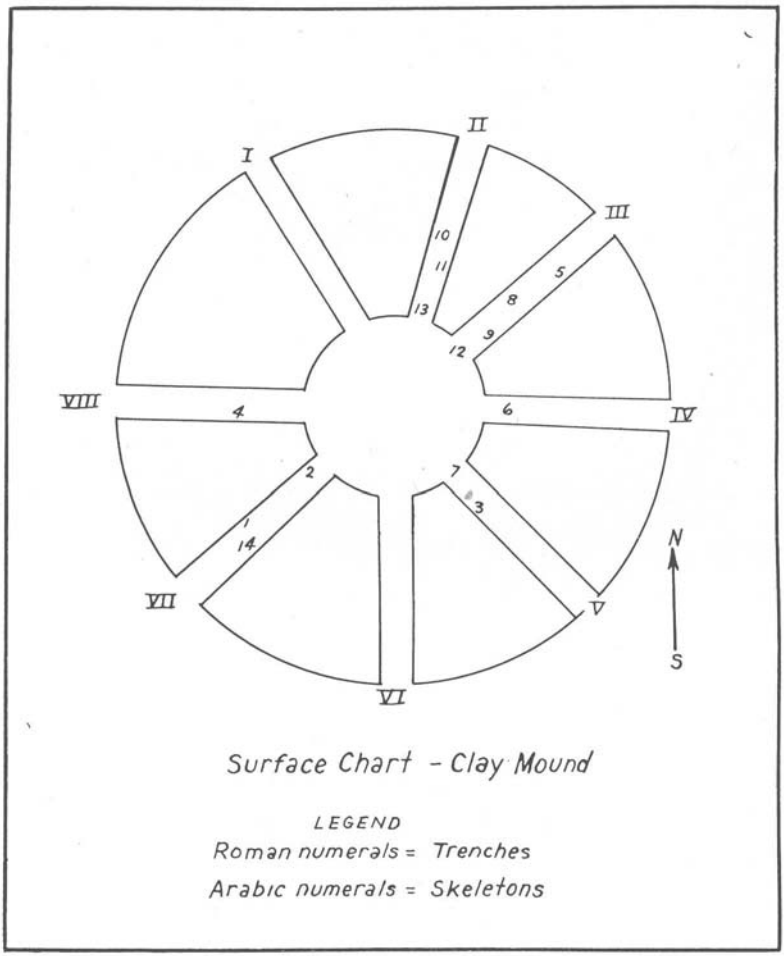

FIG. 46. SURFACE CHART OF CLAY MOUND.
Showing radial trenches and position of skeletons.

Again quoting from our field notes we may record that in this mound were found the following artifacts:

1 sandstone pipe
17 shell pendants
8 shell gorgets
Hundreds of shell beads

Numerous bone beads	Several broken arrow-heads.
2 hair ornaments	1 flint knife
5 sandstone discoidals	2 bone needles.
25 sandstone discs	1 coon-jaw pendant
3 bone awls	2 ear ornaments.
5 perfect arrow-heads	5 horn arrow-points

35 horns from which points had been cut.

In the field around the mound were picked up a number of limestone discs, a few good flints and a stone knife, while scattered over the surface of the ground were numerous pieces of mussel shell, many animal bones and a considerable amount of broken pottery. In past years various artifacts have been found in this field including a fox-head pipe found by Mr. W. A. Hudson while cultivating the field for Mr. Clay in 1922.

One of the characteristic and interesting artifacts found both in the field and in the mound was the circular disc which was very abundant. These discs were mostly made of limestone but a few were of pottery. They ranged from one to eight inches in diameter and from one-quarter of an inch to an inch in thickness. They were very crude and their use is problematical.

Of the animal bones found in the mound, many are easily recognizable and the following species are represented: deer, elk, buffalo, bear, wild turkey, coon, opossum and wild cat. Other bones, particularly those of fish and small birds could not be identified.

The mound above described is a fair sample of the burial mounds throughout the state and a description of others would vary only in the details. Some have more skeletons and others fewer; some are richer in artifacts while others are destitute of these objects; some offer peculiar positions of burial while in others the bodies are all placed in the same fashion; some show the bones in excellent condition and in others they are so badly decomposed that it is almost impossible to either identify or preserve them; in some the skeletons and artifacts are much alike but in many, perhaps in most, they vary to a considerable extent. Each new mound investigated, however, usually presents a new fact, or suggests a new problem, or helps to verify or refute some theory, or gives us some new evidence, however slight, which taken all together enables us to know more and more

about the subject which is so little known and about which we are so eager to get information.

FIG. 47. THE PERRANT MOUND.
An unusual type of burial mound in Mason County.

If the mound which has just been described represents the usual type, the one other which may be discussed in some detail represents a very unusual type and one about which we are in much doubt, for which reason we record it here. This is the mound we recently opened on the farm of Mr. Joe Perrant on the Maysville-Flemingsburg pike five miles south of Maysville. This mound is twelve feet high, ninety feet in diameter at the base with an average slope to the sides of 5¾ feet per 10 feet. It stands in a conspicuous position near the pike and has for years been a well-known land mark. The mound is constructed of made earth with the usual occasional layers of ashes and charcoal and considerable amounts of rock. A number of very large and probably very old trees originally grew upon its summit but these had been removed before we investigated it and we can therefore give no estimate as to the probable length of time which had elapsed since these trees first sprouted—a point, by the way, which is often of considerable value in estimating the age of a mound. Among a number of peculiarities which we believe makes this mound unusual may be mentioned the facts that although the season was dry and the mound stood on a well-drained elevation, the earth of which it was composed was very wet, so wet, that shoveling was a very laborious process; that although the mound was so large (the largest that we

have ever thoroughly explored) it contained only seven skeletons; that these skeletons seemed to be buried in pairs at rather regular intervals through the mound; that all of the skeletons which we found were in the center of the mound; and that each skeleton lay upon and was usually covered by a large flat stone.

The mound had been tentatively dug into at various times according to local tradition but nothing had ever been found. The diggings, however, must have been very superficial for we found no indications of previous disturbance in the soil or the roots which ran through a greater part of the upper portion. Three trenches were started into the mound but one of these was abandoned because of lack of time and of workmen, before the excavation was completed.

At the same time a well was dug straight down through the center of the mound from the top to below the hard-pan layer of yellow clay some distance below the natural level of the field. This well was 16 feet in diameter and was dug with the sides vertical and straight and all of the dirt was removed and carried outside of the mound. The two trenches were extended into the well so that altogether an enormous amount of earth was handled and examined and we believe a fair idea of the structure and content of the mound was obtained.

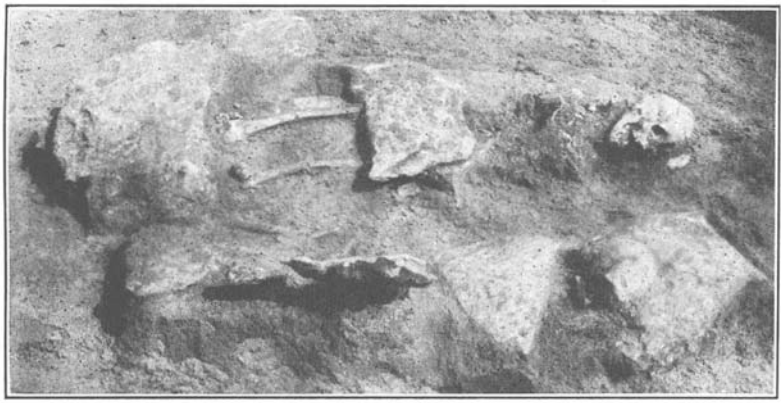

FIG. 48. A DOUBLE BURIAL.
Skeletons of a man and a woman buried side by side with rocks under and over the bodies.

