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Foreword

The Texas Archeological and Paleontological Society was organized in Abilene, Texas, in October, 1928, for the purpose of collecting the archeological remains of Texas, their preservation in Texas museums, and the publication of the knowledge acquired in the studies and researches incident thereto. It was also intended that the remains of such types of prehistoric animals as have been found associated with man's artifacts in other parts of the world should be carefully studied and collected in museums with the idea in view that a more careful study of American pleistocene deposits might yield evidences of earlier occupation of America by man than had been previously acknowledged.

The members of the Society feel that the efforts of this organization have contributed no small part to the solution of many of these problems, and especially that of ancient man in America.

From the printing of The Texas Archeological and Paleontological Society's Publications neither officers nor editor nor anyone else derive any financial compensation whatever. All of the proceeds of the dues payments, and book sales are applied to make better, larger bulletins. It is a successful experiment in pure science. The Society published its first book at the beginning of the depression in 1929. It has been published regularly every year since then. For several years the Society has owed no debts, and it maintains a cash balance prior to publication for the printing of its Bulletins.

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SOME UNUSUAL CREMATED BURIALS FOUND NEAR COLORADO, TEXAS

BY CYRUS N. RAY

In the summer of 1929 Mr. E. W. Douthit of Abilene asked the writer to examine some unusual holes in large boulders, situated on his ranch in Mitchell County. Soon thereafter the writer visited the site and examined 84 boat-shaped or oval mortar holes which had been made in hard sandstone on the tops of large bed rock outcrops located along the edge of a hill overlooking a wide flat valley. Through this valley the channel of a shallow, dry wash meanders its way. There are shallow pools of water in the holes of the wash which remain for several weeks after rains, but there is not now enough water to sustain the life of such a large campsite, as once existed on the hillside above the mortar holes, closer to the site than ten miles, where there is a spring on another small creek branch. It was stated by a resident of the region that a spring once flowed on a mountain across the valley about a mile distant, but no signs of it show now.

The flint and mussel shell debris of the site above the mortar holes would indicate a rather heavy occupation over a long period of time, which would have been impossible for a primitive tribe without a permanent water supply.

In the centers of some of the largest boulders were a few intact oval mortar holes which were filled level with the tops with grass sod. Probably these had filled with wind-blown earth early and this had protected them. These protected mortar holes were from 15 to 17 inches deep, 17 inches long, 7 to 8 inches wide, and pointed at each end. The outline of the holes from above is boat or canoe shaped. (Note 1).

On most of the boulders where any slant whatever existed, the stone had been washed away in varying degrees, depending on how far from the centers of the boulders the holes were. Forty-four of them were eroded deeply. Since the flat boulder tops and ledges are high above any chance of flood waters causing this erosion, one must assume that it was solely due to elements borne in the air such

as wind-blown sand and rain. It is probable that sand was not the cause, since the erosion is not equal but is progressive from the flat topped centers of the stones to the edges, and much greater where any slope exists. One then concludes that the erosion was caused by the run off on each boulder of only the rain which fell from above on that stone. How long it would take rain to wear away the surface of a hard sandstone boulder down 15 inches the writer does not know, but of some holes only the bottom 1.5 to 2 inches still remained. Of some others remnants 3, 4, 5 and 6 inches deep remained. (Note 2).

Later study showed that this type of mortar hole is found in great numbers on branches of the Colorado River near Colorado, Texas, in a number of different sites described in Vol. 3 of this Society's Bulletin. (Note 3).

Back of and close by the original mortar hole site, a small mountain or large hill rises abruptly. On the face of this hill lie some large overhanging rocks. When we examined this hill in 1929 Mr. J. E. Lowry found under a large rock a beautiful abalone shell pendant of the type commonly made and worn by the Pueblo Indians of Arizona and New Mexico. The shell of which it was made is found only in the Pacific Ocean. The finding of this Pueblo type artifact indicates either Pueblo trade connections that far east, or that Pueblo Indians camped at the site. When we examined the top of the mountain a rock structure of circular form, consisting of large stones set into the earth closely, was found. This rock structure was 14 feet in diameter and consisted of one layer of stones. Below the stones was 1.5 feet of hard, dry earth filled with small stones. Much to our disappointment after the hard labor of clearing the stones and earth away under a temperature of above 100 degrees we came to hard, flat bed rock, and apparently projecting out of the center of this were some large rough stones which we supposed were part of the same ledge.

Reluctantly we came to the conclusion that we had wasted our efforts on a gas blowout or some other natural formation. However, the writer had always wondered about this site, after later digging up some long headed burials in stone lined graves which were buried 4 and 5 feet deep. In 1932 the writer dug up a similar structure situated about 30 miles north of this site, and found a flexed long headed skeleton, buried below the earth and stone covering in a pit cut into the solid rock beneath it. (Note 4).

However, nothing was done about it until the summer of 1935, when the writer returned to the site with James G. Morrow, and we again dug out the refilled earth down to the projecting stones, and then found that we were able to pry them loose in the center.

There were six large stones wedged in tightly, and when these were removed, more black earth was found beneath them. The space they occupied was a round hole three feet across, which had been cut down into the solid bed rock for about a foot in depth. We found this filled earth to be full of small burned bone and shell fragments and soon the writer unearthed the largest stone pendant that he ever saw, an oval gray stone pendant, with an hour glass shaped hole at one end. It was 5 1/8 inches long, and slightly over 2 inches across. It was nicely proportioned but was a rather large ornament for the small child that wore it. The fragments of bones were quite small and fire-blackened, and the finding of two very small milk teeth showed that the cremation was that of a very young child. This child must have been that of an important chief when one considers the number of artifacts of unusual nature found with the cremation. In addition to the large pendant there were four other oval stone pendants; one was 3 inches long and 7-16 inches wide, rounded at the top and pointed at the bottom; one was 2 1/2 inches long and 14-16 inches wide; one was 2 1/4 by 11-16 inches; one was 2 by 1 6-16 inches. In addition a smaller pendant of shell 1 14-16 inches long and a shell bead 7-16 inches across were found. A curved stone object, 2 2-16 inches long on the inside of the curve, was found. A hole was drilled in each end and a groove connects

the two end holes on the inside of the curve; the object is 1/2 inch wide. The use probably was as a bandeau ornament, probably worn on the forehead to hold back bobbed hair. Its curve would be about right to fit the head of a small child. A large stone ring 1 15-16 inches in diameter was found. Two peculiar polished gray-green stones of the shape of about a third of a circle, or of about the shape of the visible portion of the sun when a little more than a third has risen, were found. The rounded portions of both are notched or serrated. One is 5 7-16 inches long, and 2 3-16 inches wide in the middle and it has 18 serrations. The other one is 5 10-16 inches long and 1 15-16 inches wide in the center, and it has 19 serrations, but there is a small piece of the edge missing at one end where two more serrations probably were. There were a great number of small polished fire blackened quartz pebbles scattered all through the cremated materials; these varied from a third to a half inch in diameter, and probably were used inside dry land terrapin shells as rattles. Portions of broken polished bone tubes were found, and much burnt shell which was too fragmentary for one to determine from what it came. Three thick, roughly made, stemmed and shouldered, flint projectile points, probably spear or atlatl points, were found with the burial.

Reconstructing the scene the best we can we visualize the death of a small child of some important chieftain. The selection of a site on the point of a mountain overlooking all the wide valley below. The removal of the earth covering the bed rock and then the laborious cutting with flint tools of a hole in the hard rock three feet in diameter and a foot deep. Then filling this hole with fuel, laying the body thereon with all of its toys, rattles, beads, and most valuable ornaments, and then setting fire to the pyre, to the end that this fire, sacred agency of their sun god, would consume the remains, and the burial fixtures, and carry their spirits to their home in the sun. When the fire had cooled then six large stones were wedged tightly into the opening, earth heaped above, and then a wide circular pavement of stones set on top.

A month later on another trip to this site with Mr. M. B. McClure the writer found a small cave

opening under a large boulder about half way up the south face of the same small mountain. On digging into the floor debris of the west end of the small shelter the flexed, charred remains of a cremated adult were found. This skeleton was much better preserved than the child's, which was reduced to small charred bits, as large sections of the long bones, although scorched, were otherwise nearly intact. Four serrated arrow points, of what this writer now believes to be the latest of several successive phases of The Sand Dune Culture, were found. Apparently out of the same ashes came a

much rusted metal trousers button. Whether it was part of the clothing of the person cremated, or was later taken into the site by rats, the writer cannot say, but the fact is rather unsettling to some previous views. While there is no doubt in the writer's mind that the top level ("Sand Dune Culture Complex," (Note 5), extends back far into the past based on evidences of patination and otherwise, there is also some evidence to indicate that this long headed race also lived in the region late enough to make contact with the Spaniards. In 1928 the writer found in the bottom of a sand dune blow-out basin near Abilene

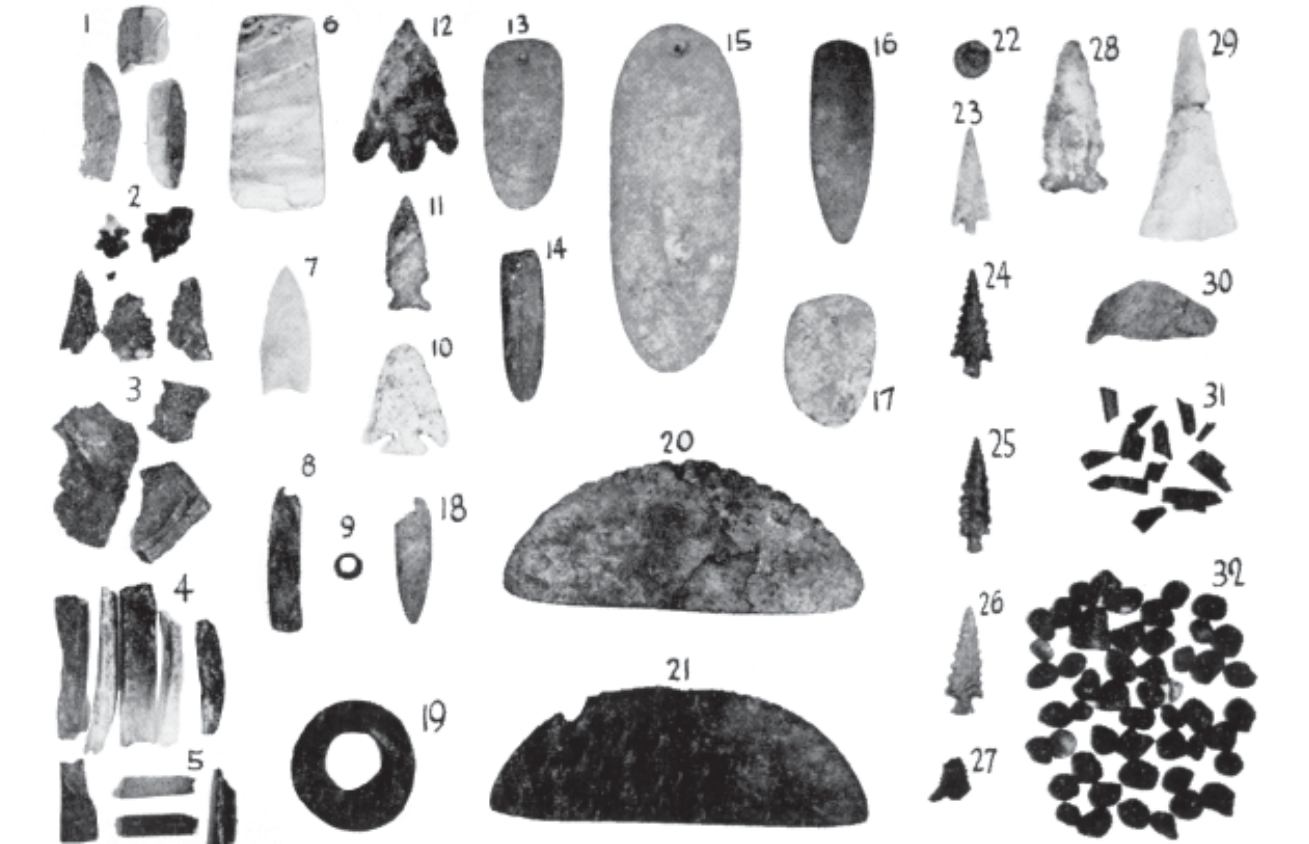


PLATE 1.

No. 1. Mussel shell fragments. No. 2. Charred tissue. No. 3. Skull fragments. Nos. 4 and 5. Long bone fragments. No. 6. Abalone shell pendant. No. 7. Folsom shaped dart point found with abalone shell pendant. No. 8. Stone bandeau ornament. No. 9. Shell bead. Nos. 10, 11, and 12. Heavy dart points. Nos. 13, 14, 15, 16 and 17. Stone pendants. No. 18. Mussel shell pendant. No. 19. Stone ring. Nos. 20 and 21. Serrated edged, polished stone objects. No. 22. Iron button. Nos. 23, 24, 25, 26 and 27. Serrated arrow heads. No. 28. Dart point. No. 29. Half of four edged knife. No. 30. Flake scraper from child's burial. No. 31. Fragments of polished, bone tubes. No. 32. Scorched pebbles probably used in rattles. All of above objects were found in child's cremated burial except Nos. 6 and 7, which were in a rock shelter on the west face of the mountain, Nos. 28 and 29 which were found at the foot of the mountain and Nos. 22, 23, 24, 25, 26, and 27, which were found with an adult cremated burial in a cave on the south side of the same mountain.

a number of typical serrated arrow points of the Sand Dune Culture Complex of exactly the same type as those found charred with this cave cremated burial, and found amongst them one peculiarly made large blue glass bead. During the summer of 1929 while Dr. Walter Hough of the Smithsonian was here, he was shown the bead, and he then stated that it was a Venetian blue glass bead of a type which had not been made in the past three hundred years. On a visit to the same blow-out on a windy day about a year later, a long headed, flexed skeleton, was found in position where the winds had just exposed it. It was in the exact place where the serrated arrow heads and the blue glass Venetian bead were previously found. This site is located so far from any present day water supply that it is unlikely that two periods of inhabitation could have occurred on the site although it is a possible explanation. In this instance as in the case of the cremated burial no other object showing white contact has ever been found.

In the usual Indian burial whenever metal objects are found one also always finds quantities of glass beads. No beads of any kind were with the cave cremated burial, nor any other artifacts of white manufacture.

On digging deeper in the same cave and into a rather firm compact tan colored soil a foot or more beneath all evidence of the cremated skeleton another skeleton was found which showed no signs of cremation. It was in flexed position, lying on the side in the east end of the small cave near the entrance. This was of a somewhat larger individual, and no artifacts of any kind were buried with the skeleton. A few animal bones were found at the same level, and with the human bones, but whether they were left at the same time with the burial or not the writer cannot determine.

The deeper bones, both of man and animal, have the appearance of being rather old but well preserved, and it is very probable that they are the remains of a burial made a long time before the cremated burial found in the loose ashes above them.

The finding of the typical Pueblo type of abalone shell pendant in the rock shelter on the west face of the mountain and the child's burial containing the abundance of ground and polished stone ornaments in the grave on the top would indicate Pueblo culture contacts.

Another feature suggestive of this, is the finding of several cists or pits lined with flat stones near the mortar holes which evidently were constructed to hold the meal ground in the mortar holes. However, not one pottery sherd of any kind has ever been found by the writer in that region.

Considering the differences in the methods used, and of the burial furniture in the three burials, it is probable that each of the three were made at different time periods.

Box 62, Abilene, Texas.

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A PREHISTORIC CREMATED BURIAL OF THE ABILENE REGION

BY JAMES G. MORROW

The writer overheard a conversation concerning a rock mound which had been found by some boys while hunting on a ranch situated twenty miles southwest of Abilene. The owner agreed to allow an excavation after being convinced that scientific research was the writer's only purpose in excavating.

The surrounding country probably was at one time well watered, and an ideal camping place. There is a valley running east and west which averages about a half mile in width. The floor of this valley is strewn with hearth rocks and flint chips.

On the south side of the valley is a sandstone capped mountain that has an elevation of about 200 feet above the dry creek bed which halves the camp-site. The upper portion of the northern side of this mountain is nearly perpendicular for a distance of fifty feet.

Ten feet south of the edge of this cliff there was a clump of scrub oak bushes. Upon examining this clump closely we found that it was growing up through a mound of rocks. The bushes were cleared, and the mound measured. It was ten feet in diameter, and about two feet in height. The top rocks were of irregular size and placed in no regular order, and extended in depth to the original ground level of the mountain top. At this depth large sandstone slabs were wedged tightly in the hole. These continued to a level of a foot below the original surface. Around the edges of the excavation solid sandstone was exposed.

The next six inches consisted of rocks of about the size of a man's fist, and coarse gravel. At the bottom of this layer and exactly in the center of the hole was found a peculiarly marked stone. It is of limestone and is only one-half of the original artifact. This is shown on Plate 2, No. 13. (See Editorial Note). Two inches directly below this stone was found a large gray spearhead and on the same level and near the north edge the red jasper, black flint

and milky quartz points were grouped in a space that could be covered by a man's hand.

At a depth of two feet the earth in the center showed ashes and at this level a double bitted ax was found. [Notes (1) and (2)]. On the northern edge was found another group of points; a gray flint dart point; a brown quartzite point and a gray purple striped flint point. At the same level near the southeast edge a varicolored flint knife was found.

An inch or so under the ax the gravel and earth showed signs of scorching, and contained some bits of charcoal. In the center, and badly scorched, lay a leaf shaped knife. Eighteen inches to the south were found two patinated points, and near the eastern edge was a translucent flint point. Below is a description of the artifacts found:

Artifact No. 14 is a large thick gray quartzite square stemmed and barbed spear head 5 7-8 inches long, 1 ¾ inches wide and 9-16 of an inch thick.

Artifact No. 17 is a brown quartzite chipped, grooved, double bitted ax which is 5 5-8 inches long. The bits are 2 7-8 inches wide; the groove for hafting is 1 7-8 inches wide; the greatest thickness is 1 3-16 inches. Only two of similar type have been found in the Abilene region. One is of a pink stone not found in this region and of a size too small for use, which was found in a pottery site where several pueblo sherds, and obsidian flakes were also found, and the other one is a flint ax found farther southwest in the same region.

The following numbered projectile points while varying greatly in colors and materials have several points in common, all are much thicker than the average later date projectile points of the Abilene region. In all the blades the place of maximum width is at the shoulders or barbs. Many have the widely expanded stems to be found here most often in quite ancient patinated flint projectile points which erode out of very old campsites.

No. 12. Fine gray flint, leaf shaped knife, 7-16 inch thick, 5 1-8 inches long, 1 7-16 inches wide. This blade probably was a knife of the Solutrean, or pointed at each end type, although nearly an inch of one end has been broken off.

No. 11. Red jasper, square stemmed, and barbed spear point, 7-16 inch thick, 3 1-4 inches long, greatest width at barbs 1 1-2 inches.

No. 6. Black flint expanding stemmed, and barbed, atlatl or dart point, 1-4 inch thick, 2 5-8 inches long, 1 inch wide.

No. 3. Milky quartz dart point 1 3-8 inches wide at barb, 2 1-8 inches long. This point has a slightly expanded base and has a barb on only one side. It probably never had a barb on the other side.

No. 8. Varicolored flint, resembling Panhandle Alibates flint shouldered dart point, base of stem

broken off, 1-4 inch thick, 2 1-2 inches long, 1 9-16 inches wide at shoulders.

No. 5. Translucent flint, light gray, shouldered dart point with expanded stem 3-8 inch thick, 2 5-16 inches long, 1 3-8 inches wide.

No. 10. Varicolored flint knife similar to Panhandle Alibates flint, blade slightly curved, and curved stem which ends in a point.

No. 4. Gray flint dart point, bevelled, serrated, shouldered, with expanded stem.

No. 9. Gray purple striped flint, shouldered round stemmed knife, stem not straight.