Two and one-half feet below the surface in the center of the mound, two skeletons were found. These skeletons were of an

adult male and female, lying side by side on the same level, with the bodies straight and the heads toward the east. The man was on the south side of the female. No artifacts were found except a single flint arrow-head near the skeleton of the man. The curious thing about these burials, however, was the fact that each skeleton lay on a bed of stone with a stone pillow under the head and with a large flat stone over the hips and another over the feet. The bones of these skeletons were in fairly good condition since they were in a well drained portion of the mound near the surface but as work progressed the soil became more and more saturated with water until it was so wet that the bones embedded in it were entirely rotted.

Five feet below the surface two more skeletons were discovered. These again were lying side by side, about a foot apart, with the heads pointing south-east by east, but facing away from each other. Like the first pair, these were male and female, but the bones were in very bad state of preservation. Each skeleton was lying on flat rocks which were placed exactly under the head, hip, knees and feet, but in this case there were no rocks on top of the body. The bones of the right leg of the skeleton on the south had apparently been disturbed by some burrowing animal. No artifacts were found with these skeletons.

Six and one half feet below the surface at the extreme north-east side of the well, another pair of skeletons were unearthed which however were so decomposed and disturbed that a satisfactory photograph was impossible. The bodies, however, had apparently been laid in the same position as the others—prone with the heads toward the east—and the position of the flat rocks indicated that they likewise had been laid upon a stone bed and probably had stones over parts of the bodies.

The seventh skeleton, which may have been one of another pair, but on this point we could not be positive, was found at a depth of eight feet. The bones of this skeleton were entirely water-soaked and rotten and even the enamel of the teeth was crumbling. It was impossible to be sure even of the exact position of the body.

Nothing was found below this depth. The well was continued to a depth of twelve feet at which depth a hard-pan layer of yellow clay was encountered which was extremely hard

and apparently had never been disturbed. Holes were dug at various points to a depth of two feet or more into this clay but it appeared evident that it had never been moved. The earth was extremely wet to the very bottom of the mound and there was no indication as to the cause of this wet condition. This was an unusual mound, unique in our experience, and has therefore been described at some length.

PHOTO BY MRS. TROY BACK

FIG. 49. A GRAVE BY THE RIVER.
Burial mound on Back farm, Breathitt County.

A fine example of a burial mound is located on the property of Mr. Miles Back in the village of Quicksand. This mound is on the top of a hill overlooking the Kentucky River.

Other burial mounds which we have investigated are listed in another chapter in this volume under the head of "Archaeological Survey of Kentucky" and in each a brief notation is made of the results. A detailed description of each, however, would be in many respects a repetition of experiences similar to the foregoing and can not be given space in this report. Also, many of these have been only partially examined and must be made subjects of later reports.

We have purposely refrained, also, in this discussion of burial mounds, from describing any of the artifacts found with

FIG. 50. FOUR TYPES OF SKULLS.
The skulls from left to right represent prehistoric types from Wayne, Mason, Hardin and Greenup Counties respectively.

the bodies since these are discussed in later chapters devoted to that subject.

It will not be out of place, however, at this point to again refer to the fact that the skeletons taken from burial mounds represent a number of quite different types. Much work is yet

FIG. 51. PIERCED BY AN ARROW.
A skull from Greenup County showing partially healed wound.

to be done in the making of cranial measurements and in the further study particularly of the skulls, but a few may be figured which will show even without giving the measurements or commenting on the cranial peculiarities, how diversified a series of individuals we are dealing with. Figure 50 represents skulls respectively from Wayne, Mason, Hardin and Greenup

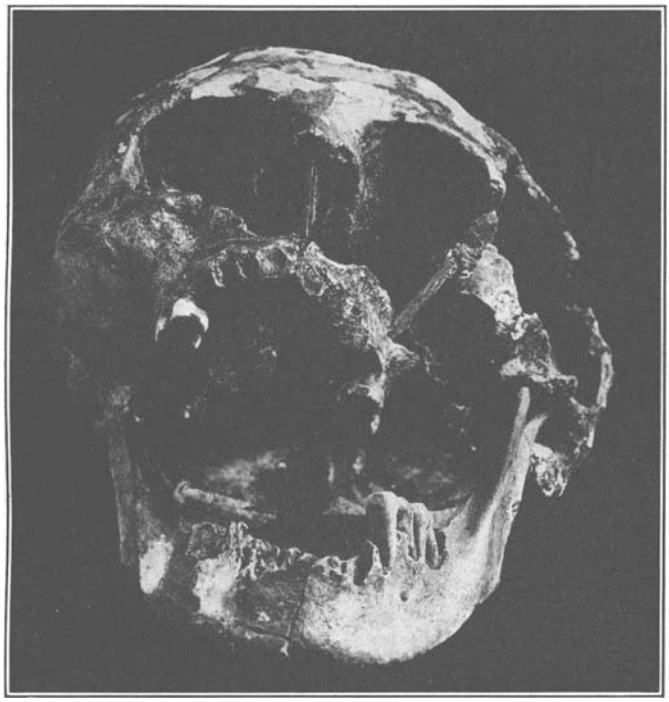

FIG 52. A TWISTED FACE.
Deformed skull from Harlan County.

Counties and it does not require a technical knowledge of ethnology to recognize the fact that they must represent individuals that in life would have been very different in personal appearance.

In addition to these apparently normal although greatly variable skulls we have found a number which show mutilation and deformities. Of the first may be mentioned especially a skull, the skeleton of which was exhumed in Greenup County, in which a deep fracture has apparently started to heal and the

new growth may be seen extending inward from the edges of the wound. It would be interesting to know how long the individual lived after such an injury, which suggests that it was caused by a blow from a battle-axe or tomahawk, and how long it took the new bone to form.

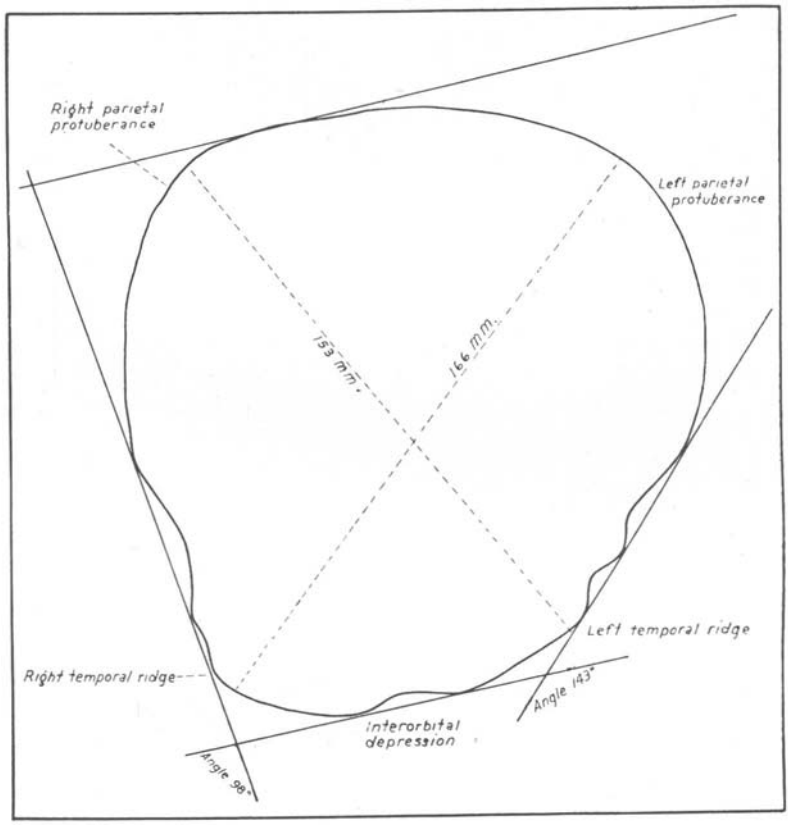

FIG. 53. A DEFORMED HEAD.
Outline and measurements of an asymmetrical skull.

Examples of deformities are very numerous and are sometimes of such a nature that it is difficult to arrive at a satisfactory explanation of their cause. One of the first of these to attract our attention was secured in Harlan County. It was so badly twisted out of shape, as is shown in the accompanying photograph, that the actual contour and technical measure-

ments as drawn and measured by Doctor Hellman, of the American Museum of Natural History, to whom we are greatly indebted for examining this specimen, may be of interest.

A single skull of such a type would suggest merely that we had to deal with an unusual deformed individual. But when in the course of our work we found a very large number of such skulls, it was evident that this was more than a rare case of deformity. We have now secured about thirty specimens showing this asymmetrical shape and are forced to conclude that it has a deeper significance especially when we find many of them together in a single site. More than a dozen skulls showing this deformity were taken from Fox Fields in Mason County; three were secured from the Fullerton Field in Greenup County; others have been found here and there over the state and Doctor Wissler of the American Museum advised us that the collection of that museum contains several similar skulls from Kentucky.

In some cases the deformity is very strongly marked, the skull bulging out very greatly on one side or the other of the median line so that the entire face is badly twisted (see frontispiece) while in others it is less prominent. In most cases the bulging portion is on the left side but occasionally we find it on the right.

A satisfactory explanation of such a skull condition is not easy to postulate. We can think of at least six theories which might be presented but none of them are entirely acceptable. It might be suggested that the skulls were pressed out of shape after burial by the weight of the rocks and earth above them, but a fully ossified adult skull could hardly be so affected since the bone would break rather than bend or twist. Again we might assume that the condition was congenital but we can hardly accept such a theory in the light of our modern knowledge of heredity. We could assume that such a malformation might be the result of a disease, such as rickets, in early youth, which would permanently twist the features out of shape, but this theory is not supported by any other evidence and although we have carefully examined the ribs of the skeletons we can find none that are nodulate nor do we find any signs of other pathological condition.

Such malformations might have been caused by peculiar practices in midwifery or the use of crude obstetrical instruments. Also the practice of carrying the child in a certain position or the requirements of a certain posture in nursing might affect the soft skull of an infant, but it can hardly be believed that the deformation from such causes would be as great as exists. The only other explanation which seems reasonable is that the malformation was the result of a deliberate attempt to change the appearance of the individual by binding the head of the child and thus carry out some traditional practice for superstitious or religious reasons. We know that the so-called "flat-head" Indians did this sort of thing and the Aztecs seem to have practiced similar customs, so this explanation is not

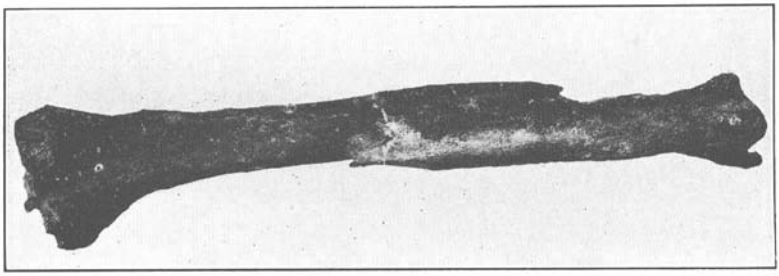

FIG. 54. PREHISTORIC SURGERY.
A human tibia which has been broken and set by primitive methods.

entirely unreasonable but if this were true we cannot understand what type of binding could have produced the bilateral asymmetry which results. It would indeed have taken a remarkable type of bandage to have produced a pressure strong enough and continued enough to bring the bones to the position which they assume in these skulls.

Other types of deformities besides those of the skull are not unusual but do not show any such uniformity as those of the skulls and are probably no different from those to be found in an average population of any race.

Mutilations are common, particularly those due to injury or accident. Occasionally we see evidence of attempts at crude surgery as in the case of the setting of bones. The tibia here figured which had been broken and afterwards healed, would indicate a piece of surgery not at all bad for such early times.

Attempts have been made to definitely classify the prehistoric groups on the basis of skull indices and while in a general way such a classification may hold, it is very likely that there were to be found in any group variations of many types just as such variations are common to most of the modern races.

We believe that we are finding a difference in the cross-section of the tibia which may be worth further study as a possible character in identification but not enough work has as yet been done in this study to warrant the stating of any conclusions.

On the whole the structural characters of the skeletons of the mound-builders are so similar to those of the Modern Indian that we can lay down no fixed rule which will differentiate them, if indeed there is any differentiation to be made. This subject, however, is one which offers a field for extended research and with the amount of material easily obtainable, such study should receive attention.

BURIAL FIELDS

All burials, of course, are not in mounds, and there are many graves in fields in which there are no indications of mounds. Whether these graves were originally mounded and have since been leveled or not, we do not know, but in many instances it seems almost certain that this was not the case.

In the now famous "Fox Field" most of the graves are on what is now comparatively level ground although there were and still are mounds in the immediate vicinity. This site, located about ten miles southwest of Maysville in Mason County, was first thoroughly investigated by Mr. Harlan I. Smith for the American Museum in 1895. Mr. Smith concluded (Smith, H. I. 1910) that the material culture of the site resembled that of the Adena Mound, Baum and Gartner Sites and the Fort Ancient and Madisonville Sites in Ohio, and assigned the Fox Field to the Fort Ancient culture as described by Mills although he agreed with Morehead that the Fort Ancient culture at that time had not been definitely placed.

Since the excavation in 1895 the site has been ploughed over many times, the land being in cultivation, and graves are constantly being opened by the plow since each year, due to the washing away of the soil, the skeletons are nearer the surface. Consequently the field has long been of interest to local col-

lectors of Indian artifacts and the surface is searched each season when the land is free from growing crops, always yielding to the industrious seekers some evidence of ancient occupation.

So numerous are the burials here that after each plowing the earth is literally covered with bleaching bones and in fact it is locally known as "Bony Field." The graves all seem to be marked by stones at least at the head and feet and our method of locating them was to follow the plow and watch for the stones upturned in the process of cultivation. The graves here were mostly close to the surface although we do not know that this was the original depth. In this field some conditions prevailed which are rather common to most of the burial fields which we have examined but which are not easily explained. One of these is the common occurrence of graves in which several skeletons are found in one grave, one of them being in good condition and in a natural position while the others are badly broken and much disarranged. There is a tradition that certain early tribes sacrificed the wives and children of the deceased and performed a funeral dance on their bodies before burying them in one grave. Such a practice might account for the condition of the skeletons in these multiple graves but would perhaps be rather fanciful. A more plausible explanation would seem to be that there were later intrusive burials and that when a body was buried in an old grave, the older skeletons were trampled down and forced aside to make room for the new occupant of the tomb.

Another is the presence of only partial skeletons in graves. This occurs so often that the absence of parts can not be explained entirely by the action of burrowing animals or the natural decomposition of the bones. Also it is not uncommon to find parts, but only parts of more than one skeleton in the same grave. We can account for this only by assuming not only later burials but the actual moving of skeletons from time to time with the attendant loss of parts.

Again, in the Fox Fields, as in other burial fields we find bodies in such unusual and grotesque positions as to suggest that they were simply thrown into the graves without the least attempt at regularity. Some appear to have been forced into graves which were much too small for the bodies with the re-

sultant mixing of unrelated bones of the skeleton. In fact we are inclined to feel that we must not place too much reliance on the position of the body as indicative of ceremonial rites. It has been claimed, in support of such an idea, that most of the skeletons which have been reported to have been in a "sitting position" were not really buried in that position at all.

It was in Fox Field that the interesting Maltese Cross design was found by W. J. Curtis, which was recently reported by one of the present authors (Webb, W. S., 1927) as follows:

"In a grave containing three skeletons in a fair state of preservation, lying parallel and extended on their backs, there was found immediately under the lower jaw of one of them two teeth of the black bear, drilled so as to receive a large string of thong. From this position it was clear that the teeth had been suspended about the neck of the skeleton.