No. 7. Tan colored patinated flint dart head, shouldered, with expanded stem.

No. 2. Brown quartzite shouldered square stemmed dart point.

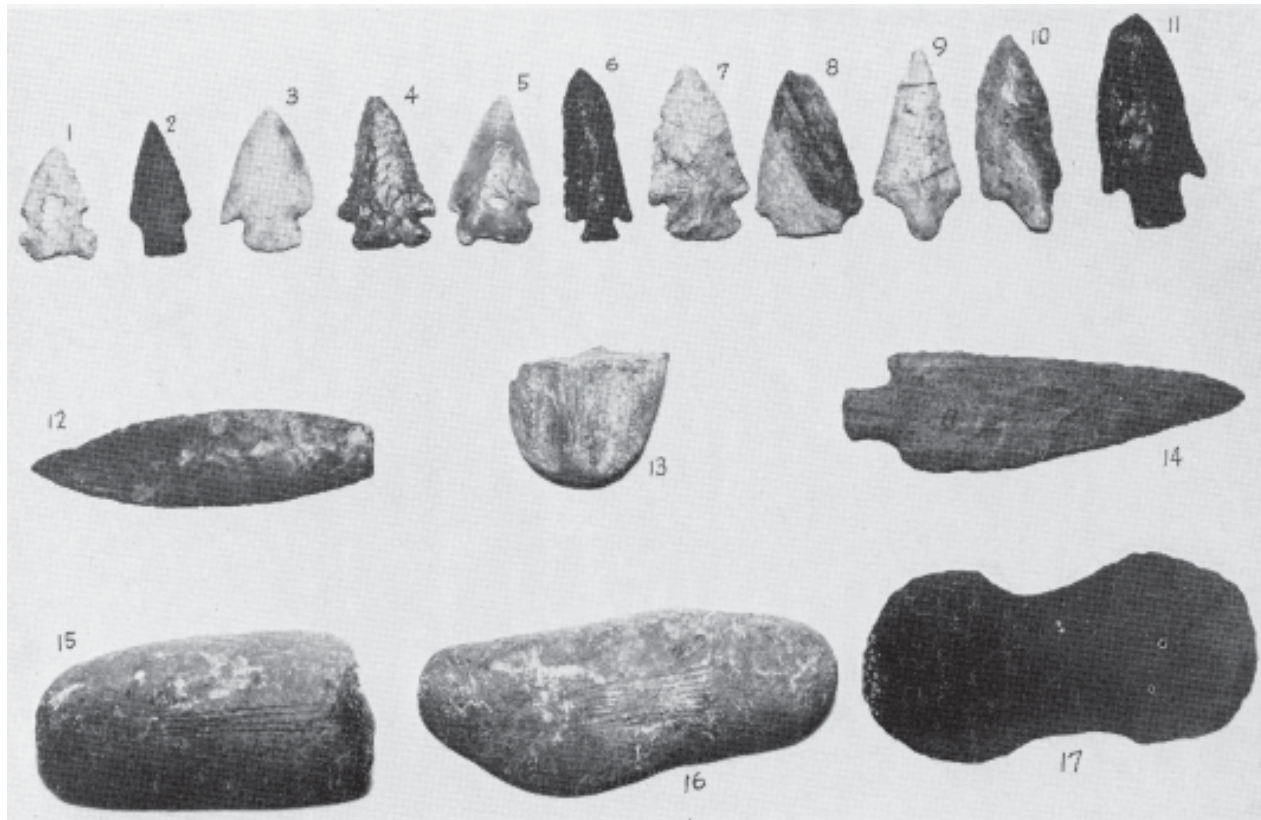


Plate 2

Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 are dart points and knives of flint, jasper and quartzite from the cremated burial. No. 12 is a flint knife. No. 13 is a Nueces scored stone from the grave. No. 14 is a gray quartzite spear head. Nos. 15 and 16 are Nueces Canyon scored stones found by Vane Huskey and are shown here for comparison. No. 17 is a brown quartzite double bitted flaked ax from the cremated burial.

No. 1. White patinated flint, shouldered, widely expanded stemmed, dart point.

All of the earth and sand from the burial mound was carefully screened twice, but no small artifacts nor shells were found. The walls of the cup-like cavity were in solid rock and the hole probably was excavated at the time burial was made. At some places, although the walls were scorched, the earth next to them showed no signs of ashes. The cremation required a very hot fire. Evidently there were only smoldering coals in the center of the fire when the covering rocks and soil were pitched into the burial.

Another peculiarity of this burial is that no mussel shells were found. Most all burials found in this territory contain shells in so far as the writer knows.

The group of artifacts found at the edges of the burial may or may not have had ceremonial significance. The beauty and workmanship of some would indicate the high standing of the buried person during his life. He probably was a trader and had met death while in this region procuring flint from the nearby mines.

The broken scored stone probably had ceremonial significance in that it was broken so that its spirit might accompany the owner's. The fact that such stones are frequently found in the Nueces River region and that the ax is of the Pecos Pueblo type suggests that the owner was a trader and more than likely a well traveled one. [Notes (1) and (2)].

The artifacts found on this expedition are the property of Hardin-Simmons University and will be on display in their museum.

Hardin-Simmons Univ., Abilene, Texas.

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- (2). Kidder, Alfred V., *Artifacts of Pecos* 1932, page 59, Figs. A and B.

(3). Huskey, Vane, *An Archeological Survey of the Nueces Canyon of Texas*, Bulletin of Texas Archeological and Paleontological Society, Vol. 7, 1935, plate 15, No. 166, fifth artifact from the left.

(4). A. T. Jackson recently stated that Texas University's collection contained two Nueces Canyon scored stones which he had collected in the Nueces River region.

Editorial Note

"The artifacts found in a grave, in the Abilene region, by Mr. James G. Morrow, are with a few exceptions, made of materials such as quartz, quartzite, and stones other than local flint, of kinds which were used rarely by the makers of stone artifacts in the Abilene region. The type of chipped double bitted quartzite axe found, is typical of certain regions of Arkansas, (Note 1), and also of certain Pueblo regions (Note 2).

In the Editor's collection of many thousands of artifacts from the Abilene region there is only one gray quartzite knife, one beautiful patinated brown quartzite Yuma spear point, and two or three projectile points of quartzite. All of the remainder are of flint, chert, or some other flintlike material, except a certain type of roughly percussion chipped, sinuous edged, hand axes which show no signs of hafting grooves on them. In fact all but the cutting edge has usually been left rough with its original crust.

The fact that this grave was found near to prehistoric flint mines, which were visited by some users of Pueblo pottery who left sherds in the region, and the fact that his artifacts were not of local used materials would indicate that this individual brought his supply of atlatl darts, knives and spears with him on his journey to the Abilene region flint mines. The finding of a Nueces Canyon scored stone would also indicate a contact with the people of that region (Notes 3 and 4). The Editor knows of no previous instance where Nueces Canyon scored stones have been found in the Abilene region. This stone listed

by Morrow as No. 13 is of gray limestone and is one-half of a Nueces Canyon type of scored stone. In 1934 Vane Huskey of Uvalde sent two of this type of stones to the Editor of this Bulletin with a request for information concerning them. Prior to that time we had neither seen specimens, nor descriptions of them. In Huskey's correspondence (Note 3) he first described Nueces Canyon scored stones. On April 9, 1935, Mr. Huskey wrote as follows:

"I have also found several things that have puzzled me very much as to their use or purpose. One is a lime stone. (I have 12 or 15 of them). They are just common burnt rocks, about 3 inches around and 5 to 7 inches in length and they all have from three to nine parallel lines on them. Never very deep. None crisscrossed as in sharpening bone, etc.; but all of a uniform pattern like this. I'd sure like to know their use."

At the end was a drawing of a long oval stone with four parallel scores down the middle.

Again on May 1, 1935, he wrote as follows:

"I am sending you one of the rocks with the parallel lines on it. You may have it. These lines mean something. They run from 3 to 7 generally, sometimes, very rarely, 9 lines. I thought for a while they were abrading stones, but no; because lines never cross; they all run parallel."

And again on May 21, 1935, he wrote as follows:

"Now to answer your question about the scored stones. The grooved or incised lines run from 3 to 9 lines; never more than 9, and very seldom over 7 lines. They are found both in the mounds and on the surface. The most confusing thing is that these

stones are found in and around both types of artifacts and mounds. Of course the logical reason would be that the later group picked up the custom from the older group. My opinion is that stones were used as ceremonial stones. No, you may keep the two that I sent you. I do not need them."

One of the Huskey Nueces Canyon scored stones is six inches long, and 2 5-16 inches wide at the widest portion and 1 1-2 inches thick. It is shaped roughly in a long oval, and is almost foot shaped. It is of gray limestone, flat on the bottom and rounded on the top. In the center of the top is a series of eight parallel scores 2 inches long; all are even and of the same length.

The other of Vane Huskey's scored stones is 4 3-4 inches long and is a well rounded oval limestone with the thickness and the width about the same, 2 1-4 inches. This stone is rounded at one end and broken off at the other, and has the appearance of the broken end of a stone pestle. It has four well defined parallel grooves on one face which are 2 5-8 inches long and like the others run lengthwise of the stone and all end even at each end.

The grooved limestone found by James Morrow in the Abilene region grave, evidently was broken after the grooves were made and probably is about half of the original stone. It is 1 7-8 inches long, 2 3-8 inches wide and 1 9-16 inches thick. The convex central portion has three parallel longitudinal scores down the center and on each side of these scores are longitudinal polished flutes fitting the thumbs. There is one parallel flute on each side of the scores. In the matter of the fluted depressions paralleling the scores this stone is different from any described by Huskey, but is otherwise quite similar.

—Cyrus N. Ray.

DISCOVERIES INDICATING A PRE-CADDO CULTURE ON RED RIVER IN ARKANSAS

BY HARRY J. LEMLEY

The purpose of this paper is to present certain evidences of the discovery of a pre-Caddo culture on the Crenshaw Place on Red River in Miller County, Arkansas. Heretofore, in so far as we are aware, no definite report has been made of the finding in the Red River area in Arkansas of any evidence of a culture other than that of the Caddo.

The Crenshaw Place is located on the west bank of Red River, near Dooley's Ferry, and about fourteen miles east of the Texas line. Upon that part of the place situated in the Northwest quarter of Section 36, Township 14 South, Range 26 West, is a group of six mounds. These were visited and certain of them were investigated to a limited extent by Clarence B. Moore, in 1911. A report of his explorations will be found in his "Some Aboriginal Sites on Red River"¹, on page 621 of which is a plan of the mounds, designated by him as Mounds "A" to "F" inclusive. We will follow this designation.

In 1906, Mr. W. P. Agee, Jr., a local collector, did some digging in the upper levels of Mound "D" and removed a part of the mound. He made no record of his findings but advised the writer that the mound at the time was roughly circular, that a number of burials (he does not recall how many) were uncovered, and that he found 11 pottery vessels and 276 delicate, finely chipped implements in the mound, the latter in one lot around the head of a skeleton. Fifteen of these implements were figured by Moorehead,² who stated that they "represent as high an art in flint chipping as is to be found anywhere in the world." Several of the vessels and a number of the implements discovered by Mr. Agee were figured in this report.

Moore reported³ finding three burials in Mound "C", near one of which "was a coarse cooking-pot" not illustrated or otherwise described: and no burials in Mounds "A" and "E". He made no investigation of Mound "F." With reference to Mounds "B" and "D", the two burial mounds of the group, an account

of the further exploration of which forms the body of this paper, he reported finding five burials in Mound "D" (maximum depth five feet) and 7 pottery vessels "of a coarse, heavy ware and almost without decoration," none of which is figured or otherwise described; in Mound "B", five burials (maximum depth 3') and 24 vessels, none of which were particularly described, but 5 of which were illustrated. The vessels figured by Moore were not identified with any particular burial but were all unquestionably Caddoan.

In view of the later discovery on the Crenshaw Place of distinct evidences of two separate cultures, we have made an effort to secure photographs of the 26 vessels found by Moore but not illustrated by him, together with data tending to identify the vessels with the burials. In this connection, we are advised in a letter from Dr. E. K. Burnett, Acting Director of the Museum of the American Indian, Heye Foundation, in which the Moore collection has been deposited, that the museum has but 7 of the 31 vessels found on the Crenshaw Place, 5 of which are those illustrated in Moore's paper. Dr. Burnett has courteously sent us photographs of the 2 remaining vessels but stated that he has no way of knowing from which mound either came. One of the vessels is Caddoan, but the other probably is of the older culture, resembling somewhat the large urn (V-1375) illustrated by us.

In the years 1933-'34, Mr. Glenn Martin, of Texarkana, assisted at times by certain other young men of that place, did considerable digging in the upper level of mounds "B" and "D" and in a cemetery discovered by him southwest of Mound "D", unearthed a number of burials with artifacts, some of which artifacts are described and illustrated herein. In the latter year, Mr. Martin exhibited to Professor S. D. Dickinson, of the State A. & M. College, of Magnolia, Arkansas, and the writer, a number of typical Caddo vessels taken by him from Mound "B" and also other vessels removed by him

and his associates from Mound "D" and the cemetery referred to. The vessels last mentioned did not appear to be Caddoan and indicated the existence of another culture on the place. With Mr. Martin's consent, and after a preliminary examination of the site made with the assistance of Professor Dickinson, the writer began work on the mounds with a force of men on February 11, 1935, which was continued intermittently until July 20, 1935. Mr. Martin remained with us throughout as our field foreman.

In the course of our work, we removed all of Mound "D" except a small segment about 8' wide at the north end which was tested for burials by means of trial holes and probing, we thoroughly explored Mound "B", and finished the digging of the cemetery near Mound "B". In the body of Mound "D" and in four burial pits under Mound "B" which had been dug before the erection of the mound we found burials and artifacts of a culture differing radically from that of the Caddo, whereas, in two intrusive pits cut down from the surface of Mound "D" and in eight similar intrusive pits and

three upper burials in Mound "B" we found Caddo burials, furnished with pottery and other artifacts typical of that culture. A detailed report follows:

Mound "D"

Moore,⁴ described what he termed the "irregular remainder" of Mound "D" as being 50' x 30' and 6' high. We endeavored to ascertain its original size and, after examination concluded that originally it was roughly circular and 60' in diameter. A considerable portion of the west part had been removed. The surface of practically all of the south half and a small portion of the north half had been recently dug over; most of the north half was covered with saplings. The upper layers had been displaced in many places, but no evidence of disarrangement was found in the lower parts. The mound was composed of layers of sand separated by thin layers of clay ranging from 2" to 4" in thickness and was approximately 7 1/2' high at the center. At the base was a layer of dark colored earth, from 8" to 12" thick, mingled in which was village debris. Our method of procedure was to begin on

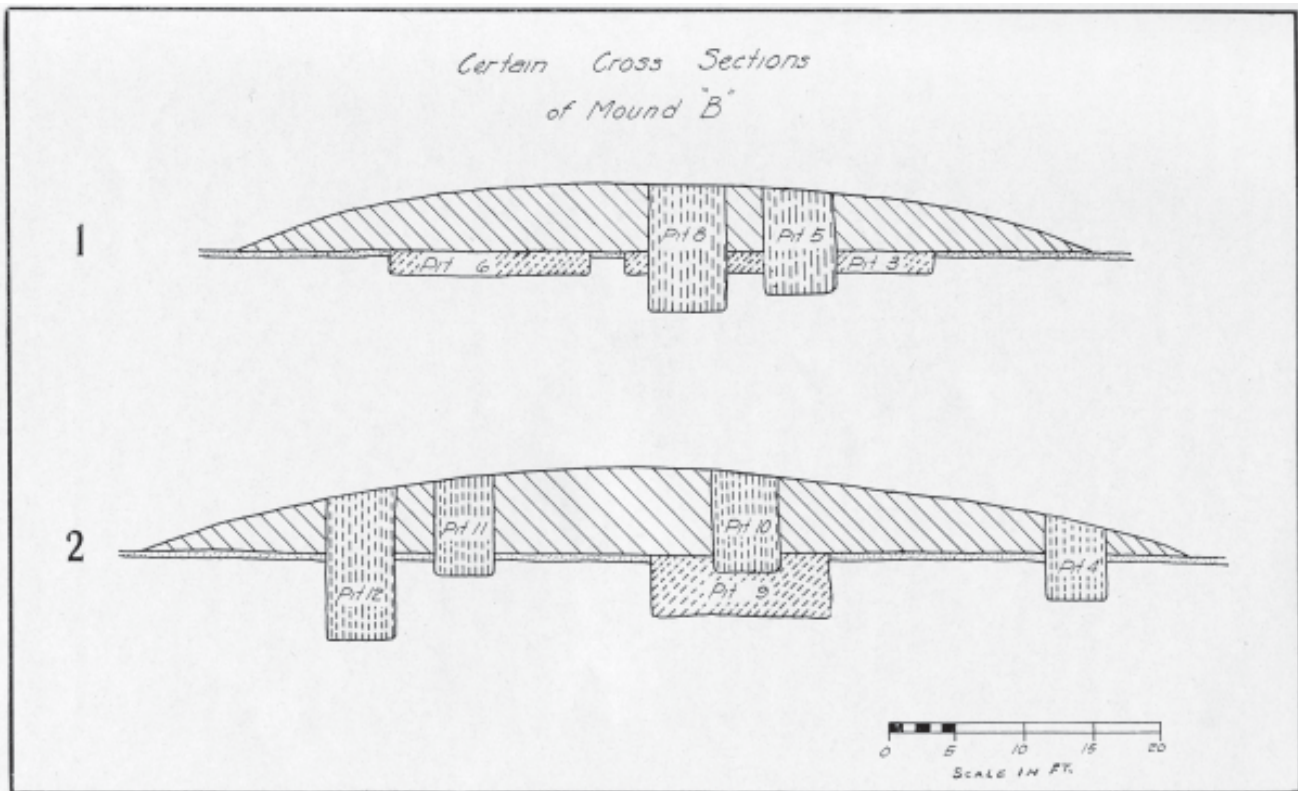


PLATE 3.

Certain cross sections of Mound B. See text.

the layer of village soil and work inward, removing the mound as we proceeded. All of the burials in the mound with the exception of a group of five skulls (Group Burial No. 1) were in the south half. In this area were found a number of burials in the mound proper and the two intrusive pits above referred to. In certain instances nothing remained of burials found in the mound proper except the crowns of teeth associated with which were certain artifacts. In other cases, groups of deposits of artifacts were found with no bones, the latter having doubtless decayed. These deposits will be described along with the burials. In all cases the burials and groups of artifacts were found on the thin layers of clay indicating that the mound had been built by stages, an additional layer being added as a burial or group of burials was made.

Burials in Mound:

Group Burial No. 1 consisted of five skulls with no other bones, all found on the same level and at depths of from 10" to 12". These skulls, as well as all of the other skeletal remains found in Mound

"D", were in a poor state of preservation. We will treat them as a unit, although they may or may not have been buried in a group. No. 1 was found 13' from the center of the mound in a northeasterly direction; No. 2, 4" to the south of No. 1; No. 3, 20" northeasterly from No. 1; No. 4, 12" north of No. 3; and No. 5, 3' 4" northwest of No. 4; Nos. 1, 2, and 3 were headed north and Nos. 4 and 5 south. Four inches under No. 4 was a small arrowhead; and in both Nos. 1 and 3 one small arrowhead lay about 1' to the east of each.

Burial No. 2, a skull headed south, with no other bones was found at a depth of about 3' in the southwestern segment. Nothing was with this skull unless it was buried with vessel V-1289, which was found on the same level and 39" northwest. (Catalog, rather than field numbers, of artifacts are given.)

Burial No. 3, a skull headed south with no other bones was found at a depth of 42", about 8' southwesterly of the center of the mound. Immediately above this skull, with about 4" of sand intervening, was a broken conical cooking pot, (V-

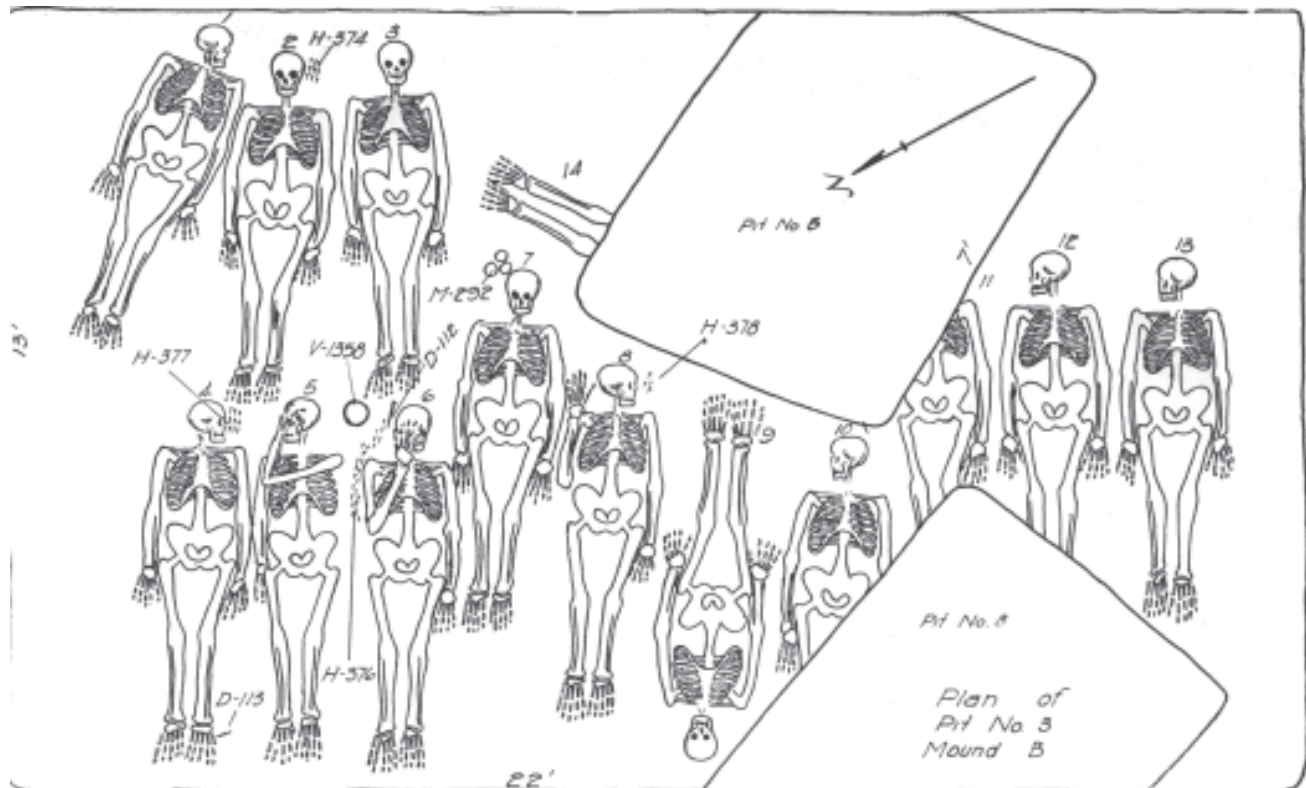


PLATE 4.

Plan of Pit No. 3, Mound B. See text.

1292) of plain, light brown ware, 4 ½" tall with small square bottom, rudimentary feet and inward curving rim. The last coil of clay applied on the inside had not been entirely obliterated, a feature of some of the more crudely made pottery of this culture. This vessel, as well as all others found in the body of Mound "D", with one exception, was grit tempered. About 6" northwest of the skull was a well-made, shallow, triangular ladle (V-1290) of polished light brown ware. Two closely spaced incised lines encircle the rim. This vessel had been purposely mutilated by means of deep scarifications which appear in clusters on the interior walls. The scarifications, apparently pecked out, suggest the funerary practice of "killing" vessels, evidence of which is found in Florida and the Southwest. A like distance northwest of the skull was a plain cooking-pot of heavy polished brown ware with curving body and broad, flat, round base, the rim of which is missing. Scarifications, similar to those referred to, occur on its outer surface.

Burials 4, 5, 6, and 7. In the southeastern quadrant, four cremated burials were found, rather close together, and at depths of from 3' to 3 ½", all in pits cut down from the surface. The calcined bones were in small fragments. No evidence of fire was found and apparently the cremations had been made elsewhere and the remains thereafter interred in the mound. Moore⁵ reported finding a deposit of cremated remains in this mound.

Burial No. 8. In the southeastern quadrant at a depth of 46" was a deposit of 36 arrowheads on each side of which and in close proximity were a number of the crowns of human teeth, all that was left of two skulls. Nineteen of these points are of finely chipped pink, white and gray translucent novaculite, from 1 ¼" to 1 7/8" in length and very thin. These are of as fine workmanship as those found by Mr. Agee and resemble them to a marked degree, but are wider at the base and more deeply notched. The remaining points are of jasper and novaculite and are from ¾" to 1 1/8" in length.

Burial No. 9. In the southeastern quadrant and at a depth of about 4' was another lot of the crowns of human teeth in close proximity to which were three small, crude points of flint.

Deposit of Artifacts:

In the same quadrant and on the five foot level was a deposit of eight small, crude points. No evidence of a skull appeared, but judging from our experience in this mound these flints originally were with a burial.

Group of Artifacts:

The following described group (or groups) of artifacts was found in the southwestern quadrant about 9 ½ north of the south edge, all on the same thin layer of clay. At a depth of 3', a deeply hollowed-out boat-stone of grayish green stone, probably sianite, notched at the ends; almost in touch with the hollow of the boat-stone was an oval pebble which readily nests in the stone; 29" northwesterly of the boat-stone was a conical cooking-pot (V-1286) of rather thin polished light brown ware, inward curving rim, small base, with an incised line encircling the rim, suggesting a degeneration of the typical band found around the rims of the better pottery of this culture; 34" north of the boat-stone was another conical cooking-pot of polished brown ware decorated with two incised lines, suggesting a band, around the rim; 30" east of this vessel was a crude asymmetrical cooking pot of heavy dark grayish brown ware, plain, with slightly flaring rim, thickness at base ½" and 4 ½" southeasterly of the latter was a globular bowl of heavy gray-ish-brown ware, 4 ¼" high and 6 ¼" in diameter, two crudely incised lines surrounding the rim. This is the vessel mentioned as having been found 39" from the skull in Burial No. 2. Three feet north of east, and the same distance from this vessel, was an unpolished triangular celt of brown sandstone, 3 5/8" in length; and 1' north of the celt were 32 small barbed points of novaculite and jasper. Undoubtedly, these artifacts were with one or more burials, the bones of which had totally disappeared.

Burial Pits:

Two burial pits, extending from the surface down through the mound and into the sand under the mound were discovered. These pits contained Caddo burials and artifacts, and in both instances

they were readily traceable. Moore⁶, Harrington⁷, Jackson⁸, and Pearce⁹ have discussed and described Caddo and related burials and artifacts to such an extent that we do not feel that it is necessary to go into a detailed description of the artifacts found with these pit burials. To do so would extend this paper beyond the space allotted us. We shall, therefore, content ourselves with a general description.

Pit No. 1, in the southwestern quadrant, was 9' x 6' and extended 18" below the base of the mound. Above the base, as shown at the sides of this pit, were nine layers of sand separated by thin layers of clay. The pit contained three adult burials, all extended. The bones were in bad condition and many had disappeared, but the condition of the remains was such that one could determine that one extended between the upper extremities of the remaining two. With the burials and around and over certain of the skeletal remains were 34 pottery vessels, one pair of large clay-stone ear plugs, showing copper stains, 2 celts and 2 arrow-heads. The vessels, many of which were broken, were of the usual Caddo type, consisting of engraved bottles and bowls, including cazuela bowls with and without handles, and incised cooking pots. In the lot was a fish effigy bowl, highly conventionalized.

Pit No. 2, located with its northwestern corner about 4' southeast of the center of the mound, lay north-northeast and south-southeast, was 7' x 6' and extended 18" below the mound floor. The pit contained three adult burials, side by side, extended on their backs with skulls to the south. With the burials were 14 vessels of Caddo ware, many of which were in fragments.

Artifacts Found in and On Mound Base:

(1). A crude, plain cooking pot of heavy red clay with brown slip, slightly flattened rim, heavy base, maximum thickness ½", height 4"; found on basal layer.

(2). A plain, oval platter of polished brown ware, upon the lip of the rim of which is an incised encircling line; found on basal layer.

(3). Embedded in the layer of village soil was the bowl of a pipe of red clay, extending out from

which is a slender, rounded projection 1" in length; stem entirely missing; height at bowl, 1 ¾". This pipe resembles the Caddo pipes found in the intrusive pits in Mound "B", hereafter mentioned, but the bowl is taller, the bowls of the Caddo pipes referred to averaging slightly less than 1" in height.

(4). A slender, polished bone needle, 3 ½" in length and slightly over 1/8" in diameter at dorsal end, with which was the fragment of a similar needle; both embedded in the basal layer.

(5). Two small crudely made points.

(6). A number of sherds of the heavy coarse ware found in the mound proper.

Isolated Artifacts From Body of Mound:

(1). A plain, crude cooking-pot, of heavy dark grayish-brown ware, with curving body, scarified on outer surface in the manner hereinbefore mentioned.

(2). A somewhat conical cooking-pot (V-1295) of heavy brown ware; wide mouth; wide, round thick base.

(3). A small chisel, of polished gray slate, length 1 7/8".

(4). A finely chipped, thin point of translucent white novaculite about 2" long, similar to those found by Mr. Agee, but somewhat wider at base.

Cemetery

Mr. Martin, in his digging in the plowed field south of Mound "D" had found four burials with Caddo pottery, and southwest of the mound had found a cemetery containing a large number of burials with pottery of the older culture. We completed the digging of this cemetery. The following burials were found:

Burials Nos. 1 and 2, both adults, lay in an east and west position, 22" deep with skulls to the east and facing each other, with teeth touching. No. 1 was in a flexed position with its bended knees across the right leg of No. 2; the latter burial, in an extended position on its back. By the right leg of No. 2, extending from the hips down, were 11 very small

barbed serrated points of novaculite. The skulls of these two burials were in better condition than any that we found of the older culture. However, we were advised by Dr. P. F. Titterington, of St. Louis, and Dr. E. G. Wakefield, of the Mayo Clinic, Rochester, Minnesota, both of whom have examined these crania, that they cannot be restored.

Burial No. 3, an adult extended on its back, was lying at a depth of 14" with the skull to the northeast. A part of the bones only were traceable; no artifacts.

Burial No. 4, an adult extended, with skull to the north, depth 22", bones in bad condition. Near

the left side of the skull were three small, crude points.

Burial No. 5, an adult extended, with skull to the southwest, depth 33", remains in bad condition; no artifacts.

Description of Other Artifacts From Mound "D" and the Cemetery:

In 1906 Mr. W. P. Agee, Jr., found 276 flint implements and 11 pottery vessels in Mound "D". We have been fortunate in securing these implements and also six of the vessels, all that now remains of the eleven found by him at the time.

These are of the older culture.

Mr. Martin and his associates also removed a number of stone implements and pottery vessels, all of the older culture, from Mound "D" and the cemetery referred to. These gentlemen have kindly permitted us to add the specimens found by them to our collection from the Crenshaw Place.

Among the flint implements found by Mr. Martin are certain specimens similar to those discovered by Mr. Agee, including 4 double-notched points of the same type. A photograph of a number of these implements of the older culture is shown on plate (11). Three of the four double-notched points referred to are shown in the center of the photograph, most of the remainder being specimens found by Mr. Agee.

Mr. Martin found stone chisels in the mound and cemetery similar to specimens removed by us from graves of the older culture. He reported finding with crowns of teeth in

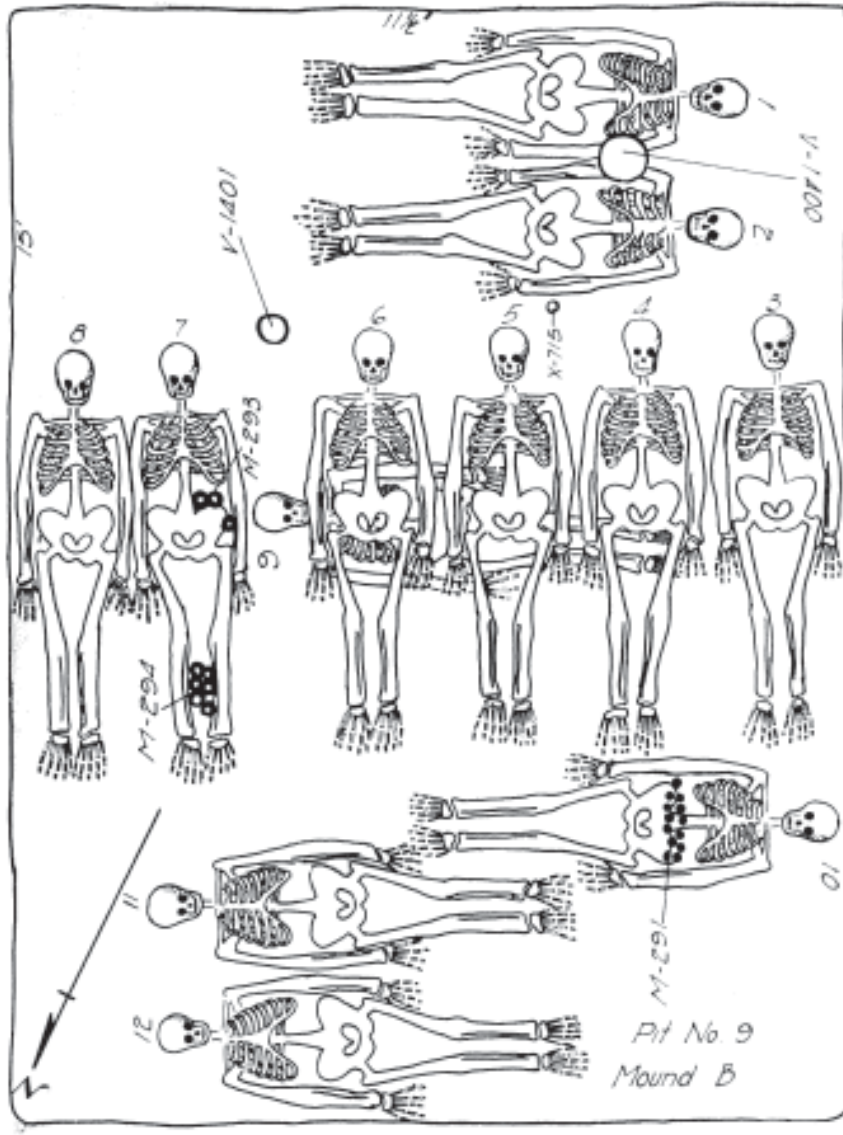


PLATE 5.

Pit No. 9, Mound B. See text.

Mound "D" a small deeply hollowed-out polished boat-stone of granite, 26 finely made points, a number of which are similar to those found by Mr. Agee, and 5 pottery vessels of the older culture, one of which (V-1462) is illustrated by us. We have deemed it advisable to describe and illustrate certain of the vessels referred to:

V-1443: (Mound "D") a large pear shaped vase of polished brown ware with broad band around rim, decorated centrally by a rectilinear incised design, based on the scroll, with punctate background; incised encircling line on the lip of the rim.

V-1145: (Mound "D") A quadrilateral vessel of grayish brown ware with band in low relief around rim, upon the lip of which are two incised encircling lines. Vertical bands at corners divide the vessels into four panels, two of which, one opposite the other, are plain, the remaining two decorated, one each, with a large vertical incised scroll and punctate background.

V-1447: (Mound "D"). A large elongated globular jar of hard baked red ware with wide band in relief around rim; lip of rim bisected by usual incised encircling line; body divided into panels by vertical bands between which is a design composed of undulating incised bands with punctate background; kaolin has been rubbed into the incisions.

V-1454: (Cemetery). A large jar of polished brown ware with band in relief around rim and incised encircling lines on lip; body decorated with a series of incised concentric semi-circles and punctations.

V-592: (Mound "D"). A conical jar of grayish-brown polished ware with a broad rim slanting inward at an angle of 45 degrees, upon which

is an incised continuous scroll with punctate background; usual incised encircling line on lip. Apparently the vessel is partly shell tempered and in this respect differs from the usual grit tempered ware of this culture.

V-1450: (Mound "D"). A small squat quadrilateral vessel of thick light brown ware with



PLATE 6.

Photograph of part of Pit 3, Mound "B" (a pre-Caddo pit), cut through by Pit 5 (an intrusive Caddo pit).

band around rim. On each of the four sides is a different incised design, these designs being based probably on the scroll, highly conventionalized.

V-1451: (Mound "D"). A small vessel of heavy dark brown ware somewhat similar in shape to V-1450, upon which is a band around the rim and a crudely executed incised design on the body, composed of scrolls and punctations.

V-1230: (Mound "D"). A conical bowl of brownish-gray ware with usual band, in this instance in low relief, around rim, bisected by an incised line. Upon the lip are three parallel incised encircling lines.

V-1442: (Mound "D"). A square bottomed cooking pot of heavy brown ware, somewhat quadrilateral, with usual incised lines forming a band around the rim; rim lip flat and bisected by typical incised encircling line.

V-1441: (Mound "D"). A deep bowl of brown ware with narrow band around rim. The line encircling the lip of the rim occurs.

V-1440: (Mound "D"). A semi-globular cooking pot of rather heavy brownish gray ware, with body curving inward to meet a short vertical neck, separated from the body by an incised line, thereby forming the typical encircling band. The usual incised encircling line appears on the rim.

V-1446: (Mound "D"). A shallow circular platter-like bowl of polished brown ware 7 ½" in diameter; typical band, bisected by an incised line, encircles rim; incised encircling line appears on lip.

V-1449: (Mound "D"). A bowl of yellow ware with rounded bottom and flaring rim, decorated with incised and punctate lines on exterior and inside.

V-1457: (Mound "D"). A flattened globular bowl of brown ware with wide band around rim; band decorated with incised and punctate decorations; rim lip has two parallel incised encircling lines.

V-1456: (Cemetery). A bowl of brown ware with incurving rim; body decorated with enclosed

circular spaces in each of which is a crudely incised design. This vessel has been purposely mutilated on the exterior as is shown in our photograph.

V-1176: (Near Mound "D"). A small vessel with two broad and two narrow vertical sides; band around rim; usual encircling line on lip. The broad sides are each decorated with a composite scroll and punctate background.

V-1464: (Mound "D"). A small bowl of yellow ware with projecting lobes, having on its bottom an elaborate design composed of a combination of scrolls and punctations.

V-1462: (Cemetery). A small oval ladle of light brown ware, plain, except for incised encircling line on lip of rim; scarified at end.

V-1461: (Mound "D"). A small semi-globular bowl of light brown ware; narrow band around rim; two encircling lines on lip; body decorated with incised scrolls.

V-1460: (Mound "D"). A small boat-shaped, ladle-like bowl of brown ware with narrow band around rim, the lip of which carries an encircling line.

V-1463: (Near Mound "D"). An elliptical platter of yellow ware upon the bottom of which is the usual band around the rim; incised encircling line on lip.

Mound "B"

Moore described Mound "B" as irregularly circular with a diameter of about 85' and about 5 ½' high. He reported five burials (including two deposits of bones), the greatest depth at which they were found was 3 ½'. All of the pottery from this mound illustrated by him is Caddoan. At the time of our visit the mound was about 80' in diameter, and the height at center as reported by Moore. It was composed from top to base of a dark, heavy red clay, mixed in which was a very small amount of sand. Under the mound was a layer of dark colored sand, in which was village debris. Several fire places were found on this layer. Under the floor was light colored river sand, except where displaced by burial pits.