"These teeth have been ground down to a flat surface an each side. showing the expenditure of very considerable effort to reshape to such a degree such very hard material. The most interesting feature of these teeth, however, is that upon each tooth is engraved in deeply incised lines a Maltese cross, which is fairly symmetric and the same size on each tooth. These crosses are the same in length and breadth, and similarly placed on each tooth as shown by Figure 55. These teeth are the same size, and differ only in that one is a right and the other a left tooth, possibly of the same animal.

"The tooth in No. 2 is in a somewhat better state of preservation than that in No. 1. In this tooth a part of the outside shell has scaled off, removing a part of the engraved cross, but fortunately leaving quite a sufficient portion to make it certain that the aboriginal maker intended to make duplicate engravings of a Maltese cross as nearly similar in size, position, and orientation as it was possible for him to do. The fact that two teeth should have been found which possess duplicate engravings seems to preclude the possibilities that an individual Indian might have stumbled on this geometric form in a single attempt to decorate or beautify his ornaments. The figures are so well wrought, by boldly incised lines, which stop exactly at the corners (in no place do intersecting lines pass the point of intersection) that one is forced to conclude that the original engraver had exactly in mind the figures he desired to inscribe. In fact it seems plausible that he may even have had a copy before him.

"That the figures cut in this very hard material are excellent representations of the Maltese cross there can be no doubt.

"This discovery naturally raised the question, when were the crosses drawn? Did the prehistoric dweller on Fox Field originate these figures? If not, where did he get his idea, his copy? Was this an individual case or could any other evidence be found that this ancient and historical geometrical form was known to the prehistoric dwellers on Fox Field?

"In the private collection of one of the authors there were several hundred objects of stone, bone and shell which had previously come from Fox Field through the kindness of Hon. W. J. Curtis, the records of which had been very carefully kept. This material was, at the time of the discovery of the incision upon the teeth, packed in storage in the process of being moved to a new location. Only recently has it been unpacked and made available for investigation. This material

was carefully searched for possible additional traces of the Maltese cross with the very interesting result that a flat shell gorget (See No. 3) two inches in diameter, which had been drilled with two holes for suspension was found to have on its front face a well carved Maltese cross. This gorget was taken from the breast of a skeleton found in a grave on Fox Field in the spring of 1917, which contained no other ornaments and only one implement, a beautiful flint knife some five inches long, by two and a half inches wide, finely chipped.

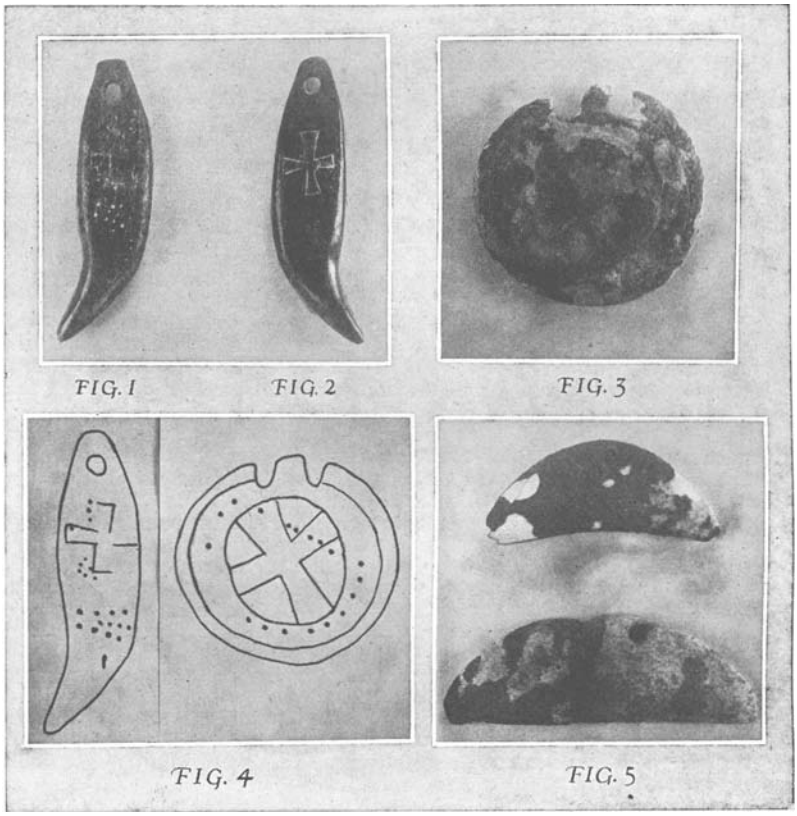

FIG. 55. MALTESE CROSS DECORATIONS
Bear's teeth and gorget from Fox Field.

"This gorget, like any other shell material, has become encrusted with iron oxide from the soil, which slightly obscures the engraving on it.

"The cross had escaped previous attention, doubtless because 'it was circumscribed by a circle concentric with another circle almost twice the diameter of the first, and appears at first glance to be a part of a larger design. By comparison, however, with the designs on the bear's teeth it is quite apparent that here too there is an attempt on

this shell gorget to engrave a Maltese cross, and that the remaining portion of the design is merely a decoration forming a background for the cross.

"Another interesting feature may be noted that on a tooth there are some twenty-two conical pits, evidently reamed out by rotating a fairly sharp-pointed instrument against the tooth. Only one of the two teeth shows these pits.

"It is further interesting to note that on the shell gorget these same conical pits appear to the number of nineteen. There were probably more of them, but due to the loss of part of the original surface of the gorget and the covering of oxide only nineteen pits are now identifiable. The location of these pits on tooth and gorget, relative to the crosses, is shown in No.4.

"What these pits may mean, is suggested later. It is interesting to find them not only on the bear's tooth that has the cross but also on the gorget having the cross. On fifteen other shell gorgets, large or small, from Fox Field and some fifty other bears' teeth from the same site there are no other crosses and no similar pits.

"The very interesting problem is thus presented: Why the cross? That here is a real Maltese cross is beyond question. That these were taken from the breast and neck of skeletons found buried in Fox Field is a matter of personal knowledge to the writer. How can the presence of this historic figure be explained? The possibility that it could have originated with the primitive prehistoric men of Fox Field and been so valued by them as to have been copied by more than one individual on his ornaments and personal decorations seems barred.

"It also seems highly improbable that the Indian could have gotten the design of the Maltese cross from any contact with either the early English or French explorers, by whom this symbol was not used.

"It is well established that the early explorers and settlers of the Ohio River Valley in Kentucky had no knowledge of any Indian occupation at Fox Field. Such occupation had ceased so long before the first French or English explorers came to Kentucky as to leave no noticeable trace to attract any attention whatever, except in the mounds explored by Mr. Smith.

"It would seem, however, quite within the bounds of possibilities that contact with the early Spanish explorers in Mexico and Florida in the early part of the sixteenth century might reasonably account for the presence of the Maltese cross. The Knights of Malta, hardy soldiers and adventurers, may well have formed a part of some Spanish party of explorers in Florida or Mexico, which could have had, with comparative ease, contact with the dwellers on Fox Field. This site is only ten miles from Maysville on the banks of the Ohio River, and it is well known that the river was the highway of travel for war parties and trade, such as existed in prehistoric days. The fact that the dwellers on Fox Field did have contact with the sea, either by trade or travel, is proven by the abundance of shell gorgets and beads made from marine shells.

"If the possibility be admitted that the inhabitants of this site could have had contact with the Spaniards by going down the Ohio or Mississippi River to the Gulf, the presence of the cross on the ornament is easily explained. To a primitive people giving great veneration to signs, charms and tokens, what could have been more impressive than the Maltese cross on pennon, breast plate or sword hilt of some Knight of Malta, who in company with a Spanish party, either as friends or enemies of the Indian, may have proved invulnerable to the arrows of the Indians because of his armor. Such prowess in battle would by a primitive people be attributed to the effects of some charm or symbol as a very potent 'medicine.'