The remains of seven skeletons were found in the mound. These will be referred to as "Upper Burials". Twelve pits, containing the remains of a total of 70 skeletons, were found under the mound, and a burial of two infants in the layer of village soil at the base. With all of the upper burials, except one which contained no artifacts, were specimens of Caddo pottery. Of the twelve pits found, four (Nos. 2, 3, 6 and 9) had been dug before the erection of the mound and extended down from the layer of village soil only. These pits, the smallest of which was 11 ½' x 15', and the largest, 13' x 22', contained respectively, 12, 14, 18 and 12 burials, all adults, extended on their backs and apparently buried at the same time. In these were a very few pottery vessels and other artifacts, the pottery being of the older culture, evidences of which were found in the body of Mound "D" and the cemetery nearby. These four pits of the older culture were filled with sand darker than the river sand, and in which was village debris. The remaining pits, all of which had been cut down from the displaced surface through the mound and into the sub-surface, ranged in size from 4 1-3' x 8 1-6' to 5 ½' x 8' and contained in four instances one burial each, in three instances two burials each, and in one instance four burials, in all of which were Caddo pottery and other artifacts, in most cases in great profusion. These pits had been filled in with a mixture of clay and sand, many lumps of clay separated by sand being in evidence, and were readily discernible from the surrounding soil. In one instance, one of these Caddo pits (Pit No. 5) had been cut down through one of the earlier pit burials under the mound (Pit No. 3) and had penetrated the sub-surface under the last mentioned pit to a depth of 18". In another case, a Caddo pit (No. 8) had been cut down until its diggers came into contact with certain skeletons in the earlier pit (No. 3), thereupon they gathered up the bones which they had displaced and placed them around the ends and sides of the pit they were digging and then refilled the grave with 10" of dirt and made the one burial found therein.

A most interesting example of stratification was found in the case of Pit 9, Pit 10 and Upper Burial 3, as shown by our map of Mound "B". Pit 9, cut from the ground layer only, at its bottom was 9'

from the surface and extended 4' under the mound. Directly above this pit, Pit 10 containing Caddo burials had been dug to a depth of 6 ½' and, in the digging of the latter, Upper Burial 3 had been entered at a depth of 20" and was cut through, leaving at the outer edge of the latter pit the hip bones and lower extremities of two adult skeletons in the upper burial.

But little space will be devoted to a discussion of the upper burials and the pits cut down from the top of the mound, since both contained Caddo burials. The pits which were dug before the erection of the mound will be described in detail.

Pit Burials of the Older Culture:

Pit 2, situated in the southwestern part of the mound lying in a northwesterly and southeasterly direction, had been dug before the erection of the mound to a depth of 2' from the ground level and was 12' x 15'. It contained 12 adult skeletons buried in two rows of six each, which were extended on their backs with the heads toward the west. The burials in the row to the east were parallel with the short sides of the pit, while those in the row to the west were placed at angles to avoid crowding. All of the burials were lying on a thin layer of colored sand which extended about 6" around each skeleton but did not cover the floor of the entire pit. This sand, found with all of the burials in the older pits, was somewhat mottled in appearance and showed faintly the colors white, green, red, yellow and brown when first uncovered. Upon being removed and after drying out, the colors disappeared. We have had a sample of this sand analyzed and find that it contains a large amount of oxide of iron in various stages of hydration.

All of the skulls found in this pit, as well as those in all of the other pits of the earlier culture, were crushed by the weight of the earth, and the remaining bones, while present, were in a poor state of preservation. No evidence of violent death appeared. Between the skulls of Burials Nos. 5 and 6 was a quadrangular vessel of polished brown ware (V-1357) with somewhat lobular corners; the rim band being in relief and well marked, with the usual incised encircling line occurring on the lip. By the

left knee of No. 1 were 24 small, barbed, serrated points of novaculite and jasper (H-373). Just below the left knee of No. 11 were 8 similar points (H-375), and on the chest of No. 7 were two badly crushed delicate, long stemmed, clay pipes (P-171-2). No other artifacts were with these burials.

Pit No. 3, of the earlier culture, which was found in the southeastern part of the mound, was 13' x 22'. It was cut down from the layer of village soil to a depth of 2' under the mound and contained the remains of 14 skeletons, all adults. The intrusive Caddo pit No. 5 had cut through this pit and the skull and a part of the upper extremities of Burial No. 11 and all of No. 14 except the lower extremities had been destroyed. Likewise, the digging of intrusive Pit 8 had destroyed a part of the lower extremities of Nos. 10, 11 and 12. All of the burials were extended, and the skulls were in a more or less easterly direction with the exception of two. The right arm of No. 6 and left arm of No. 5 were flexed. This pit contained but one pottery vessel, a jar (No. V-1358) of brown ware, having a flattened body and comparatively tall neck, with a horizontal band in low relief about the neck. Upon the lip of the rim are six parallel encircling lines. Incised lines on the neck remind one of bands occurring in related specimens. This vessel was lying between the skulls of Burials 5 and 6. Near the skull of No. 6 was a polished bone awl, 7 ½" in length, made of the leg bone of a deer, and at the right side extending from the skull to the elbow were 21 small arrow-heads (H-376) all, with one exception, of the same type as those found in Pit. 3. Near the left side of the skull of No. 2 were 9 arrow-heads (H-374) and ten arrow-heads (H-377) were at the left of the skull of burial No. 4; 4 similar arrow-heads (H-378) were at the left of the skull of No. 8. Near the left foot of No. 4 was a bone needle (D-113), similar in shape and size to the needle found by us in Mound "D", but grooved at the dorsal end, To the right of



PLATE 7.

1. Pear-shaped vase, No. V-1443; from Mound "D".
2. Quadrilateral vessel, No. V-1145; from Mound "D".
3. Vessel with cylindrical body and square bottom, No. V-1376; from Pit 6, Mound "B".
4. Globular jar of red ware. No. V-1447; from Mound "D".
5. Semi-globular jar, No. V-1454; from cemetery southwest of Mound "D".
6. Conical jar, No. V-592; from Mound "D".

and touching the skull of No. 7 and in a crushed condition were 3 tortoise shell rattles which contained many pebbles. In the bottom of each shell were two small perforations, evidently made for the purpose of attachment.

Pit No. 6, a large pit of the older culture, 13' x 20', was cut from the ground layer to a depth of about 18", and contained 18 adult skeletons. Three pottery vessels were with the burials: At the top of the skull of Burial No. 6 was a large, graceful urn (V-1375) of plain, polished gray ware, 8 5/8" tall, having a comparatively small bottom and rudimentary feet, curving body and flaring rim; against the right side of the skull of No. 17 was a vessel of brown ware (V-1376) having a cylindrical body and square bottom with a well defined band in relief around the rim, the lip of the rim was decorated by two incised encircling parallel lines; between the skulls of No. 14 and No. 15 was a deep bowl (V-1377) of polished brown ware with a band in low relief around the rim bisected by an incised line. The rim lip has two incised encircling lines. Near the skull of the No. 2 were two small stone chisels, one of brown jasper, 3 1/8" in length, and the other of light gray stone, somewhat triangular in shape and 3 1/4" in length. Near the skull of No. 4 was a small bone awl; and above the left knee of No. 6 were 13 small arrow-heads of jasper, similar to those found in Pit 2. At the hips and also at the feet of No. 7 were a large number of small pebbles, probably the remains of rattles. On the chest of No. 5, in small fragments, were 3 delicate, long stemmed pottery pipes.

Pit No. 9, the remaining pit of the older culture, was 11 1/2' x 15' and lay with its southwestern corner almost in the center of the mound. It had been dug down from the ground level to a depth of 4' and contained the skeletons of 12 adults, the arrangement of which is shown in our sketch. The burial of skeleton No. 9 directly under the hips of Nos. 4, 5, and 6 will be noted. Between Nos. 1 and 2 and extending over the left humerus of No. 1 and the right humerus of No. 2 was a large well made bowl of dark brown polished ware (V-1400), with a wide band encircling the rim bisected by a horizontal encircling line. Upon the lip of the rim

were two incised encircling lines. Between the skulls of Nos. 6 and 7, was a small cylindrical, square bottomed vase (V-1401) of polished brown ware. Two bands in low relief encircled the bottom and the top, leaving a horizontal panel upon which was an incised continuous scroll. The usual encircling lines were on the lip. At the left wrist of No. 2 was a shell bead, almost disintegrated, (X-715). At the left hip of No. 7 were the crushed remains of 3 tortoise shell rattles, (M-293) and 6 more (M-294) all badly crushed were found at the inside of the lower leg bones of this burial. A girdle of small mussel shells (M-291) (*sphaerium scopoli*) ground down and perforated at the umbo, encircled the waist of No. 10.

Infant Burial:

In the layer of village soil under Mound "B" and about 3' westerly from the northwest corner of Pit 9, was an extended burial of 2 infants with heads to the south, side by side, near the neck of one of which were 5 small badly decomposed shell beads. The infants were of the same size, approximately 44" in length; skulls crushed, bones in a poor state of preservation.

Caddo Burials:

The Caddo burials in Mound "B" were all intrusive, and 3 of them, termed "Upper Burials", were found in the mound proper, the remainder in 8 deep pits, cut down from the disturbed surface of the mound into the sub-surface under the mound. In all instances these burials were extended and pottery typical of that culture was found with them. The pipes found with these burials are of the long stemmed type figured by Moore¹⁰ and Harrington¹¹. We will describe the Caddo burials and artifacts found with them briefly below.

Upper Burial No. 1, found at a depth of 2', contained the skeleton of an adult and 6 pottery vessels.

Upper Burial No. 2, also found at a depth of 2', contained the skeleton of an adult and 1 pottery vessel, 1 pipe, 1 celt and 6 small arrow-heads.

Upper Burial No. 3. Pit 10, had cut through this burial at a depth of 20", leaving the hip bones and lower extremities of two adult skeletons. Between these lower extremities, with skull toward the feet of the adults, was the skeleton of an infant, near the head of which were 8 small shell beads; 4 pottery vessels were with one of the adult burials.

Pit No. 1, contained the remains of two adults and was 5' x 7 1/2' and 5' deep. In the burials were 7 pottery vessels, 1 celt and 3 bone implements.

Pit No. 4, 7 1/2' x 6 1/2' and 5' deep contained the remains of 4 adults; it had been partially cut through in its northeastern corner by another pit, and the lower extremities of one of the skeletons in Pit 4 had been removed. Unfortunately, we did not get to dig the lower pit. We had dug down to its level, but during our absence another person came in and removed the burial. We later secured from this individual the only entire pottery vessel found by him. It is Caddoan in type, in our opinion. We also saw a few fragments of other vessels which he found in the pit. They, likewise, were of Caddoan type. In Pit 4 were 2 pottery vessels, a mass of red paint, and a fragment of cloth which had been preserved by a copper ornament. The ornament itself had almost entirely disintegrated.

Pit No. 5 was 5 1/2' x 7' and 6 1/2' deep, and contained the skeleton of one adult with 12 pottery vessels. In the digging of this pit, Pit 3 of the older culture was entered and certain of the burials in Pit 3 were disarranged.

Pit No. 7 was 5' x 8' and 8' deep and contained the skeleton of 1 adult, 15 pottery vessels, and 79 small arrow heads.

Pit No. 8, 5 1/2' x 8' and 9' 2" deep, also contained the skeleton of an adult. With the burial were 12 pottery vessels, 33 small arrowheads, 1 conch shell

drinking cup, 2 bone needles, 13 quartz crystals, 1 ceremonial knife, and a deposit of perforated mussel shells. On each side of the skull at the cheek bones was a large copper covered, spool-shaped ear plug. In the digging of Pit 8, some of the burials in the earlier Pit 3 were disarranged, as has been noted in our description of Pit 3.



PLATE 8

1. Small quadrilateral vessel, No. V-1451; from Mound "D".
2. Small cylindrical, square bottomed vessel, No. V-1401; from Pit 9, Mound "B".
3. Small quadrilateral vessel No. V-1450; from Mound "D".
4. Large urn, No. V-1375; from Pit 6, Mound "B".
5. Large bowl, No. V-1400; from Pit 9, Mound "B".
6. Conical bowl. No. V-1230; from Mound "D".
7. Jar No. V-1358; from Pit 3, Mound "B".
8. Bowl No. V-1377; from Pit 6, Mound "B".

Pit No. 10, contained the skeleton of an adult, was 5 ½' x 8' and 6 ½' deep. With the burial were 11 pottery vessels, 3 long stemmed pipes, 1 celt, 5 bone implements and 3 sandstone objects, possibly hones.

Pit No. 11, 8' 2" x 4' 4" and 6' 8" deep, contained the remains of 2 adults, with which were 9 pottery vessels, 1 conch shell drinking cup and a mass of white paint.

Pit No. 12, the deepest of the pits, was 7 ½' x 5 ½' and 10' 9" deep. It contained the skeletons of an adult and an adolescent, both extended, the adolescent on top of the adult with its skull resting on the chest of the latter. With the burials were 13 pottery vessels and 1 large celt.

Comparison of Cultures

Limiting the comparison strictly to the Crenshaw Place, the following cultural features are noted as tending to differentiate the older culture from that of the Caddo:

Multiple burials in one pit; the small number of vessels with burials; the intentional scarification of vessels; the thickness of the ware; the absence of copper, ear plugs, shell drinking cups and of deposits of paint in graves. The finding in graves of rattles and boat-stones, platters, ladles, square bottomed vessels, conical vessels, quadrilateral jars, jars with vertical sides or walls, and vessels with flat rims. The lack of bottles, cazuela bowls, effigy vessels, and vessels with handles as distinguished from lugs. With particular reference to design; the lack of design on cooking vessels, of engraved designs, and of sun symbols. The prevalence of horizontal and vertical bands in relief, of "overhanging" incised lines, of isolated or single scroll design, of longitudinal bisection of scroll, of horizontal panels between designs, of background filled with punctations and hatching instead of cross-hatching, of triangular punctations, of straight lines terminating in punctation, of punctations along median line of scroll, of undulating bands, and of

incised encircling lines on lip of rim; and the variation in design on the several sides of quadrilateral jars.

The following similarities are noted; extended burials; small points, celts and bone implements with burials; grit tempered pottery; long stemmed pipes; the use of shell ornaments; the use of punctations and of scroll combinations in designs on pottery; the rubbing of pigment into designs; and the decoration of the bottoms of bowls.

200 First National Bank Bldg.,
Hope Arkansas,
April 1, 1936.

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CERAMIC RELATIONSHIPS OF THE PRE-CADDO POTTERY FROM THE CRENSHAW SITE

BY S. D. DICKINSON

Systematic study of Arkansas archaeology really began with the publishing of William Holmes' paper, *Ancient Pottery of the Mississippi Valley*¹, in which the author divided that valley into three ceramic areas. These districts, Upper, Lower, and Middle Mississippi areas, could roughly be correlated with the known distribution of Indian stacks at the dawn of the historic period.

From 1894 to 1915 Clarence B. Moore of the Philadelphia Academy of Natural Sciences excavated extensively throughout the Lower Mississippi Valley. The enormous amount of material exhumed by him aided decidedly in presenting a more detailed picture of the similarities and contrasts among the archaeological remains in the South. Moore's collection of Arkansas antiquities was especially noteworthy, as he had excavated sites and mounds in the valley of every navigable stream in the state. Moore demonstrated that Arkansas as well as other neighboring states could be further subdivided into smaller archaeological zones based on the indigenous cultural achievements of each river valley. Unfortunately during the limited period in which Moore had to obtain a representative collection from each river valley, time would not permit him to make stratigraphic tests.

The third step in the scientific development of Arkansas prehistory was made by M. R. Harrington, who in "*Certain Caddo Sites in Arkansas*"², attempted to reconstruct the daily life of the Caddo by interpreting the archaeological remains of the Ouachita and Red River valleys by consistent references to the ethnological data of the region. With the ethnological attitude foremost in his mind, Harrington classified all of the archeological material, excavated by him in southwestern Arkansas as Caddoan.

The late Joseph B. Thoburn, director of the Oklahoma Historical Society Museum, stated in an

unpublished manuscript read by the writer several years ago, that certain pieces of pottery figured by Harrington in "*Certain Caddo Sites*" were not Caddoan in type. This belief was later partially substantiated when Fowke and Setzler established the existence of a Southeastern Hopewell culture in Louisiana. In discussing the possible extent of the Hopewell pottery complex throughout the Lower Mississippi Valley, Setzler stated that two vessels found by Harrington at Washington and Ozan, Hempstead County, Arkansas, were similar in design to some from the Marksville, Louisiana site.³

Until 1934 no positive stratigraphic evidence of the residence of any prehistoric group, other than those whose descendants were living in the region at the coming of the Spaniards, had been obtained in southern Arkansas, although Harrington's discoveries in the Ozark bluff-shelters in the northern part of the state suggested occupancy by peoples of two cultures in that region. In that year Mr. Harry J. Lemley first obtained evidence of a pre-Caddo culture in Red River Valley, and the writer discovered remains, which seemed somewhat related, beneath material belonging to a later culture in southeastern Arkansas.

The pottery exhumed by Mr. Lemley from the pre-Caddo graves in mounds "B" and "D" on the Crenshaw Plantation ranges from crudely made domestic vessels to beautifully finished specimens worthy of being considered as art objects. Some vessels are slipped and polished while others are not. Some are asymmetrical, others well balanced. In several instances decorative motifs have apparently been applied without much forethought. On the other hand, some bowls and pots have carefully executed designs, demonstrating that the ancient pre-Caddo artisans had developed an understanding of harmony, rhythm, balance, emphasis, and proportion. The "Agee Points," referred to in Mr. Lemley's paper, in turn, indicate

a high degree of craftsmanship. Culturally, these people were on a plane equal to that of the Caddo.

This ceramic group, as Mr. Lemley has clearly proved, can be definitely separated from the later Caddo complex. A few culture traits, such as incised designs, the scroll motif, and occasional punctations, appear on Caddo domestic vessels where they would be most expected. This is natural, for succeeding potters would certainly have either retained or borrowed a few cultural elements from their predecessors.

A ceramic group, having such definite types as those of the early Crenshaw pottery, would certainly have not been confined to a single site. One would naturally expect to find similar vessels in aboriginal sites in other parts of the Red River Valley. Although the Red River district of Arkansas has been extensively excavated, no site was intensively studied until Mr. Lemley excavated the mounds on the Crenshaw Plantation.

In burial Number 4 at the Haley Place in Miller County, Arkansas, Clarence B. Moore found a vessel which has a general resemblance to some of the specimens from the pre-Caddo graves on the Crenshaw Plantation. Moore described this specimen as follows:

“This pot of rather common ware, having two holes for suspension, has a coarse, incised and punctate decoration showing traces of red pigment of which, however, little remains.”⁴

The grave from which this specimen was taken varied somewhat from others in the same mound. For instance, “strangely enough, no mortuary deposits lay on the chest or near the arms and hand of this burial.”⁵ Moore also stated that he was not able to fully determine where the pit, which contained this burial, began in the mound.⁶

The pre-Caddo pottery complex extends beyond the Red River Valley in Arkansas, but its confines cannot at present be determined. On a campsite near Bayou Dorcheate in Columbia County sherds of thick, heavy ware, similar to specimens found in the village debris of Mound “D” at the Crenshaw Place, have been picked up by the writer. The square

bottom of a cooking vessel having rudimentary feet was also found here.

There are also evidences of occupancy by the pre-Caddo culture along the tributaries of the Ouachita River in Clark County. In large midden in that region a number of typical sherds of this complex were found. Caddo Indians at a later period had constructed an earthen lodge on the same refuse heap, leaving broken pieces of their pottery within the structure above the older remains. In another campsite nearby the author discovered a square bottomed pot of poor ware beneath Caddo sherds in the same midden.

In mounds and campsites along the Bayou Macon and its tributaries in Chicot and Desha counties in southeastern Arkansas two distinct cultures were found by the writer. The later culture included bundle burials, wattle and daub huts such as those described by Du Pratz, elbow pipes, and shell tempered pottery similar to that type which Ford termed Natchez ware.⁷ Nothing in these graves indicated intercourse with Europeans. Beneath the remains of this culture countless sherds and a few whole vessels of an entirely different type of pottery were found. Possibly more than one ceramic complex is represented.

Similarity in vessel forms, temper, and paste of this earlier ware and the pre-Caddo is apparent. In each group pots and bowls are the chief forms. Many of the former type have square, flat bottoms with wide, circular mouths. The quadrilateral pot of the pre-Caddo also occurs here. Bowls normally have round, convex bottoms. A few sherds from the Bayou Macon appear to be portions of ladles somewhat similar to such vessels from the Crenshaw Place. In several instances sherds of bowls having triangular lugs projecting from the rim were found. In the refuse heaps of the earlier culture in southeastern Arkansas several specimens of the early Bayou Macon ware have a red slip which reminds one of the painted vessel of pre-Caddo pottery from the Crenshaw site.

The greatest difference to be found is in the decoration of the pre-Caddo and the older pottery from the Bayou Macon sites. On a minor portion

of the vessels from the latter region is decorate with polished bands and scrolls against a background of punctations, which is so typical of the early

Crenshaw pottery. Here, as in pre-Caddo ware, the principal decorative motifs occur in a horizontal zone on the vessel body. This zone is also separated from the vessel rim by one or more incised, parallel lines. An incised line sometimes occurs in the rim proper. The majority of the sherds from the early sites in the Bayou Macon country, however, are cord marked. The rims of these vessels are often thicker than the walls, and sometimes serrated.

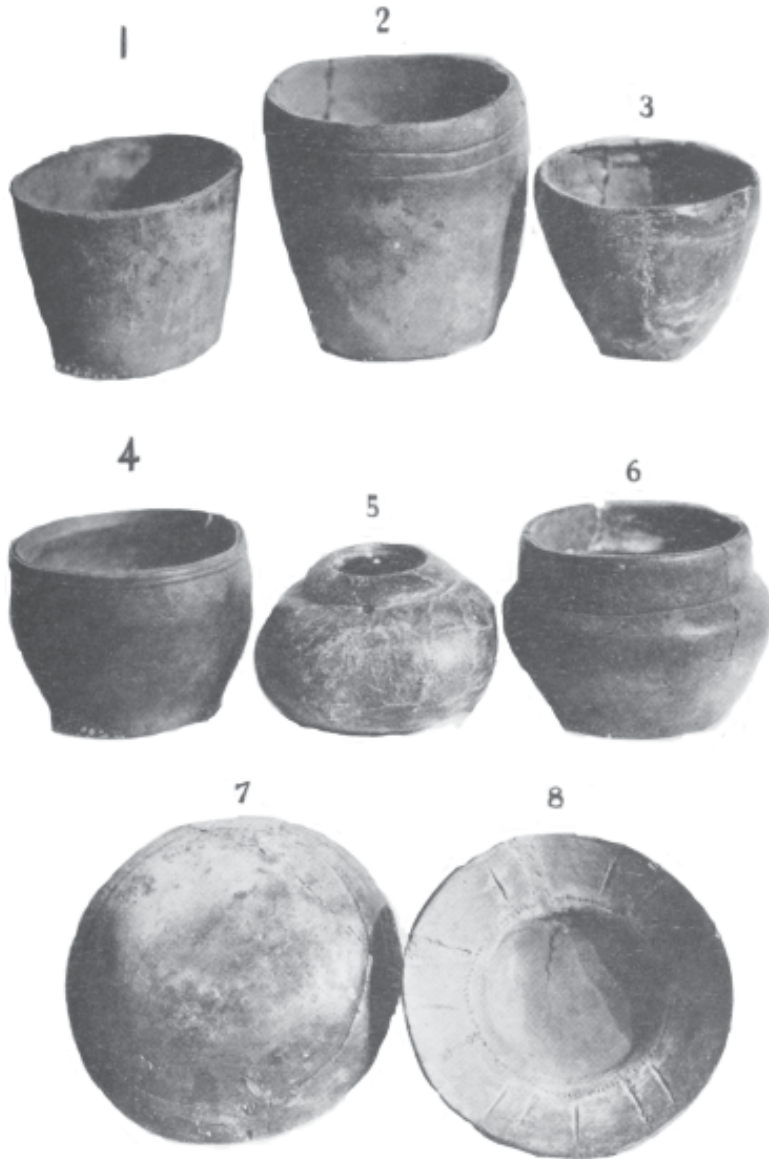


PLATE 9

1. Cooking pot of heavy ware, No. V-1295; from Mound "D".
 2. Cooking pot of heavy ware. No. V-1442; from Mound "D".
 3. Cooking pot, No. V-1286; from Mound "D".
 4. Deep bowl, No. 1441; from Mound "D".
 5. Vessel No. V-1357; from Pit 2, Mound "B".
 6. Cooking pot. No. V-1440; from Mound "D".
 7. Platter-like bowl, No. V-1446; from Mound "D".
 8. Bowl No. V-1449, showing inside decoration; from Mound "D". (See Plate 10, 2 for view of exterior).
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The antiquity of the first culture at the Crenshaw Place is further suggested by its relationships to other ancient pottery complexes southward and eastward. According to Ford's researches in Louisiana and Mississippi, the Southeastern Hopewell culture is the earliest pottery complex so far known in that region.⁸ Incidentally, the type site of this culture is in the Red River Valley. The Marksville complex. Ford says, was replaced in southern Louisiana by the Coles Creek ceramic group, and by the Deasonville in the northern part of that state.⁹ Both of the latter complexes had some criteria in common with Marksville ware. They in turn gave way to Caddo, Tunica, Natchez, and Choctaw pottery which was still being produced in 1700.¹⁰

The pre-Caddo pottery found by Mr. Lemley has certain similarities to the Coles Creek complex. Some vessel forms are similar. Coles Creek bowls have convex bottoms, and the pots have flat bottoms which are sometimes square. The latter vessels may also have rudimentary feet just as pre-Caddo specimens do. Instead of handles Coles Creek bowls sometimes have lugs or ears. The rectangular lugs of a bowl. Vessel V-1464, from the Crenshaw site may be

comparable. Ford illustrates a triangular rim lug from a Coles Creek vessel which is almost identical with two from southeastern Arkansas. So far as the writer can discover, no reference has been made to platters (such as those from the Crenshaw site) in discussions of Coles Creek pottery. Both Coles Creek and pre-Caddo vessels are tan, brown, black, and dark gray in color, and are tempered with grit. Perforations, and an incised line in the rim of bowls and pots are also typical of the Coles Creek complex. Incised lines below a vessel rim is another feature common to both ceramic groups. Several pots from the Crenshaw site have incised "overhanging" lines which Ford stated is typical of Coles Creek ware. "Overhanging lines," as that writer explained, "were incised with a flat-pointed instrument at such an angle to the vessel wall that the top of the line is deeply incised while the bottom rises to the surface of the wall."¹¹

In discussing the range of the Coles Creek complex, Ford stated that a minor portion of the decorations of this ware is similar to designs on vessels found by Clarence B. Moore along the northwest coast of Florida. There is not only in decoration, but also in vessel forms, a decided similarity between the pre-Caddo pottery and some of the specimens from western Florida. Quadrilateral pots, inverted conical vessels having square bottoms and sometimes rudimentary feet, and ovoid bowls with circular apertures are as common in Moore's collections from the western coast of Florida as they are in the Lemley collection of pre-Caddo ware. The conical jar with a narrow mouth (V-1443) and the lobed vessel (V-1357) from the Crenshaw site also have their counterparts in Florida. The elongate, oval bowl (PI. 1, Fig. 1) which Moore found in Florida is comparable to vessel V-1460. Water bottles are conspicuously absent in both regions. The triangular ladle (V-1290) in the pre-Caddo collection may be a highly conventionalized shell form.

Flat and rounded rims are typical of each ceramic group. The former type, in Florida as well as in Louisiana and Arkansas, frequently has the typical incised line in the edge of the rim. Carelessness in only partially obliterating on the interior the coil of

clay forming a vessel rim is apparent in both pre-Caddo and northwestern Florida vessels.

Effigy forms and vessels profusely perforated for ceremonial purposes from the northwestern coast of Florida have no exact counter parts in pre-Caddo pottery. It is worthy of note, however, that these forms occur principally in the above mentioned area, and are not found in the central coastal region of the peninsular state.¹² This might indicate a purely local specialization of a widespread culture. If, as Mr. Lemley suggests, the intentional scarification of pre-Caddo vessels is a type of ceremonial "killing," we have a kindred practice among people with the same animistic belief, but a more refined symbolism. In a mound on Saline Point, Louisiana, Moore found a pot, somewhat resembling several from the Crenshaw site, whose bottom had been perforated prior to firing.¹³

Similarity in the decoration of West Floridan and pre-Caddoan ware is noteworthy. The execution of the patterns is surprisingly similar. In both regions the designs have been incised. Raised, vertical bands at the corners of quadrilateral vessels are found in each complex. Some four-sided pots of the pre-Caddo culture have a different design on each wall. The same feature has been noted in Florida.¹⁴ Only two sides of a quadrilateral vessel (V-1145) from the Crenshaw site have incised designs. Moore observed the same feature on Vessel No. 35 from the larger mound near Burnt Mill Creek, Washington County, Florida.¹⁵ The chief incised decoration of pots and bowls from the western coast of Florida occurs within a horizontal band, outlined by lines. We have already referred to this same decorative feature of the pre-Caddo ware. Two perforations beneath the rim are also common in Florida pottery.

The scroll and undulating band with a background of punctations, or diagonally incised lines, which is so typical of pottery from the Crenshaw site, was also a favorite decorative combination of pottery along the western coast of Florida. Another distinctive feature pointing toward some relationship between pre-Caddo and western Florida pottery is the line which frequently bisects longitudinally the scroll and undulating motifs. This

line sometimes terminates in a triangular or circular punctation. The latter type of punctation is often placed more or less equidistantly along the median line of a motif. Straight and curved lines terminating in punctations are not only found on pre-Caddo

and western Florida wares, but also on pottery from Marksville, Louisiana, and the West Indies. Mr. A. T. Jackson of the University of Texas has informed the writer that he has seen straight lines ending in dots in the petroglyphs of Texas.

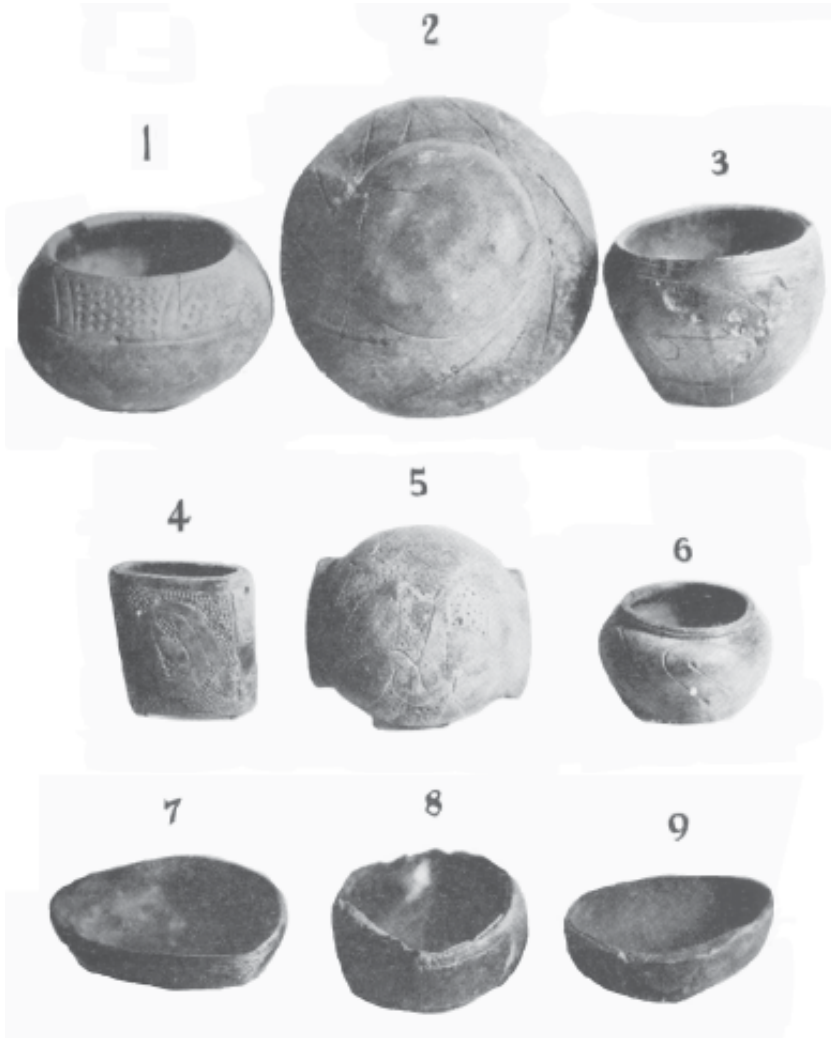


PLATE 10

1. Flattened globular bowl, No. V-1457; from Mound "D".
2. Bowl No. V-1449, showing exterior decoration; from Mound "D". (For interior see Plate 9, 8).
3. Conical bowl No. V-1456, showing intentional scarification on exterior; from cemetery southwest of Mound "D".
4. Small quadrilateral vessel, No. V-1176; from near Mound "D".
5. Small bowl, No. V-1464; from Mound "D".
6. Small bowl, No. V-1461; from Mound "D".
7. Triangular ladle, No. V-1290; from Burial 3, Mound "D".
8. Ladle-like bowl, No. V-1460, from Mound "D".
9. Ladle No. V-1462, showing scarification at end; from cemetery southwest of Mound "D".

Moore found this motif on bird effigy vessels from the northwestern Florida coast so often that he concluded that it was a bird symbol. He says, "Symbols of this class are found on practically all bird-vessels, and consist of straight or curved lines with circular or triangular enlargement at one or both ends. These bird symbols are sometimes found on vessels apparently having no connection with bird forms, though they may indicate some connection with the bird.¹⁶ The occurrence of a bird symbol when considered with other features of pottery of the west coast of Florida and the pre-Caddo ware suggests some relationship to the Marksville complex.

Certain general culture traits, such as bowl and pot forms, polished scroll and undulating band motifs against a roughened background, paste, and temper, which are common to both Marksville and pre-Caddo complexes, would lead one to believe that there was at least an indirect relationship between them. Flat and inverted rims, square bottoms, and the lobed vessel from the Crenshaw site also point toward this. On the other hand there are important differences; Marksville vessel rims do not have incised encircling lines in the flat edge of the rim; normally, the rim panel of pre-Caddo pots and bowls had little decoration; no realistic representations of birds occur on

pre-Caddo specimens, and they also lack roulette work.

The Marksville complex, however, had affiliations in Arkansas. As Setzler pointed out, Moore found a vessel at the Foster Place in Lafayette County, Arkansas, which showed definite Southeastern Hopewell traits.¹⁷ There is in the Lemley collection a small four-lobed pot from the Battle Place on Red River which reminds one of Marksville ware. This specimen (V-1125) has a design composed of polished straight and curvilinear bands enclosed by trailed lines with a background that has been roughened by some fine instrument. Mention has already been made of the two vessels found by Harrington at Washington and Ozan, and their similarity to Louisiana Hopewell

specimens. Sherds of typical Marksville ware were discovered associated with cord-marked pieces in southeastern Arkansas.

Present data would suggest the following hypothesis concerning the relationships of pre-Caddo pottery. Possibly, at consecutive periods Marksville and Coles Creek ceramic complexes extended throughout the Lower Mississippi Valley. Certain aboriginal towns in the delta were foci from which radiated cultural stimuli. Changes in the ceramics of those cultural centers were slowly passed on to villages in the hinterland by means of culture creep. Consequently, pottery of the pre-Caddo groups in Arkansas changed more gradually and was less distinctive than that of type sites in the delta. More intensive work in Arkansas and in adjoining states must be done before this supposition can either be accepted or rejected.

The discovery of the pre-Caddo culture at the Crenshaw Place is the most important step so far made in the study of Arkansas archaeology. It affords the student of Arkansas aboriginal antiquities material for the study of various aspects of a purely prehistoric culture antedating the Caddo. A tentative chronology, which may be elaborated later, can now be established. A detailed study of pottery, stone work, architecture and burial customs may later establish a definite connection between the aborigines of Florida, Louisiana, and the pre-Caddo. As the pre-Caddo pottery complex had ramifications eastward in Arkansas one would naturally expect it to also extend westward into Texas, and possibly into Oklahoma.

State A. & M. College,
Magnolia, Ark.
April 1, 1936.



PLATE 11.

Finely chipped implements of the pre-Caddo culture.

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KITCHEN MIDDENS OF THE UPPER RED RIVER DRAINAGE

BY ADOLPH HENRY WITTE

Innumerable traces of stone age men are to be found in this section of the upper Red river drainage. Commonly, the evidence is not plentiful and consists only of stone artifacts. Usually, there is little or no thickness to the soil stratum that contains the man-made debris. The artifacts found are of local and imported materials, and certain technical criteria serve to identify some as of Folsom, and others as of Clear Fork culture types. (Note 1). Other paleolithic types have not been classified, and the early human horizons from which they came, are up to the present date, unrecognized. Several stratified sites, somewhat deeply buried, have been found. The overburden of sterile soil is quite thick and the expense of properly excavating the areas will be large. It is the sincere hope of the writer that these deep sites will be carefully investigated in the near future by qualified individuals.

Kitchen Middens

During 1935 several similar kitchen midden sites were discovered. Measurements indicated a thickness of 48" or more in certain spots, and each midden was found to extend over a number of acres. Numerous flint rejects, bones, potsherds, perfect and broken tools, etc., were visible in the eroded slopes. Apparently each deposit contains thousands of bones and artifacts.

This writer was strongly impressed by the visible evidence. Data of outstanding importance to the Southwestern area were likely to be found by excavating these middens.

Excavations were completed in the late fall, and a considerable amount of archeological data and materials were obtained. A summary of the results that were disclosed by the excavations follow.

Similar Sites

Judging by the artifacts found, the middens tested by the excavations, were occupied by people

of similar cultural traits. Almost identical bone tools, chipped and polished artifacts, potsherds, etc., were found in each midden.

The sites described are situated near the largest streams within this area where a supply of water was always available. In addition, a large permanent spring is closely adjacent to the Ht. site. No evidence was found during the excavations that would indicate that the areas were ever submerged during the period of occupancy.

Our excavations showed that the camp-elevations were capped by a sandy soil stratum, human and aeolian in origin. The second stratum which is barren of bones or human evidences, is a compact red clay which probably has lain undisturbed since originally deposited during Permian ages. The author is not competent to classify the upper or human stratum as to geological age. The following conclusions are offered, however. During the geological history of these old river valleys, a period of time was reached in which erosion ceased on the clay elevations, and a period of upbuilding was begun by wind action. It appears that the Indians arrived and occupied the sites soon after this original upbuilding process started, because many bones and artifacts are found in situ, in close proximity to the second, or sterile clay stratum.

The test pits uncovered large numbers of bones, the majority of which were broken. In certain small areas, many showed the effects of fire. Concentrations of bones and camp rubbish usually occurred where the soil deposit was the thickest in depth. All of the fire pits were found in the middle and bottom levels and these often were filled with deposits of ashes, and generally contained concentrations of bones. These bones from the ashbeds were usually in much better condition than those uncovered in ordinary soil. A number of fish scales came from one ash-pit. The most disappointing results came from the top 18" level.

In this level, the soil is invariably damp after rains and many of the bones were in an advanced stage of decomposition. Rodents, by their burrowing proclivities have destroyed and mixed the stratigraphic evidence in certain areas. Most of the bones that were found were in the middle and bottom levels.

A staple food is indicated by the large number of freshwater mussel shells, desert tortoise carapaces, and turtle bones that were found in all levels.