"What more natural than that some symbol should be adopted as his own by primitive man, and to make the influence effective, he might carry it on his necklace of bear teeth or on a shell gorget suspended over his breast.

"While this explanation is highly fanciful it, does offer a plausible explanation of the occurrence of this ancient and historic symbol on the ornament and object of veneration of the prehistoric dweller of Fox Field.

"It is possibly idle to specu1ate further as to the significance of the engravings on these ornaments. However these suggestions are ventured as seeming possibilities:

(1) "That the Indian who drew these crosses on his ornaments actually had before him a Maltese cross on some war material, as shield or armor, taken from some Spanish Knight.

(2) "That after the customs of heraldry, such shield or armor had other engravings, or 'quarterings' on it as well as the Maltese cross.

(3) "That the groups of conical pits and circles associated with these drawings of crosses represent the attempt of the Indian to copy the 'charmed' device exactly as he saw it, to the best of his ability.

"If this possibility be admitted, it would seem reasonable to suppose that burials took place in Fox Field at such a late date that it was possible for the deceased to have had contact with Spanish explorers, such as Cortez in Mexico in 1519 or De Soto in Florida and Mississippi in 1540. Possibly burials may have occurred at Fox Field as late as the last quarter of the sixteenth century.

"Professor Mills points out that inhabitants of the Gartner Village which is about seventy miles north of Fox Field had a characteristic ornament made from shells in the form of a crescent. No.5 shows two small shell crescents taken from two graves on Fox Field. These specimens seem to be somewhat larger, and better preserved, than those reported by Smith in 1910.

"In conclusion, if this suggestion as to the age of Fox Field be accepted, it seems reasonable to attribute to the Gartner Site and to all of the Ft. Ancient culture no very great antiquity. That is, these similar and related sites may possibly have been inhabited as late as through the sixteenth century."

One of the most interesting of the burial fields in Kentucky is the "Fullerton Field" which was discovered in 1926 as a result of excavations for a street in a new subdivision at Fullerton in Greenup County. A number of features of this field warrant its description in some detail.

Opposite Portsmouth, Ohio, on the Kentucky side of the Ohio River, is the small village of South Portsmouth. Immediately adjacent thereto on the east is the small village of Fullerton, which is in part built on the now exposed portion of the ancient river bed of the Ohio River. The town sites of South Portsmouth and Fullerton form a continuous strip of populated territory, extending perhaps three miles along the river. This strip varies in width from 400 to 100 feet, and

terminates to the southward abruptly in the almost vertical cliffs which rise 300 feet or more from the level of the river. East of Fullerton the ancient river bed widens out to about 5,000 feet from the present river bed to the river cliffs to the southward.

This level tract is bounded on the east by Tygart Creek, a fairly large creek flowing swiftly between steep banks, 50 feet or more high, to empty a yellow stream of generally very muddy water into the Ohio River not far from the Ohio village of South Boston. The main road from the ferries at Portsmouth, Ohio, on the Kentucky side runs along the foot of the river cliff eastward to Greenup, crossing Tygart Creek over an iron bridge. On the north side of this road, and along the west bank of Tygart Creek, Mr. A. T. Pack of South Portsmouth, Kentucky, had purchased a tract of some five acres, and had undertaken to develop the subdivision called Fullerton Heights.

Indianola Avenue was being constructed from the present Fullerton-Greenup Road at the foot of the river cliff northward to meet the proposed new state road over Tygart Creek, a distance of some 1,100 feet. In building this street it was necessary to excavate a strip some 50 feet wide to a depth varying from two to six feet. Before excavation for this street began it was not known that this was a prehistoric village site. A resident of an adjoining property stated, however, that several years before, when excavating for a cellar for his home, he had discovered two skeletons very old and apparently folded up. This area on which the new town site was laid out had for several years previously been cultivated as a corn field, the top soil being a black, sandy loam, doubtless very fertile. Upon inquiry, the former owner stated that workmen had repeatedly plowed up bones in this field, some of which had been thought to be human, but little or no attention had been paid to such chance findings. There seemed to be no history of the findings of any especially interesting or unusual artifacts.

It was quite apparent, however, from a superficial inspection of the surface of this field, that there was every reason to believe that here was an ancient village site. The black loam was full of flint chips, broken pottery, mussel shells, and one had but to remove some six to nine inches of the top soil to

discover a variety of animal bones of deer, bear, wolf, together with bones of fish and birds. It was further apparent that on this site there had been at least two mounds, somewhat elliptical in form, and probably 100 feet in diameter, situated as shown in Figure 56. It was difficult, if not impossible, to estimate the original height of these mounds, as the original surface of this "old river flat," as this area was called by the local inhabitants, was evidently slightly rolling in topography, and the

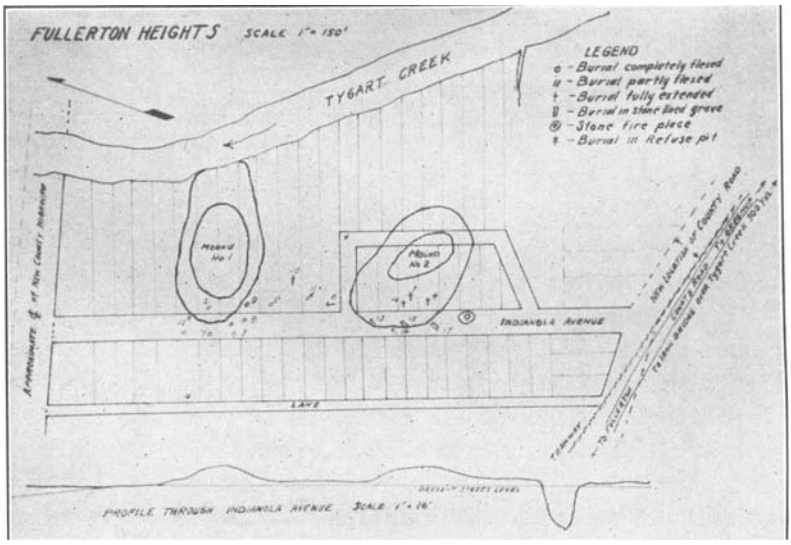

FIG. 56. FULLERTON FIELD.
Surface and profile sketches showing location of principal mounds and graves.

makers of each of these two mounds seemed to have taken advantage in each case of a natural ridge, which was perhaps two to four feet higher than the surrounding territory on which to build these mounds. Again, the continued cultivation had evidently greatly reduced the height of the mounds and spread them over a larger area than they originally occupied. When first visited the top of Mound No.1 was 6 feet, and that of No. 2, about 4 feet higher than the general level of the soil of the cultivated field.

Before the authors reached this site, excavation had been going on along Indianola Avenue, and a strip some 30 feet

wide along the western side of this street had been brought down to grade for a distance of about 300 feet on the northern end of this street. The excavation was carried on by some fourteen teams with drag scrapers, scooping up the soil and carrying it to the vicinity of the Fullerton Road, there to dump it into several gullies which were being filled. It was quite evident that by this method the chance of finding a burial undisturbed was small. The task, however, was not an impossible one. The first 12 to 18 inches of soil was coal black in color. This layer of top soil rested on a very beautifully clear yellow river sand, which in the undisturbed state was uniform in composition and free even of river gravel.

Where this original yellow sand had been disturbed by ancient man, there were traces of the mingling of the black top soil which showed quite plainly. As the scrapers passed over the sand floor, when they showed black soil mixed with band such signs always led to the finding of graves or other evidence of prehistoric occupation. Through the kindness of the owner, Mr. A. T. Pack, the workmen were instructed that if any signs were discovered which rendered time to investigate, the procession of scrapers was to be diverted to another tract, thus giving opportunity for a careful inspection. But for this courtesy and the general assistance of the workmen it would have been impossible by such rapid movement of earth to obtain any worth-while data.