In conducting the excavations, the soil was removed in 6" levels, and nearly all of the excavated material was screened. This was a laborious task but we were amply repaid, for many small objects that would not have been noticed were discovered on the screen.

Nothing was found in the sites that would indicate European contact. A check of the bones collected, showed none identifiable as belonging to the horse. Occasionally, some bones displayed a most interesting feature. Deep knife marks are to be seen, usually near the articular ends. These accidental cuts were made by the aboriginal hunters while dismembering the animal carcasses. Commonly, two or more marks are seen, and these are ordinarily parallel.

A tentative identification of the bones by the writer include the following: dog, bison, deer, rabbit, rat, duck, turkey, flicker, beaver, coyote, antelope, etc. Fish bones, belonging to several different species, and also several species of freshwater mussels were noticed. A few human bones were found mixed with broken animal and other camp trash. Nothing was observed that could be considered a burial. Fragmentary parts of human crania were found on the eroded

surfaces of each of the deposits and our failure to locate definite burials was one of the major disappointments of the investigation. The discovery of broken and fragmentary human bones, mixed with other camp rubbish may indicate cannibalism. Archeological evidences of cannibalism have been reported by others in Texas and adjacent states (Note 2, Note 3).

Fragments of deer skulls were not uncommon and many broken segments of lower jaws with the

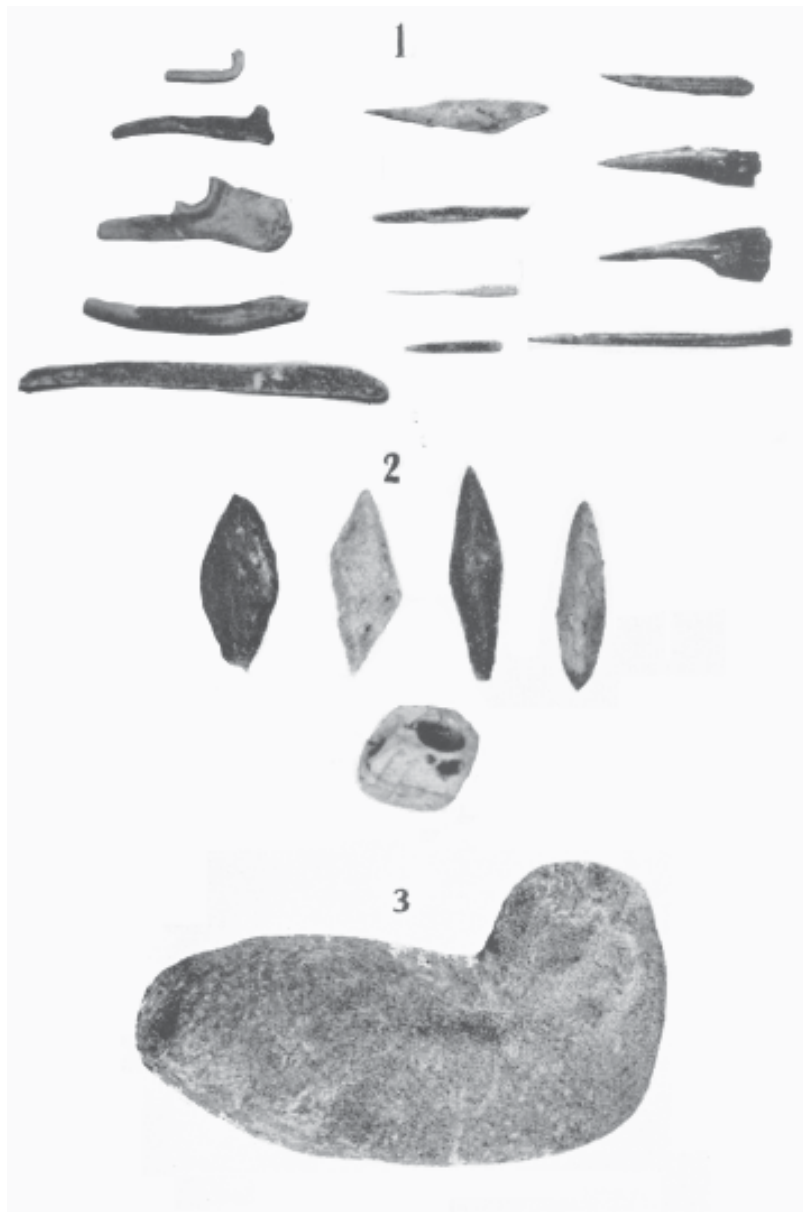


PLATE 12.

1. Bone artifacts including awls and flakers.
2. Four-edged knives, and a carved stone pipe.
3. An unfinished sandstone pipe.

teeth usually intact were found. Neither whole nor fragmentary bison skulls were found, and only a sparse number of bison teeth were picked up in the clean, eroded, surface of the middens. From this evidence it might be presumed that the Indian hunters, commonly did not fetch the bison skull into camp.

Two small local areas were found where grains of corn, embedded in the usual camp deposit could be distinguished. The maize was free from the cob and carbonized. The grains are small, compared to modern corn and might be described as "short" and "plump". The salient features of these grains were no doubt somewhat different before contact with fire. It is to be regretted that more of this interesting cereal could not be discovered, especially specimens of complete ears. In both instances, the corn was located near the bottom of the midden deposit.

Bone Tools

A surprisingly large number of bone artifacts were well preserved in the deposits. Awls rank first in number. One group of these were shaped from mammal leg bones. This group can be divided into four classes:

Awl with entire head of bone left intact.

Awl with head of bone unaltered except original splitting.

Awl with head of bone partly worked down.

Splinter awl. No modification of original splinter beyond sharpening tip.

A second group of awls were fashioned from mammal ribs. These show several classes, splinter and worked types, as well as minute forms.

Awls of various sorts were found in all levels. Occasionally, specimens have been fire tempered.

Flakers

A few blunt punches of antler tines and of thick mammal leg bones very likely should be classified as flakers. Broken fragments of thick deer antler, with polished surfaces, have not been classified.

Bone Fish Hook

Almost an entire fish hook, carefully fashioned, was found in the Ht. midden near the top of the deposit. It is obvious that the tool was manufactured from a thick flat bone, possibly a bison scapula.

Gaming Bone

A small bone artifact was found in a shallow deposit, near the edge of midden B. It is likely that the tool was made from a deer phalange. W. D. Strong has described and illustrated a similar bone artifact from Nebraska deposits. According to Strong's classification, the artifact is a cup for the "rin-and-pin", game of the prehistoric Indians. (Note 4).

Bison Scapula Tools

Two complete bison scapulae were found in the pits. A careful examination disclosed no evidences of use as tools. However, at various levels, a number of tools fashioned from different parts of bison scapulae were discovered. These tools were usually, in a poor condition, due to rough usage. The consensus of opinion is that these were used as digging implements—the cutting edges are often fractured and dull. No notches, nor other evidence that would serve as proof of halting has been observed. The basal ends of the tools are well rounded and polished—further evidence that the artifacts probably were used as hand tools.

Bison Skull Tools

An ingenious ladle or tool was made from a part of the bison skull and horn core. The horn core and a few inches of the attached concave bone tissue of the forehead were utilized. When complete, the edge of the bone tissue was sharpened, and half of the horn cone was left which formed a convenient handle. Evidently these tools received long hard usage as the beveled edges were chipped and dull, similar to the scapulae digging implements. Specimens were found in situ in the pits, buried from 18" to 4-2" in depth. The majority of all found were in the lower parts of the deposits. A number of fragments of these skull tools were found on the eroded surfaces of the St. and H. midden and

possibly, were a rather common tool in this locality. Nothing is known as to the distribution of the bison skull implements, but since others have not reported them elsewhere (except Strong, Note 5) the distribution is presumed to be limited. Average length, 8", or 200 mm.

Bison Metatarsus End-Scrapers or Fleshers

These were found in the middle and the bottom levels, and range from four to eight inches in length (95 mm. to 185 mm.) In fashioning these tools, the entire sponge-like bone tissue was removed from the marrow cavity. In addition, the cavity was extended entirely through the articular end of all the specimens that we found. The reason why the handles of these fleshers were completely tunnelled "out" has not been determined, unless the classification is accepted that was given a somewhat similar tool, illustrated in plate 78, Explorations and Field-Work of the Smithsonian Institution in 1932. The tool is described as a combination flesher and knife handle. (W. D. Strong).

Weaving Tools

Several complete ulnae of small animals were discovered in the lower and the middle levels. These ulnae have been fashioned into tools with flat points, quite different from awls or flakers. Tools of this sort with flat points have been classified as weaving implements by several authorities. Fragments of a number of bison ulnae were found. From this evidence it seems likely that these were largely utilized as tools, until broken.

Small Points

Many small triangular points were found on the surfaces of the middens. Approximately 50% of all have a single notch on opposite edges. The base is usually straight or concave. A variant pattern has a convex base. (Rare). Specimens with a notch in the middle of the base are found. About 10% of the small triangular points are without notches. It is likely that some of these points without notches are rejects.

Additional small points were "Trianguloid with stem", (Note 14). The stem is usually straight or

expanding, but there are aberrant types. Whether these types with tangs and barbs denote intermittent occupations of the middens by peoples from other cultural centers, remains to be determined.

The excavations proved that all of the above discussed types were in use throughout the entire history of the middens. The only noticeable feature was that small points from the lower levels were usually somewhat cruder than those gathered from the upper parts of the deposits.

Small triangular points with side notches and straight, concave, or notched bases have been found over a vast part of the present United States. This was the predominant type at the Pecos Pueblo, (Note 6). "Tens of thousands of this type came from the Great Cahokia Mound Group in Illinois," and are known locally as "Cahokia Points". (Note 7). This type, notched and without notches came from the upper level at Signal Butte. (Note 8). In Texas, Dr. Cyrus N. Ray, reports this type from Abilene. (Note 9), Mr. Floyd V. Studer reports this type in the Texas Panhandle house ruins. (Note 10). Mr. Vane Husky describes and pictures this type from kitchen middens in the Nueces Canyon (Note 11). Mr. E. B. Sayles found this type widely distributed over Central and West Texas, and has classified the people who used this type as late Caddoan. (Note 12). From a dated ruin in Western New Mexico, (1000 to 1030 A. D.) nothing but this type with straight bases were found. (Note 13).

Abrading Stones

Rubbed, grooved, and incised stones, presumed to be mostly of local origin were found in numbers on the surface, and each test pit disclosed others at all levels. The grooved and incised stones range from small irregular shaped stones to rectangular and "buffer" shaped tools, carefully fashioned. (Note 15). It is usually presumed that the shaft polishers were used in pairs, but none were found together in situ. Nearly all of the rectangular shaped specimens were broken when found, due to the fragile material utilized—a coarse sandstone. The grooves in the shaped stones are all lengthwise, and multiple grooves are common. Occasionally grooves are V-shaped instead of semicircular in

cross section—tell-tale evidence of fashioning points on tools, such as needles and awls. The shaft polishers that are square or rectangular in cross section often have one or more grooves or incised marks on each face. In some tools the depth of the channel or groove is variable, the result of grinding and working short objects, perhaps bone beads. The largest and most carefully made shaft grinder that we found came from the top level in a test pit. The unshaped and crudest specimens commonly came from the lowest levels. Measurements of the grooves that are semicircular in cross section vary, occasionally diameters are as large as ½". The average is approximately 3/8" in width. It might be mentioned here that measurements of shaft grinders from the ruined Pecos pueblo in New Mexico, showed that the Pecos archers preferred 3/8" shafts or foreshafts for their arrows. (Note 16).

The mano stones found in the tests were the usual oval-shaped type, and came from all depths. No entire metates were found. Judging from the fragments discovered in the deposits, those with a rather deep basin were preferred.

Knives

Few knives and large projectiles were found in the excavations. One four-edged bevelled knife was found. It is of Texas Panhandle flint and was screened from the top six-inch level. Cumulative evidence places this knife in use up to a late period. (Note 17). A fragment of a large knife was found in situ, 18" from the surface in the Bk. Site. It was slightly notched on each edge and exhibited no "bevelled technique." The material is local, a quartzite. The writer has picked up from the surface of each of the midden deposits under discussion flake knives, four-edged bevelled knives, leaf-shaped knives, and triangular knives. The last pattern has a straight, sharp base, in fact three cutting edges. The four-edged bevelled knives found on the surface are either of Texas Panhandle flint, Central Texas flint (various color phases), and local quartzite. The flake knives were also of the above mentioned materials. The leaf-shaped knives are of Central Texas and local "flint", but none of Panhandle flint. The triangular knives were also of local, and Central Texas materials. This is perhaps

the most uncommon type. The large projectile points found in the excavations are so few in number as to make any sort of classification of little value. Unless further tests prove to the contrary it would seem that spears or atlatls were not used. Additional evidence, from the writer's surface collection from the St. midden substantiates the above statement. Out of a total of 200 projectile points, gathered on the surface of this midden, only 6 large projectiles were found. Five of these large points were found in a small eroded area, and at a somewhat lower level than the midden deposit. It appears that the large points are in a strata below the midden, and erosion has exposed this earlier level, only in this one spot.

Local Quartzite

This material varies in color and granular appearance. It is obvious that it is exceptionally difficult to "work" but tools were found in all levels, chipped from this local stone. The finished artifacts are usually somewhat thick.

Numerous outcrops of quartzite occur in the south part of this county (Clay) and in the adjacent county east (Montague).

A number of four-edged knives of this material were found in the I cultivated surface of the St. midden. In using local quartzite for points, scrapers, knives and awls, the Indians who left the midden deposits merely followed the same routine established by paleolithic men, who discovered and used this material unmeasured centuries ago. A "grooved" Folsom spear of this local "flint" came from the surface of a high river terrace near Ryan, Oklahoma. Specimens of blades and axes, with sinuous edges, deep patina, and of antique appearance, are often of this local "flint." That these belong to early horizons, cannot be questioned.

Texas Panhandle Flint

Artifacts of this material are not found in large numbers within this area. However, tools made of this chert were discovered in all levels of the deposits. It is true also that sites without pottery usually yield Panhandle flint specimens. Apparently, this region is near the eastern edge of this material

distribution. The Cardwell flint collection, gathered near Nocona, Texas, contains only one artifact of that material.

Floyd V. Studer has reported the widespread use of this material in the Texas Panhandle area. He also has drawn attention to some of the sources, along the Canadian River, near Amarillo, Texas, where vast quantities were quarried in prehistoric ages. A. V. Kidder found numerous artifacts of Texas Panhandle flint at the ruined Pecos Pueblo, New Mexico. During a brief investigation in the Galisteo valley (farther to the west), the writer found several snub-nosed scrapers and part of a four-edged knife, all fashioned from this beautiful "flint".

Earth Covered Lodges

The digging exposed chunks of burned clay wattle in various levels. Impressions of grasses and small twigs are discernible. This burned clay was roofing material and is unquestionable proof of earth covered dwellings of some sort. Later, in several of the test pits we uncovered what appeared to be definite floor levels. Several fire-pits, and small storage cists were found below the floor levels. The mouth of one cist was covered by a stone slab. The contents of the cists were screened out, but nothing was found except the average camp rubbish.

Pipes

An unfinished elbow pipe of local sandstone came from the surface of the St. midden. It is obvious that this object was pecked to shape as each end is deeply pitted. The small end cavities show a most interesting preparatory technique, for of course this served to guide the bit of the drilling apparatus when the drilling started.

Fragments of other pipes found in the excavations are listed as follows: Fragment of small plain tube pipe of local sandstone. 18" level. H. midden.

Fragment of small plain tube pipe, material, red sandstone, origin unknown, 16" level, H. midden.

Fragment of a carved sandstone pipe, type not determined, material local, 36" depth in H. midden.

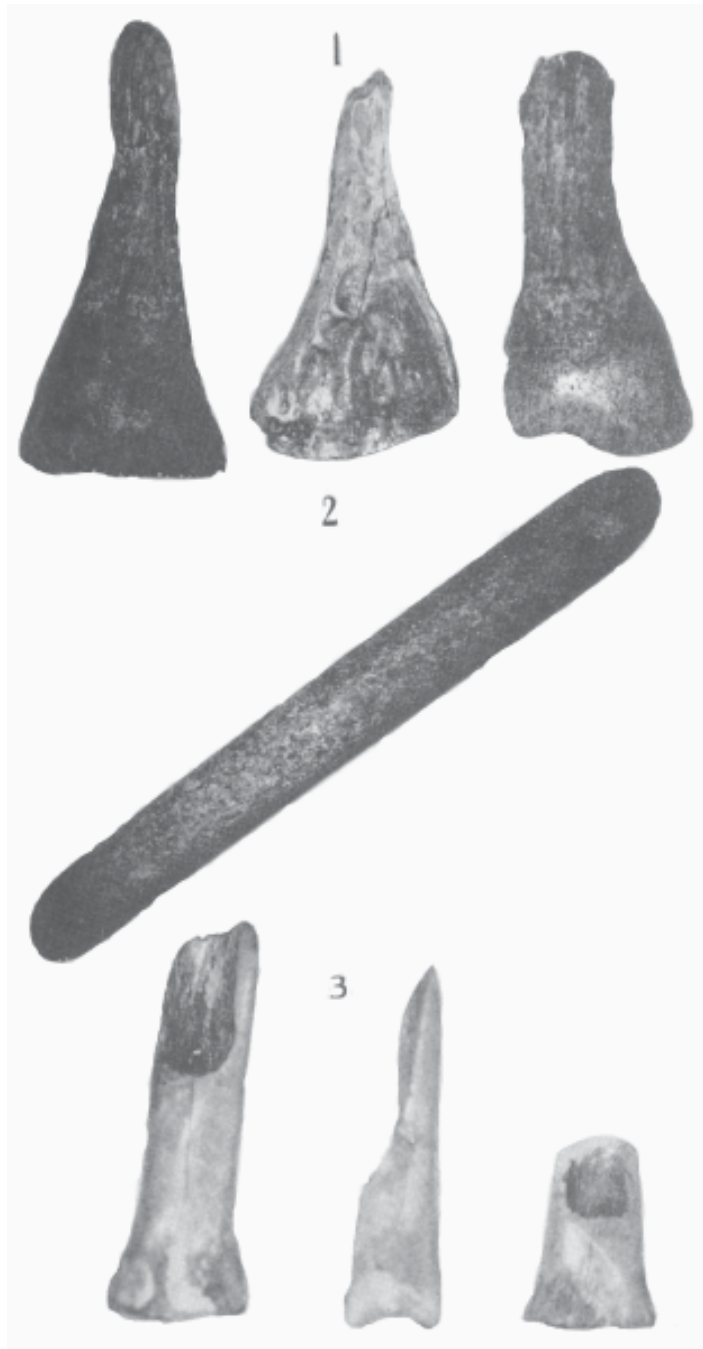


PLATE 13.

1. Bison skull tools. Artifact on the right 7 1/2 inches in length.
2. Gray-green stone pestle, 22 1/2 inches in length and oval in cross section.
3. Bison metatarsus tools. The longest is eight inches in length.

Fragment of plain elbow pipe, of sandstone, possibly not local, Surface find in St. midden.

Fragment of large pottery pipe, diameter, approximately 3", plain, 16" level, H. site. Type not determined.

Fragments of large pottery pipe, approximate diameter 3", 16" level, H. midden. Type not determined but profusely decorated with incised finger nail imprints.

Specimens of Paint Stones

Nodules of various sizes were found on the surface and in all levels. These were usually of either hematite or copper ore, and occasionally white, and brown pigments were also discovered. Some of the materials could not be identified as local. Certain nodules showed results of having been subjected to fire, and these were usually quite soft. One small thin, hematite object, from the surface of the H. midden is polished on both faces, and a number of parallel crudely drawn lines have been incised on the surface.

Pot Sherds

Pot sherds were found on the surface and in all levels of the excavations. No whole pots were discovered. It appears that most of the vessels were fairly large mouthed with funnel-shaped, or straight cylindrical necks. Sherds were found mixed in the same levels, belonging to each neck type. The bodies were globular, and there are round and flat bottomed types. It would appear that the flat bottomed type of vessel was in somewhat late use only. Sherds that could be identified as belonging to this type were all found in the upper levels of the excavations. The largest number of sherds came from the middle and upper parts of the test pits and the number is not large. The few sherds found in situ in the lowest stratum very likely found their way there by way of cists, firepits, animal burrows, etc. No improvement in technique or paste is noticeable, when the upper level sherds are compared with those from the bottom levels.

Shell is the most common tempering material with an occasional sherd showing sand, gravel,

bone, etc. Some sherds have a honeycombed appearance due to the aplastic materials leaching, or weathering out of the specimens.

From the evidence of the sherds it would seem that few small vessels were made. A small number of sherds might be classified as "cord marked", but nearly all of the remainder are plain, without decorative attempts of any sort. It is evident that most of the occupants of the middens gave little time to pottery making and beyond shaping the rims and necks of the vessels in a number of different ways, cared or understood little about the technique of ceramic decoration. Trading relations or pilfering excursions into the adjacent eastern areas might account for the few decorated East Texas sherds found. One decorated sherd of a hard, black ware, came from the surface of the Glasgow site. The fragment is a segment from the rim of a vessel and just below the plain cylindrical neck is the decorative feature, a row of somewhat regularly spaced nodes.

Vessels with handles, or lugs, were rarely made. Two handles and one lug were the only sherds of this sort found.

Additional Artifacts

Other articles found in the camp-middens include small snub-nosed scrapers (two, notched specimens), awls of flint, bone beads (tubular), entire and fragmentary, polished celts, and a number of worked and polished bone and stone objects that have not been classified.

It would appear that polished stone celts were in use within this region, prior to the introduction of pottery. Three polished celts in the writer's file came from non-pottery sites.

Future excavations probably will disclose data unsuspected at this date. The author wishes to emphasize the fact that only a small area in each site has been excavated.

Henrietta, Texas.

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INTERESTING ARTIFACTS OF CLAY COUNTY, TEXAS

LEONARD D. BENNETT

While putting down a test to determine the depth of the deposit in a local Indian campsite the writer had the good fortune to strike a pocket at a depth of 22 inches from the surface, which contained several well preserved bone implements of unusual form. Some of these were different from any that he has seen described in archeological publications.

The campsite in which these artifacts were found is located on a low sand dune situated barely above the high-water line, on the north bank of the Little Wichita River, one mile northwest from Henrietta, Clay County, Texas. The deposit, at the point where the test was made, proved to be 48 inches in depth, and consisted of charcoal and ash impregnated sand, underlain by a deposit of sterile undisturbed red clay. Throughout the deposit of sand were numbers of broken and unbroken fresh water mussel shells, broken and burned bones of various animals, and many pieces of broken and burned sandstone. Although all of the material excavated was carefully examined and screened, and an extensive search was made over the entire area of the campsite which resulted in the finding of over a hundred points, scrapers, and knives, nothing was found that would show that the occupants of this campsite were in contact with white people.

The implements which the writer considers of unusual form were fashioned from parts of the skulls and the bony structure inside the horns of bisons. In making these artifacts, the outer horn was removed, the bony structure of the inner horn was split from tip to base, and a part of the skull was left adhering to the upper half of the split horn. The bony part of the horn was then ground to a flat surface on the split side, thus forming the handle of the tool. The inner side of the part of the skull left attached to the horn base was smoothed and polished, being decidedly cupped when completed, and resembling a large spoon or ladle. The outside, or convex side, of the skull portion was polished, and the edges ground and polished to give the shape best suited to the purpose for which the tool was intended.

The variation in the shape of the implements show that they were made for various purposes. Some are shaped as if they were intended to be used as ladles or spoons, being very definitely cupped and having the edges blunted and rounded as illustrated in figure (1) of plate 14, while others are shaped and sharpened in such manner that there is no doubt that they were intended to be used as knives. Figure (2) of plate 14 illustrates this type. The cutting edge is very sharp and would be an effective tool in skinning, fleshing, or dismembering. From the shapes of other specimens noted by the writer, scrapers, fleshers, knives, and digging tools were made in the same manner. Strong's *Introduction to Nebraska Archeology* mentions a fragment of an implement made from a part of the skull of a bison, but his description is not definite enough to show whether or not it is an example of this type of tool.

Another type of bone implement, pictured in plate 14, No. 3, found with the above described tools, was a hoe or digging tool made from a section taken from the scapula of a bison. Several tools of this type were found, and although no two of them are exactly alike, the one pictured in plate 14 is fairly representative in size and general contour. The average length is about 7 inches. No doubt the variation in shape and size was due to the inaccurate method used in roughly shaping the implement and to the irregular wearing away of the bone while the tool was in use. The flaring or barb-like end of this implement has been ground to a blunt point, and the thinner bone, forming the barb shaped side, has been ground to a sharp cutting edge and is highly polished from use. On examining the specimens of this type, the writer came to the conclusion that some of them had been hafted, since they have a roughly shaped handle or base but none of the rough edges of it have been smoothed or polished as one would expect them to be had they been used in the hand very much. One of the specimens shows faint striations as if it had not been very securely bound to a handle. Others were evidently hand tools, as

the rough edges of the handle portions, or bases, have been rounded off and show well defined polish, with no notches or striations that would give evidence of the attachment of handles. The theory that this type of tool was used as a hoe might be supported by the fact that flint hoes are not usually found in this section. The writer knows of only one that has been found in this region. William Duncan Strong described several scapula tools similar to the one described here, in the Smithsonian publication, *An Introduction to Nebraska Archeology*, though from his descriptions and illustrations there are several marked differences in the artifacts.

One bone awl, or punch, made from the unsplit cannon bone of a deer, two bone awls made from the split cannon bone, two awls made of fragments of ribs, and three made from heavy unidentified bone slivers, were found in the same test at depths ranging from six inches to 36 inches from the surface. All of the awls are very well preserved and exhibit careful workmanship on the part of the maker. They vary in length from three inches to eight and a half inches. The points of three of them show evidence that they have been heated, probably for the purpose of tempering them. Two pieces of deer antler found might also be classed as punches, as their points have a polish resulting from much use. Another section of antler shows signs of use as a flaker, as it has several pits and striations near the tip that probably resulted from contact with sharp rock fragments or flakes. These sections are from the tip of

the antler and will average about six inches in length.

Other objects coming from the same test include five highly polished bone beads cut from the leg bones of birds or small animals; one bone disc one-half inch in diameter and one-sixteenth of an inch thick, made from turtle shell and highly polished; one spatula shaped tool made from the ulna of some small animal, possibly wolf or fox; several sections of broken mano stones of quartzite and sandstone; one broken, flat type, metate; several small notched and unnotched triangular points made from materials that could have been obtained locally; one bevelled knife, three inches in length, made from blue flint; two finely chipped flint awls or drills of the hair pin type; four snub-nosed scrapers of blue and white flint; several shards of undecorated shell and bone tempered pottery, and three shards of undecorated pottery tempered with sand and fine



PLATE 14.

1. Ladle or spoon made from the inner part of a horn and part of the skull of a bison.
2. Bone implement made from the bony base of a horn and part of the skull of a bison similar to No. 1 except that it has been sharpened to a keen edge on the skull end. Would make a nice digging tool, hide scraper, spoon, ladle, or knife.
3. Bone implement made from scapula of bison.
4. Human effigy. This figure is no doubt intended as an effigy of a human being. It could have been used as an ornament on a pottery vessel. May have been either a doll or an idol.

gravel; one small fragment of very hard pottery, round in section, about three-eighths of an inch in diameter, one inch in length, with two small knobs or projections near one end, the entire surface has been decorated with diamond shaped incisions, each diamond having an incised dot in its center. |

All of the artifacts and objects described in this paper to this point came from an excavation four feet wide by ten feet long that varied in depth, according to the depth of the deposit, from 14 to 48 inches.

In another small test in the same campsite, 18 inches from the surface, the writer made an interesting discovery in the form of a poorly fired object of red clay representing a human figure, (Plate 14, No. 4). The object represents a sitting or kneeling figure which measures two and one-half by two by five-eighths inches. The arms are at the sides and are set off from the body by finely incised lines. The stomach is represented, as are the legs, by knobs or rounded projections five-sixteenths of an inch high and near a half-inch in diameter at their base. The area around these projections is incised with fine lines forming a sort of cross hatching where they cross one another. Unfortunately, the area representing the nose and upper lip had been broken off when the object was found, and as the break was an old one, it was probably the cause of the object having been discarded. The eyes are represented by rectangular incisions one-eighth inch long by one sixteenth of an inch wide, and show by their form that they were punched into the soft clay with a sharp rectangular sectioned awl or incising tool. The forehead is represented by two parallel lines incised one-eighth of an inch apart with two rows of incised dots filling the space between them. On the portion of the effigy that would be considered the throat, there is a rectangular incision similar in size and shape to those that represent the eyes. From its appearance, it suggests that some sort of an ornament might have been attached to the effigy. A part of the base seems to have been broken off, indicating that it might have been attached to a vessel as an ornament, though the lack of having been completely fired and the difference in the material from which it is made from

that of the known types of pottery in this section, tend to discredit this theory.

The writer sent this object to Mr. A. T. Jackson, field foreman of Texas Archeology, for inspection, and takes the liberty of quoting the following from his letter concerning it:

“The clay object is very unusual. After examining it, I discarded the pottery-smoother idea. It is very suggestive of a human effigy and may have been from the rim of a vessel. I have before me the head of a small animal effigy from a campsite on Red River near Kiomatia, Red River County. The clay is almost identical with that in your specimen and is no better worked, although I am inclined to think that both specimens have been but poorly fired. There is a possibility, of course, that your specimen may not have been attached to the rim of a vessel, as the break would seem to indicate. At any rate, it is the first of its kind that I have seen in Texas.”

The campsite from which the artifacts described in this paper came, offers great possibilities for archeological research into the history of the culture which occupied it. The entire site covers approximately thirty acres, but there remains only about two acres of the sand dune which have not been put into cultivation. As this portion lies nearest the bank of the river, it should prove to be the richest portion in cultural material. Further research should be made in the immediate future, for it will be a matter of a short time before much of the site will be turned up by curio hunters.

The writer, working in conjunction with Mr. A. H. Witte of Henrietta, has made an effort to preserve all data possible in connection with all artifacts that have been removed from this deposit, and will gladly co-operate with any movement toward a more complete study of the site. He has refrained from advancing any theories as to the cultural types represented in the material taken from this site, for to do so, on the limited amount of material at hand, would hardly be advisable.

Henrietta, Texas.

THE POTTERY HORIZONS OF TEXAS

BY VICTOR J. SMITH

A few years ago Texas was thought of as having pottery of scant amount and small importance. In comparison with the vastly richer ceramic areas to the east and west this was partially true. During the past decade, however, many published reports in the field of archeology have focused attention upon the fact that the variety, distribution, and importance of the ceramic field in Texas is deserving of far more attention than has previously been accorded to it. The general idea that Texas was not important in this respect may also have resulted from the fact that a great north and south bison strip extended down through central Texas, nearly to the coast, and this vast territory is generally considered to be a non-ceramic area.

It is the purpose of this paper to point out the several distinct pottery districts of the State, to suggest some of the principal types of each district, and to indicate the sources of reference which are available for further study. While all of the State shows some evidence concerning the use of pottery by early peoples, Texas may, as a result of recent research, be divided into definite areas or districts within which pottery was manufactured and used. While other sections may be said to be entirely without such evidence save for an occasional intrusion which is to be expected where articles were left by hunting parties and in an area where the distribution of the culture trait was still in progress as it was in Texas at the time of white invasion.

Archeological evidence points to the fact that Texas generally may be classified as an agricultural area with the maize complex strongly developed in close agreement with the better developed ceramic areas in West Texas, and in the northeastern part of the State.

From the standpoint of design, Texas tribal groups brought into the area strong trends from

many directions: Southwestern, Southeastern, plains, and even upper Mississippi Valley influences. All of these carried certain environmental patterns which may be observed in the design units of the group, including pottery decorations from the several parts of the State.

Thus it is quite natural that there should be a drift of the typical designs of the Rio Grande and other Pueblo groups into Texas in the neighborhood of El Paso and to the South and East of that place. Along with other distinguishing material culture traits the use of pottery decorated in color is one of the most important culture differentiations. The Southeastern periphery of the Pueblo area herein discussed lies south of the general area of the Texas-New Mexico line. It should be understood, of course, that the western portion of this district, as might be expected, yields more abundantly of pottery evidence than does the eastern portion of the area where evidence thins out to scattered finds. Sites generally are scattered along the valley, sometimes well back from the river itself; others are on the plains where old lake beds or "dry lakes" indicate a former seasonal water supply; and at other points where water was available such as at the Hueco Tanks or other favorable camp locations in mountainous areas. Of the three types of camp sites listed above, I have observed that sherds are most abundant in the dry lake camps. At several points they lie so thickly scattered that it is impossible to take a step without trampling upon a fragment of pottery.

Cosgrove, Mera, Stallings (19), Alves (1), and others have recognized a native black-on-white (Chupadero) ware as typical of the El Paso neighborhood, although similar types extend north into New Mexico for quite a distance. My own collection of sherds from the dry lakes indicates the following distributions:

Type	Dry Lake Sherds	Hueco Tank Sherds
El Paso Polychromes and Related Wares (Black-on-Brown) -----	101	15
Chupadero (black-on-white) -----	50	12
Undecorated (brown) -----	5	80
Corrugated Ware -----	31	1
Related Scored Ware -----	5	1
Chihuahua Polychrome -----	19	—
Little Colorado:		
Black-on-Red -----	16	—
Black-on-White -----	7	—
Polychrome -----	1	—
Mimbres -----	3	—
Upper Gila -----	2	—
Three Rivers Red on Terra Cotta -----	2	—
Unidentified -----	2	—

This tabulation of course, is significant only with respect to the relatively small number of sherds collected from two dry lake sites and seven Hueco Tank locations.

The design elements of the black-on-white wares includes dots, striping, checkers, triangles, diamonds, massed design elements, and other line decorations of geometric patterns.

The pottery of the El Paso district consists chiefly of flat-bottomed bowls of assorted sizes, ollas with handles, and smaller varied forms. To the east of El Paso and down the river valley the decorated wares decrease in extent of distribution. In the neighborhood of Lobo, Texas, I have found a plain red ware which Dr. Mera has identified as similar to materials found in Southeastern New Mexico and associated with Chupadero and the El Paso brown ware iron which it is distinct.

Stallings (19) has suggested the name of "El Paso Decorated' Brown" as a name for the native brown wares. I understand that this has been shortened to El Paso Polychrome in more recent reports. Within the district this brown ware is also found undecorated and I am inclined to think that the distribution of the plainer wares will be found to extend in greater relative quantity to the Eastern

part of the area, and on the periphery of Pueblo influence, as further studies are made. The undecorated brown ware occurs as heavy, sand tempered, and brick-colored pottery. The brown ware in decorated form is found as polychrome and infrequently as black-on-brown. Red and black on brown form geometric decorations as line designs, stepped elements, rim decorations, etc. The red wares do not extend north in a fashion corresponding to the black-on-white but rather spread south into Old Mexico.

Representing an eddy of types from New Mexico, Arizona, and Old Mexico are the less common ceramic specimens which are included in the El Paso area as Casas Grandes, Gila (Middle), Little Colorado, Mimbres (black-on-white), Rio Grande (northern), and Chihuahua. These are not to be thought of as trade wares and fragmentary intrusions but form a definite though small part of the El Paso ceramic pattern. The area shares with other Texas regions the need of further research and published reports.

To the north and East of the El Paso area lies another ceramic field although it is less marked with this important culture trait. This is the Panhandle Area of Texas, where pottery is found with examples of the art of masonry, and the consequent improved opportunities for stratigraphic studies. The pottery found with these one-story rock buildings is represented by numerous sherds indicating extensive use of ceramics by the former occupants of the ruins. Studer (13), after extensive research, stated that the pottery represented is, "nearly all fairly wide-mouthed, cylindrical necked, round bottomed, globular bodied vessels made for culinary use." He further concluded that there is no change between earlier and later types and that there were no ceremonial developments in the Panhandle pottery. Sherds of these utensils are found of different thickness; black, red, and gray, in various hues, constitute the predominating colors, and the exterior treatment is without design save for incised textile "basket or cord" impressions which give the exterior of the vessel an appearance comparable with the corrugated ware which I have mentioned from the El Paso district. Tubular pipes

are somewhat more ornate in decoration though still in the indented type of decoration. Years ago investigators thought the Panhandle pottery to be of Pueblo origin. It is now considered to be plains, with a good many instances where Pueblo wares have been intruded into the area.

If the ceramic areas of Texas were listed according to quality of workmanship, design, and variety of forms, neither the Southwestern types in Texas nor the Panhandle pottery would rank so high as that of East Texas. It is in this district that Prof. J. E. Pearce (10 and 16), University of Texas, and his associates have done extensive research. The Caddoan peoples of the Northeast section of Texas were a definite part of the Southeastern Area (Mississippi Valley) groups, although their shelters were somewhat different from the true Mississippi type, and other material culture traits blend somewhat with those of the Plains culture to the west. Here again the agricultural activities of the group closely paralleled the ceramic arts, and pottery became a distinctive culture trait.

Students will find that Jackson (6) has summarized this portion of the East Texas pottery complex in a most helpful manner and has tabulated the ceramic articles in order of frequency as: bowls, pots, bottles, jars, and pipes, together with the burial customs related thereto. Many unusual types of pottery lend distinction to the East Texas field: tripartite bottles, well formed ollas, varieties of bowls, jars in different forms, pedestal types, suspension utensils, ladles, etc. The decoration of these many forms is often found in the shape of the article itself such as body shape, ornamental handles, projecting nodes, modelled ribs, pedestals, some variation in color and finish, and rim treatment. Applied designs occur as incised circles, scrolls, triangular and other geometric elements.

Among the clay pipes most frequently reported from the East Texas area are the conical bowl, elbow, and stemmed types. The approximate inside diameter of the bowls is

one inch, while the inside diameter of the stems is one-half inch. Line decorations form the principal applied designs and the pipes generally are comparable with those of Arkansas to the east, as are also many elements in the pottery complex. Students interested in the ceramics of the East Texas

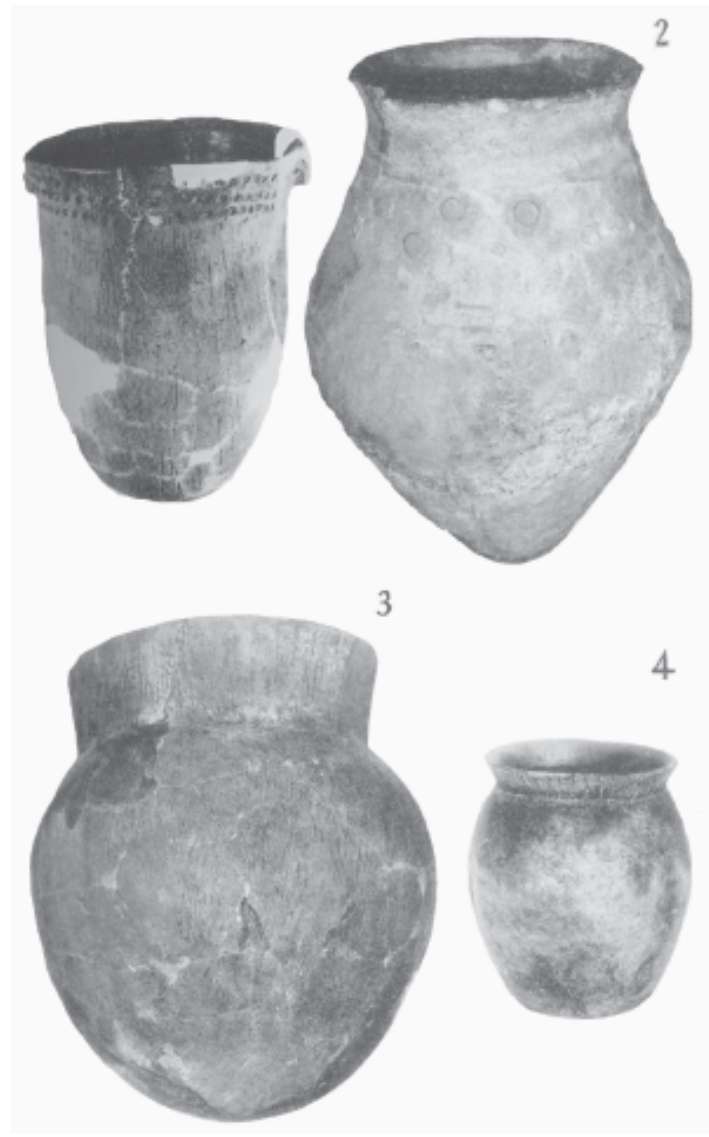


PLATE 15.