Shortly following the beginning of the excavation Mr. Lucian Beckner was sent to make an examination and a collection, if possible, for the Kentucky Geological Survey. He visited the site at once, and as a result of the kindness and cooperation of Mr. Pack was able to recover a number of skeletons, some of which he carefully preserved and shipped to the Survey headquarters at Frankfort, Kentucky. These burials were located in the general vicinity of Mound No.1, in the northern end of Indianola Avenue, and were all of the fully flexed type. He reports[1] the first artifacts, though few, buried with these bodies, a few simple ones found scattered through the soil, together with much broken pottery,

[1] Beckner, Lucien. Ky. Geol. Survey, Vol. XXVI, pp. 261-272, 1927.

a number of arrow points, and one drilled bear's tooth. He has presented data as to the location of these burials.

Excavations were continued for a period of some six weeks, the work being frequently interrupted by repeated rains, and during most of this period the soil was so full of water as to greatly hinder careful investigations by individual excavations. During some three weeks on this field it was possible to carefully investigate some seventeen burials as well as to superficially inspect or collect data on some sixteen other burials which had previously been explored by others, or destroyed in the process of excavation.

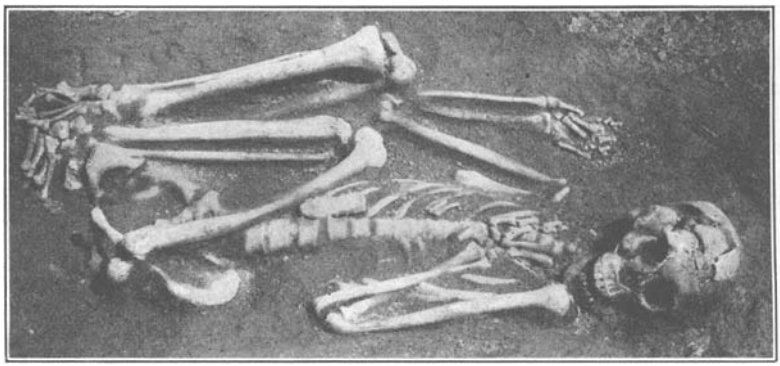

FIG. 57. THE COMPLETELY FLEXED TYPE.
A burial in the Fullerton Field showing legs and arms closely flexed.

In general the burials may be, for the purpose of description only, divided into four classes: the type most commonly found is well represented by burial No.5, for convenience called the "completely flexed type." Nine of these were investigated by the authors. Several more were found by Mr. Beckner, and three others reported by workmen as having been scooped up and carried over the dump. All these burials were single interments, in no case was there found a suggestion of a double burial. These completely flexed burials seemed to have no regularity as to orientation, being sometimes on the right side, sometimes on the left side, and often on the back, and with heads pointing to all points of the compass. The knees were always drawn well up to the body, with arms usually folded so that the

hands came up about the face. These burials were always on or in the naturally yellow sand, at depths varying from 18 inches to 4½ feet. No trace could be found of any attempt to prepare a grave or do any more than dig a hole in the sand. The skeletons of this type were fairly well preserved. These graves were completely destitute of artifacts, not even a bead or a bit of broken pottery being found. When it became apparent that relics were very scarce with this type of burial, extra care was used to be sure that nothing from these graves was overlooked. As day after day went by with only skeletons revealed, the ever present "village wag," who viewed the work

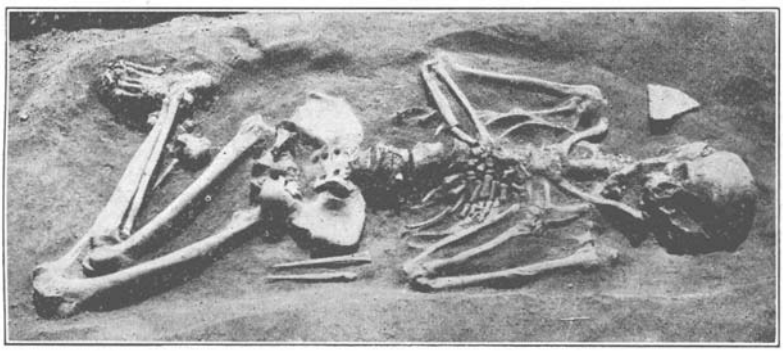

FIG. 58. THE PARTLY FLEXED TYPE.
Showing legs and arms only partly flexed.

from a comfortable seat on the bank, and whose curiosity was still unsatisfied, gave vent to his disappointment by stating that "he allowed these here Indians were Democrats and had nothing." At any rate nine such burials, the location of which is shown in Fig. 56, yielded nothing which could be identified as having been placed with them at the time of interment. It is to be noted that all of these burials were found near the northern end of Indianola Avenue, and appear from a superficial study to be quite similar to burials described by Mills in Ohio Archaeological Reports, Vol. III, as coming from Fuert Village site. In most cases it was possible to remove the skeletons completely, and with careful packing they arrived at the Department of Zoology, at the University of Kentucky, in fair condition.

A second type of burial is represented by a single skeleton, burial No.9; this body was laid head to the west, slightly on the left side on or in a bed of hard clay, foreign to the natural river sand. The clay for this bed had evidently been brought from elsewhere, and placed on the sand and formed into a hollow bowl-like form. The body was partly flexed, and had accompanying it a large piece of broken pottery and two bone awls, shown in place. The skull in this case resting on a relatively hard surface had, for some reason, not become infiltrated with sand, and had been crushed by the weight of the superincumbent earth.

FIG. 59. THE FULLY EXTENDED TYPE.
A Fullerton Field skeleton with legs and arms straight.

A third class of burials were those that were fully extended, as illustrated in Fig. 59.

These were not found in the street until work was begun in the vicinity of Mound No. 2. The first two of these burials were discovered outside of the street excavation. These graves showed no attempt at preparation, other than to dig a hole. The exact size of the original grave in most cases could be exactly determined by the trace of dark soil mixed with yellow sand. In seven of these graves four were without artifacts of any kind. All such burials were single interments. They were all buried flat on the back, and with one exception showed evident care at the time of interment to obtain an orderly arrangement of the body, showing quite characteristically the forearms crossed on the body. The location of these graves is indicated on Fig. 56. In all cases of these extended burials sand had filtered into the skull cavity, thus aiding in supporting it. They were, therefore, in fairly good condition, although the portion of the field

in which they were located seemed to be much damper than the portion containing the completely flexed burials. Special attention should be called to four of these fully extended burials.

Burial No. 11, a fully extended adult, perhaps 30 years of age, was not accompanied by any artifacts. It seemed impossible to certainly determine the sex. During life this subject had received a severe injury to the right parietal. This injury, which is elliptical in form, about 1.25 inches long by .75 inches broad, did not cause immediate death, as is shown by the restoration of the bony tissue. Several medical friends of the authors have variously estimated the length of time necessary to produce the amount of restoration at from three to five months, the general opinion being, however, that this wound ultimately caused death. This is the skull previously figured in this chapter (Fig. 51)

Burial No. 16 was discovered about five p. m., at the close of a very rainy afternoon. The light was much too poor to hope to take a photograph of this skeleton, an adult female fully extended. It was thought unwise to leave the grave unexplored until morning, as on two former occasions where a grave had been left incompletely examined at the close of a day's work it was found rifled and all evidence destroyed by irresponsible persons of the neighborhood. Work was therefore continued in the dusk and the skeleton finally removed. This burial was accompanied by a large number of bone beads and although the skeleton was in fair condition the beads were badly decayed, the majority being only forms in the sand. Many beads were slit longitudinally into thin splinters by the decaying process. Altogether, with the greatest of care, some 115 beads were found in such condition that they could be restored.

It is to be noted that two of these beads were double drilled, so that they could have been used to receive a double cord. It would appear that some of these beads were made from large bones with thin walls, possibly the tarsometatarsus of large birds. Others appear to have been made from rib bones, as they are quite flat and bored non-symmetrically. Because of the very decayed state of these beads, the early dusk of a rainy summer day, it was impossible to discover any ordered arrangement of these beads on the skeleton as they were scattered from neck to hip. Only those which were first reached and found

somewhat removed from the skeleton could be restored. Those under the skeleton were too badly decayed to be preserved even with the greatest care.

Perhaps Burial No. 4 is the most interesting of all investigated at this site. This skeleton, an adult male, fully extended, had what appeared to be a head-dress of cut animal jaws. The jaws seemed to have been arranged in a double row, only five showing in our photograph. When the skull was lifted, a

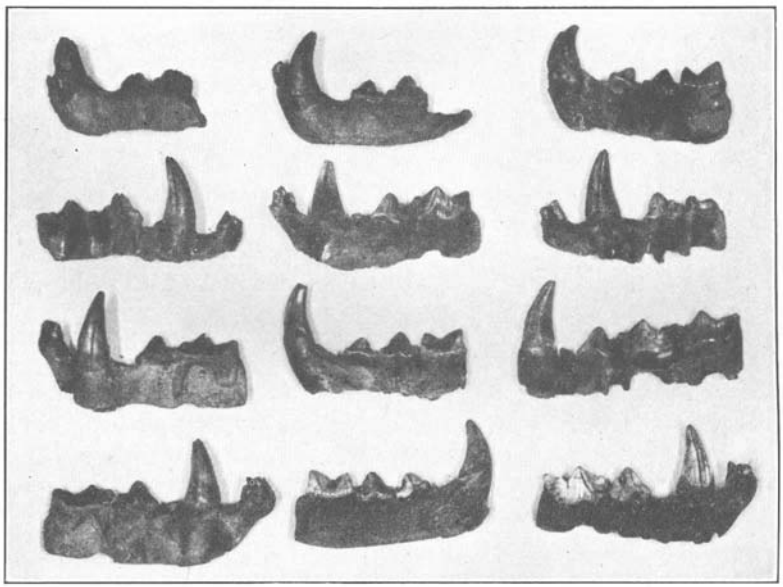

FIG. 60. WOLF JAWS.
These jaws formed the head-dress of the old man in the Fullerton Field burial.

total of twelve were found in a condition to permit of restoration. These restored jaws are shown in Fig. 60. The jaws composing this head-dress proved to be all jaws of the wolf (*Canis occidentaus*) and in most cases upper jaws. According to the dental formula of the wolf, it appears that they were cut off just back of the last premolar. An inspection of a wolf skull makes the cutting at this place easily understandable since at this point the bone is thinnest and the maker of these ornaments by so cutting secured the maximum number of teeth for a minimum of cutting and polishing.

This skull was in poor condition for recovery as the burial was less than twenty inches from the present surface of the field. The lower jaw had been moved, perhaps by the plowing of the soil immediately above it. This was evidently a very aged individual as the lower jaw contained only a few teeth and the other cavities had been completely healed. The skull was lying on its left side.

Immediately in front of the face was the head of a large garfish which measured fourteen inches in length. The heavy downpour of rain caused both the heads to separate into the separate bones. Between the garfish head and the skull was

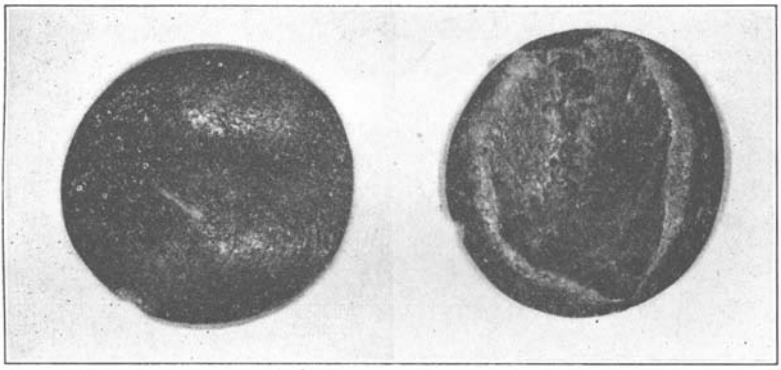

FIG. 61. A GRUESOME DECORATION.
Gorget fashioned from part of a human skull.

found the penis bone of a coon which may have been used as a pin in the head-dress as the curved end shows an attempt at pointing. On the breast of the skeleton was a small hematite celt, one inch broad by one and a half inches long, with sharp edge and high polish, accompanied by the bone gorget shown in Figure 61, a and b. This gorget is made from a part of a human skull. It was drilled for suspension from the interior side of the skull only, the holes meeting, being drilled from the edge of the gorget so that the front face of the gorget, which is the outer side of the skull, was left perfectly smooth. It is almost exactly circular in form, and two inches in diameter.

Burial No. 6 is of interest in that it shows a body fully extended in a hole somewhat elliptical in shape, about four by

three feet and five feet deep. The hole was much too broad for a single burial and much too short for a fully extended burial so that it would appear that it was not originally and primarily intended for a grave. The bottom of the hole was not flat, but deeper in the middle. The body had been placed with the trunk in the middle of the hole, the head much higher than the body, and the legs sloping upward at an angle of some thirty degrees Not suspecting the presence of this burial, a scraper struck the highest point of the skull and almost at the same time another scraper struck the feet at a higher elevation.

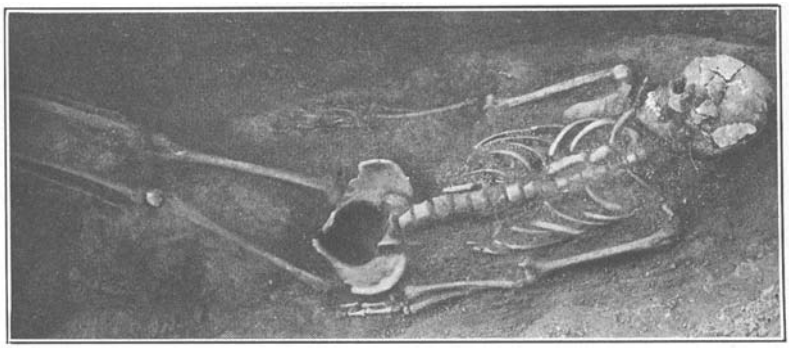

FIG. 62. A HASTY BURIAL.
Body crowded into a short grave with head and legs sloping upward.

This burial is of interest also from the fact that with the skeleton, or perhaps more accurately, in the hole, was found a mass of rubbish such as might easily have accumulated about an Indian camp site, including broken pottery, animal bones, mussel shells, deer horns, broken hammer stones, and an assortment of river pebbles of different sizes and materials most of which showed the result of hammering, together with a number of very crude stone discs from one to four inches in diameter. From the character of this material it is not to be supposed that it was placed in the grave with any intent to honor the dead, as in the case of most artifacts, but was used only to help fill up the hole. It would be fair to assume that this hole, after receiving the body, had been filled with rubbish and camp debris of whatever kind might have been available at the time.

In burial No. 13, a fully extended adult, nothing was found in addition to the skeleton save what appeared to be part of a

bear's skull. This fragment of skull was broken into quite a number of small pieces and was not thought to be of any particular interest; however it was saved for further investigation. After being cleaned, an attempt was made at restoration and we were pleasantly surprised to find the pieces fitting together to form a bone gorget which had been cut from the upper jaw of a bear. After having been cut from the skull just back of the third premolar, the whole bone had been ground down to a flat surface parallel to the roof of the mouth, leaving the teeth to project from the bone.

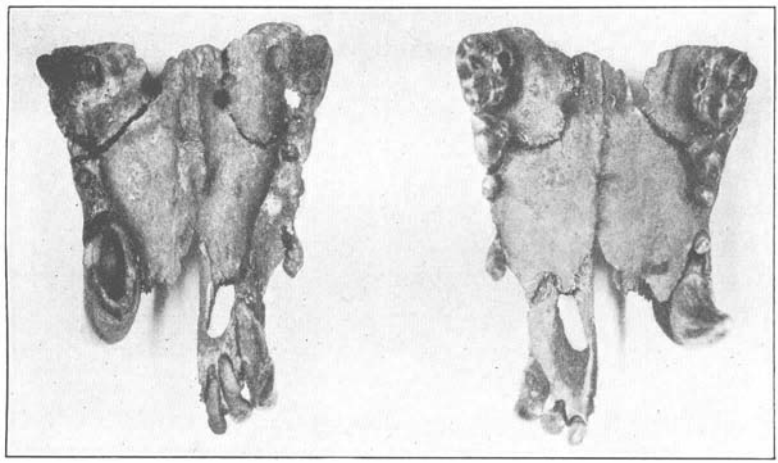

FIG. 63. A BEAR-SKULL GORGET.
a. Dorsal view. b. Ventral view.

This bear gorget as shown in Figure 63, a and b, has two holes drilled through the thin bone of the roof of the mouth, doubtless for suspension. It shows careful workmanship and evidently much effort was expended to grind the teeth. The large canine, as well as each of the other teeth, is ground to a flat surface. This type of gorget may explain the finding in another Kentucky site by Smith (Smith, H. I., 1910) the cut canine teeth of the bear. These cut teeth which, found separately, show no means of attachment as ornaments, have been cause of speculation by more than one writer as to the purpose of such cutting.

A fourth type of burial on this site was represented by only two graves. These were of the stone-lined, box form. The locations are shown in Figure 56. One of these graves had been almost completely destroyed before it could be investigated. It was within a foot of the surface, little of the skeleton remained and no artifacts were found. The second grave was discovered by two boys of the village who removed the flat stones from the top, shoveled out the grave, destroyed the skeleton and left only the vertical stone walls of the grave in place, after which the grave quickly filled with water. The owner of the subdivision, on learning of this discovery, stopped the boys and obtained from them a perfect pot. One boy at first admitted, but lated denied, that other artifacts had been taken from the grave. This pot is five inches in diameter at the mouth and has a capacity of nearly a quart.

An attempt was made to obtain a photograph of this grave but the water standing in it had so softened the walls that all had caved in, leaving only a pile of stones. It was evident, however, that both of these stone graves had been made by placing large slabs of sandstone on edge to outline the grave and covering the whole after burial by other flat pieces of sandstone laid horizontally. This sandstone can be found in quantity in the river cliffs only same three hundred feet distant. The top of the last grave was three feet below the surface of the field.

Some fifty feet to the south, and within the street limits, at a depth of eighteen inches, was found a circle of large river gravel, most of the stones as large as a man's head, arranged in a sort of cobble-stone pavement in a circle about ten feet in diameter. On top of this crude pavement was a quantity of ashes and charcoal mixed with earth, and the usual camp rubbish. This was evidently the site of an ancient hearth and may have marked the center of a tepee. Its location is shown in Figure 56.

The examination of the Fullerton Field was made under most unfavorable circumstances particularly as regarded the weather and it is difficult to draw definite conclusions from so hasty an investigation but it is certain that the site is worthy of more careful and complete investigation. Even with data so incomplete, however, it may be suggested that this site on

the bank of Tygart Creek, on the ancient bed of the Ohio River, was inhabited at different times by two different peoples, or at least by peoples having two distinct burial customs, as represented by the completely flexed burial with no artifacts and by the fully extended burials with artifacts.

From the distribution of the graves it would seem that Mound No. 1 was more closely associated with the flexed burials and Mound No. 2 with the extended burials but there is no conclusive evidence of priority one over the other if indeed there are two different cultures represented. The single partially flexed burial may be a lone grave of some transient people, the prepared clay bed suggesting kinship with the so-called "pre-Hopewell" culture. The two stone graves, very similar to those in many other sites in Kentucky, appear to be the most recent of all. They too may have been intrusive burials by a transient people, camping on this site at no very remote period.

A very interesting burial field was investigated on the farm of Mr. Jesse Henson in Marshall County on the Tennessee River west of Benton. This spot is known locally as "Grave Yard Ridge" for very apparent reasons. It had evidently been the practice of the people using this field to invariably cover the grave with a large flat limestone rock. But limestone does not outcrop in this region and so to carry out their practice it had been necessary to bring the stones from across the river, which must have been a laborious process. Nevertheless, such was the case and the result was that the field was so covered with these large flat stones that cultivation had been made practically impossible and the ridge had been allowed to stand in grass and was used as a pasture.

The graves, however, were not difficult to locate, since an attempt had been made to sow the field in clover, a crop that does not flourish in this part of Kentucky because of the lack of lime in the soil, with the peculiar result that the clover grew only where a rotted limestone rock just beneath the sod furnished the necessary lime for the legume. As a consequence it was much as though Nature had planted flowers on each grave to mark its location and we had only to take advantage of this to find the skeletons.

On the neighboring farm of Mr. Albert Henson were three large mounds, one of which was several acres in extent and close by on the farm of Mrs. Betty Faughn were a series of mounds on the top of a long ridge. None of these mounds contained skeletons. This would seem to indicate that these mound-builders used the fields rather than the mounds for burials.

A large number of other locations of burial fields are listed in a following chapter on the" Archaeological Survey" and a description of each of these would in most cases duplicate in the main the discussion of one or another of the foregoing. All however seem to bear out our assumption that the mound-builders often used fields for burial purposes and that if the graves in these fields were ever mounded, all evidences of such elevations have long since disappeared.

CAMP AND VILLAGE SITES

It is to be taken for granted that the mound builders had other things to do in addition to building mounds however important these mounds were for their peculiar purposes, and it is natural that we should find in the vicinity of mounds the remains of camp and village sites which in many cases are extensive and give evidence of long occupancy. The commonest feature of such a site is the enormous amount of litter of every sort which covers the ground over large areas and is found to a depth of several inches. Artifacts, broken pottery, mussel shells, pieces of flint, and animal bones are the most noticeable of these remains.

The trash of the kitchen-middens has usually been scattered and plowed under by the cultivation of the ground during all the years that have passed since the original deposits and in fact the very soil itself is often noticeably richer than the surrounding country because of the immense amount of organic material which it has contained. Almost every conceivable sort of object which would naturally be left in a place once teeming with primitive life may be picked up on such a site and even human bones are often scattered through the refuse. Remains of weapons from the chase or battle, fragments of cooking utensils, pieces of agricultural implements, pipes, game-stones, articles

of personal adornment—all bring to the mind's eye a picture of the busy life of the time—

"E'er the pale-faces came in their white-winged canoes from the land o'er the sun-rising sea"

to rob the true Americans of their homes and their hunting grounds.

Evidences of agriculture about these village-sites are unquestioned; signs of their fishing are undeniable along the streams; proof of their prowess in the chase is shown by the remains of many a feast; reminders of their sports by the almost obliterated race-tracks and play-grounds; suggestions of their child-like vanities by the gaudy ornaments for decoration; examples of their industry by the laboriously fashioned tools; samples of their art by the crudely carved pipes and gorgets; memorials of their loves and their joys and their sorrows by the pathetic remains of their household goods and their simple dwellings; indications of their victories by the places of sacrifice and thanksgiving; undoubtedly evidence of their final defeat by the whitened bones in their graves.

They have done their best to record for us chapters of their history if we can but interpret their writings; they have left us evidence if we can but recognize it—but many chapters are missing and much of the evidence can now be found only in

"The sluggish clod, which the rude swain turns with his share and treads upon."—Gray.