1. Jar from Frank Mills collection, Coleman County. Courtesy A. T. Jackson.
2. A pot found in the Davis Mountains, possibly Apache pottery, Courtesy A. T. Jackson.
3. Black pot from Panhandle region, 12 inches high and 10 inches in diameter. Courtesy Floyd V. Studer.
4. Caddoan jar from Bed River County. Courtesy A. T. Jackson.

field should visit the exhibits assembled at the University of Texas at Austin, or read the articles referred to at the close of this paper. It is to be hoped that the University will publish additional specialized reports which are confined to specific areas or to particular problems.

Along the curving Gulf coast of Texas is a long and narrow ceramic field, which is almost continuous and which widens out considerably as Louisiana is neared. This strip, however, is comprised of several rather distinct ceramic areas, as certain criteria indicate East Coast, Central, and Brownsville areas, with possible sub-divisions which cannot be clearly distinguished until more extensive research has been done in this field. South of the Northeastern woodland, or Red River Caddo group, are found pottery evidences left by the members of the Hasinai Confederacy. Mr. A. T. Jackson has called attention to the fact that there are marked differences in shape as well as in decoration in these two groups. In the south the predominant East Texas influences gradually shade off until the Gulf is reached. Agriculture had disappeared, as sea foods became more important, although the Attacapan are generally considered to be agricultural peoples. Potsherds are found abundantly throughout the territory from Galveston Bay on to the north and east. The mortuary custom of pottery burial with the dead is recorded for lower East Texas but nearly all of the picture of the ceramics of these peoples has been reconstructed from sherd evidence. In places the long action of natural forces such as flood, wind, tide, and waves, have built up huge shell reefs containing water worn sherds in homogenous but scant distribution. Some incised line work indicates a knowledge of applied design but the bulk of the lower East Texas pottery is undecorated, although well formed and generally of excellent quality.

As one travels down the coast from Matagorda County to Kleberg County, the sherd evidence is found in less quantity and in cruder form. This is Karankawan territory. The crudeness of the pottery is entirely in harmony with the evidence available concerning these people, who are known to have practiced cannibalism, and to have been of

comparatively low culture. Potter (11) has recognized three classes of ware in this section of the coastal area; heavy cooking ware, lighter cooking utensils, and an abundant representation of water vessels which are more extensively decorated than the first two types. This decoration is in the form of simple line work. Asphalt was used both for water-proofing and as a part of the design elements. Interior designs are seldom found. A few intrusions from the Mississippi valley are recorded. Handles are rare but provisions for cord or fiber lifting devices have been noted. Most of the utensils of the central coast are round bottomed.

From Kleberg County south, sherds are less abundant. The territory is, nevertheless, of archeological importance and studies of the ceramics of the district should be continued. This South Coast or Brownsville district, is now attracting attention because of the possibility of Huastec types. Painted figures on unslipped buff and brown wares are typical of the southern tip of Texas. Conflicting reports concerning the use of pottery by the Coahuiltecan groups suggest again the desirability of further research in the South Texas field. I have personally been keenly interested in the scholarly discussion by Dr. J. A. Mason (9) in which he recognized Huastec influences in the pottery finds of the Brownsville area and also so far north as 150 miles. Between the Brownsville district and the pure Karankawan area on the north, he recognized a strip of coast in which there may have been a dual occupation, and has suggested that the Coahuiltecan peoples may have been responsible for the traces of Huastec influence in this area.

I have, to this point, indicated several rather distinct ceramic areas of Texas. I know of no part of Texas, however, where occasional intrusions have not been located, usually as shallow or surface specimens. But the whole of the older Trans-Pecos region is without pottery; and a huge wedge of territory extending through central Texas from the north, and almost to the coast is likewise non-ceramic in its material culture traits. The two districts differ, however, in that the Big Bend cave dwellers were agricultural while the central Texas

Indians were nomadic hunters. It should be said that the older cave dwellers of West Texas lived in nearly all of the territory which I have previously described as being occupied by Pueblo pottery peoples.

It is also true that all of the distinct pottery areas described herein influence to a more or less degree the neighboring areas, sometimes more for one culture trait than another. Pottery extensions, for example, follow up the river valleys beyond the limits of the East Texas pottery district, and Panhandle artifacts of ceramic manufacture extend eastward and in other directions to some extent.

The Abilene neighborhood represents one of two marginal areas which I should like to mention. Dr. Cyrus N. Ray reported by letter that pottery sites are scattered throughout an area centering in Abilene and that more sherds are found south and southwest of Abilene than north, but that a thin distribution is found as far as 75 miles north and northeast. I have generally thought of the Texas and Pacific Railroad as a rough boundary between the thinly scattered and mixed pottery sites which appear to the north and west of this line and which diminish to zero to the south and east of the same boundary. In Bulletin 7 of the Texas Archeological and Paleontological Society Dr. Ray has pointed out the types and relationships of the Abilene sherds. This article, supplemented by Dr. J. B. Griffin's analyses in the same publication, will make further comment here unnecessary save to point out the fact that the incised line decorations suggest East Texas influences and the sites with striated decorations may have had their origin in the Panhandle. It may be well here to suggest the further study of corrugated ware in Texas since there is such a high percentage in the western part of the state about El Paso and also to the northeast.

Another area which is now being given careful archeological consideration by Mr. J. Charles Kelly is the Jumano district which extends into Texas along the Rio Grande from a point near Ft. Hancock down as far as the Grand Canyon of Brewster County. Sayles (17) mentioned this ware, and I also have before me an unpublished report by Mr. Kelly, in which some important archeological conclusions

are suggested. Here again ceramics overlay the old cave culture of the Big Bend to some degree but the sherd evidence does not extend far from the river valley.

I have suggested that the continuation of detailed studies related to ceramics is an important phase of Texas archeology. Many problems of migration, diffusion, and chronology, will be partly solved when exact and extensive reports of this data are published. Possibly a general clearing house, such as the University of Texas should be the center of such records with the Laboratory of Anthropology, the Ceramic Repository, and other cooperating agencies contributing to the progress of the work. An example of the importance of further studies lies in the problems surrounding the pre-Columbian relationship of Old Mexico to the United States. Texas studies should assist materially in determining the origins of pottery in the United States. The three-legged types of pottery found by the University of Texas are strong reminders of Mexican and Central American types of similar form. With respect to the present evidence bearing upon this important problem I am inclined to agree with the conclusions of Mason (9) that the Texas coast provides a far more likely link than either the Cuba-Florida hurdle or the Pueblo-Panhandle route of diffusion. Present evidence against the Gulf coast route, however, seems to preclude any safe conclusion save of a larger migratory wave of peoples to the North-East without a prolonged stay at any one point on the gulf. Such a migration may have occurred before the highest developments in the Mayan cultures. It seems important further to point again to the possibility of connecting more definitely than is now possible to some of the relationships between the Caddo of the Red River and the Jumano of the Big Bend and Northern Mexico.

Summarizing the Pottery Horizons in Texas we have:

1. A distinctly Pueblo Horizon known as the El Paso Area in Western Texas which extends eastward in reduced intensity.

2. A Panhandle Phase pottery associated with the rock house culture of the Canadian valley neighborhood. To the west of this area are some Pueblo intrusions, and some indications of Caddo influences extend into the eastern part of the area. Many other scattered pottery sites lend interest to the ceramic picture of the Panhandle and to the south.

3. An East Texas ceramic area of unusual quality and variety which occupies the wooded section of Northeast Texas and which had influences reaching westward and south to some degree.

4. A coast strip showing evidence of pottery the entire length. Beginning at Brownsville the pottery evidence increases somewhat as the East coast is reached. This area contains distinct and important sub-divisions.

5. Certain pottery evidence scattered thinly over other portions of the state, especially the northeast section, with evidence indicating profitable research near Abilene, Coleman, Presidio, and elsewhere. This is the rough picture of the Pottery Horizons in a great area the geographical position of which should command the attention of competent research groups while there is yet opportunity to draw valid conclusions from the pages of archeological history before they are ruthlessly destroyed by unskilled collectors interested only in the "pictures" while the text is forever lost.

Notes From Workers in the Field

The following paragraphs are quoted from letters of field workers which contain later data than that listed in the Bibliography.

1. El Paso Area. H. P. Mera: Evidence points to the fact that Chupadero Black on White was fully developed at the time Rio Grande Polychrome, Glaze I red, made its appearance, and carried on through the years side by side with these glaze periods from I to IV into historic times * * * * The type location chosen (Chupadero) is a ruin situated eight miles southwest of the Pueblo of Tabira * * * * * As undoubted trade ware it is found * * * * south to sites near El Paso.

W. S. Stallings: Its focus (El Paso Polychrome) is in the vicinity of El Paso, Texas, where its collective abundance is more than twice that of any other decorated ware. * * * * Type locality, the Hueco Basin. * * * * Conditions indicate that El Paso Polychrome was developed by late Mimbres Black-on-White times, that it probably reached its peak of use during the times of the greatest popularity of Gila Polychrome, Chihuahu Polychrome, and Chupadero Black-on-White in the Mimbres area, and that it did not persist later than Rio Grande Glaze I red.

2. The Panhandle Area. Floyd V. Studer: We have never found an unbroken pot. It is my understanding that a few Panhandle Pueblo Culture sherds have been found in Southwestern Kansas * * * also in the Panhandle of Oklahoma. Most of this type pottery, however, is found on the Canadian River and its tributaries. A few pieces have been found on the Tierra Blanca but they do not appear to the south. Single room houses of a type similar to the Texas Panhandle People have been found in Oklahoma, although the rooms are not joined together, and seem to be single room structures. Most of the houses in the Texas Panhandle are built with two rows of vertically laid stones for the foundation, but horizontally laid stones are used for the walls. Sherds are black in color or have a red slip. While the red sherds are not uncommon, they are not found in great quantities. Pottery sherds are found at all Panhandle Culture ruins. Some yield but a few pieces while others yield thousands of fragments.

3-4. East Texas Area. A. T. Jackson; Your attention is called to the difference in the types of vessels from the Caddoan tribes of Northeast Texas and the Asinai Indians of East Texas. The bottles and bowls from the respective regions show a marked difference in shape as well as decoration.

6. Coastal. G. C. Martin: The pottery north of Corpus Christi Bay is found only on the surface of sites. The Karankawas were the earliest inhabitants. Deep Karankawan sites show one culture from lowest to uppermost levels in debris five or more feet in depth. There is no evidence of pottery in any of the deep sites, until the surface is reached.

The Coahuiltecan tribes first made their appearance on the coast after escaping from the San Juan Mission in 1754. None were previously mentioned as on the coast until that year. They spread north and easterly along the coast from the north bank of the Nueces and its bays. It was at this time that the pottery was laid down on the sites from Corpus Christi Bay to Matagorda. * * * Other tribes joined the Karankawas after this time. Some of these were pottery makers.

7-8. Southern Coast. A. E. Anderson: In a general way, as you go north along the coast for 50 miles from the Rio Grande sherds become more scarce and the quality of the ware becomes more inferior. As you go south for a similar distance the situation is reversed, more pottery is found and, as a rule, of better quality. Some of the best "Huastecan" ware however, is found to the north and the inferior ware is plentiful to the south. The crudest of this inferior pottery seems to have been

the small bowls and cooking pots, sometimes decorated with a black asphalt band around the rim and vertical zigzag lines from the rim downward. This resembles very much the pottery found near Rockport and has been described by Potter in the No. 3 Bulletin of the Society. This ware, as a rule, is less than one-fourth inch in thickness and is poorly fired, the interior being black and the exterior surface red, black, or brown. The tempering material is usually crushed shell. Apparently the base of a typical vessel was round, not concave as is characteristic of other local wares.

I call the best high grade pottery found locally "Huastecan". Dr. Mason does not definitely place it as Huastecan, but he calls attention to the fact that it resembles that ware in several particulars. This ware may be subdivided as follows: 1. Polychrome. Scarce. Two specimens found south of the Rio Grande. 4 ½ gal. ollas. 14" diam. and 14" high. Small neck opening indicates use only as water vessels. Found in burials. 2. Dark brown line decoration in curvilinear design on cream colored ware. Both sides of river. Large and small ollas. Sometimes with eccentrically spaced handles. 3. Black-brown solid painted inside and outside except along outside of rim which may be decorated by painted designs. Bowls.



PLATE 16.

1. An East Texas Caddoan bottle. Courtesy A. T. Jackson.
2. An Asinai water bottle from Anderson County. Courtesy A. T. Jackson.
3. Typical Gulf coast sherds. Edges and decoration are with asphalt paint. Courtesy Mr. George Martin.
4. Gulf coast incised line designs and asphalt spot decorations. Courtesy Mr. George Martin.

Found both sides of Rio Grande. 4. Unpainted cream colored to reddish ware of uniform texture. Scarce. South of river only. Bowls and other vessels of odd shape decorated by horizontal grooves or raised bands with circular depressed rings. 5. Red slip solid. Found both sides of Rio Grande. One restorable vessel was a large jar of five gallons capacity. Probably used for cooking purposes. Other types have not been studied but are present. Tempering materials are crushed shell, sand, sand and shell, crushed pottery, and a fiber of some type. Broken vessels were often mended by thongs tied through perforations opposed to each other across the break. Some pottery was molded around the outside of woven baskets and some sherds plainly show the weave impressions. Pipes were also made of clay. They measure from two to four inches long with a top diameter from two to three inches, tapering to about one inch at the bottom which was perforated in alignment with the bowl. Some appear to have been molded about a form of twigs or grass which burned out and formed the bowl cavity. Small round discs from ¼" to 2" in diameter were manufactured from pottery sherds. I also have two disc beads of pottery which were made from sherds. Occasional rectangular *** sherds were carefully smoothed at the edges for some purpose. An examination of camp debris has not yielded satisfactory age comparison evidence. A study of numerous other material culture evidences indicate that the Rio Grande Delta has had only one basic archeological culture. *** Apparently here we have many different kinds of pottery but no real change of culture.

George A. Matin: The pottery of the Brownsville area is Tamaulipecan (Huastecan). The Borrados resided here, a Tamaulipecan tribe. The Maraquitas, also Tamaulipecan, resided from the north boundary of Borrado County to Corpus Christi Bay. With them, in the same territory, was the Manos de Perro, also Tamaulipecan. These three tribes have been loosely classified as Coahuiltecan because the Borrados and Manos de Perro are recorded on the title page of Father Bartholomeo Garcia's, "*Manual Para Administrar Los Santos Sacramentos de Penitencia*", etc., as understanding the tongue in which the "Manual" was written. Something which

all who have so classified have overlooked, however, is the fact that Garcia also wrote—that the language was understood only by the young people of the Borrados and Manos de Perro (he does not mention the Maraquitas in his list) (*y toda la juventud de Borrados, Pihuiques, Sanipaos y Manos de Perro*). This alone indicates that the Borrados and Manos de Perro *were not* Coahuiltecan. As the coastal Lipans made no pottery until very late in their history, and as there are but two distinct cultures between Corpus Christi Bay and the Rio Grande on the coast, the pottery now found there must be Tamaulipecan.

9. The Abilene District. Dr. Cyrus N. Ray: Potsherds have been found in only 22 sites in the Abilene region, and in some of these only a few sherds have been found. The sites which contain the most sherds are in Taylor County, on small branches of the Colorado River, and on two small branches of the Brazos River which rise in the same region. In some pottery sites, on branches of both rivers, flakes of New Mexican obsidian and two obsidian artifacts have been found. In two of these sites four Pueblo painted potsherds have been found, two in each site. All of these sherds are of Rio Grande Glaze paint. In one of these more obsidian has been found than in any other site. This is listed as Site (1) in Ray, *The Pottery Complex Artifacts of the Abilene Region*, Vol. 7, 1935, *Bulletin of this Society*, and it also contains pottery with a plain red slip, which is different in color from that in any of the other local sites. The pottery of this region is usually colored either brown, gray, tan or black. Much of the local pottery is plain, undecorated and varies in thickness from an eighth of an inch to nearly one-half inch. There are also many sherds showing scratched or brushed surfaces, encircling scored bands, finger nail marks, cross hatches, and occasional chevrons. The tempering material commonly used in sherds of the Abilene region was of ground fossil bone or Collophanite. (Matson, *Identification of Aplastic Present in Pottery Sherds From Texas*, Vol. 7, 1935, *Bulletin of this Society*). There is also one type which contains no fossil bone, but in which sand has been used as the tempering material.

It would be interesting to trace the distribution of this use of fossil bone as tempering material, which appears to be very unusual, to see whether this trait originated in Taylor County, or spread thence from some other region.

Sites containing potsherds are spread thinly over an area roughly fifty or sixty miles wide, from east to west, and one hundred and fifty miles from northeast to southwest, and centering in Abilene. The sites which contain the most sherds lie south of Abilene. No whole pots have been found in the region except one small cup found sixty miles north of Abilene.

Washington, D. C.

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INDIAN CAMPSITES OF THE UPPER TRINITY RIVER DRAINAGE

BY R. K. HARRIS

This paper describes Indian camp sites situated along East and Elm Forks of the Trinity River, and their tributaries, located in Rockwall, Collin, Kaufman, Dallas and Denton Counties.

The writer has spent the past eight or ten years in making a survey and study of these sites, and has come to the conclusion that the sites on East Fork, and also those located on the east side of Elm Fork, show remains of a people which was closely related to the Caddo Nation. The camps situated on the west side of Elm Fork all seem to have been made by people culturally related to those which were located to the west of them, along the Brazos River. The writer judges this from the almost complete change of flint and also the change in type of artifacts found in camps on the west side of Elm Fork.

Camp Sites Along East Fork

Camp sites along East Fork of the Trinity, usually are located on small sandy hills or ridges situated about 1/8 to 1/4 mile from the river. Rarely are they over 1/2 mile from the river or its tributaries.

The flint most common along East Fork is a red quartz flint. This red quartz flint was rather hard to work. A white flint is also found in these camps. This flint probably was traded from tribes to the west of them. There is also a cream or yellow and a smooth red flint found in these camps. This smooth red and the yellow flint seem to be identical with flints found along the Red River.

There are three flint quarries in the region that were worked extensively by the Indians. One is located on White Rock Creek about 3 miles east of Dallas. Another one is about 2 miles east of Pleasant Grove on Scyene Creek. The other is on Muddy Creek, a tributary of East Fork. Most of the flint of these three quarries is red quartz flint.

The Indians of East Fork were highly skilled in the pottery art. They made three classes of pottery. The first class is a heavy thick cooking ware. The

second class is a little thinner and seems to have been used to hold liquids. The third class is very thin and appears to have been used to hold solids such as grain and nuts. The most common tempering substances used in their pottery were bone and shell. The thick cooking pottery has plenty of tempering material in it. The second and third classes have very little tempering material.

All of the designs on their pottery are incised. Most of these were made with small implements or twigs; however, some were made by using the finger nails.

Their pottery wares consisted mostly of large and small cooking pots, large and small seed bowls, pipes, and water bottles. The predominating colors of pottery found in these camps are gray, buff, brown, and some red on black or brown.

Wylie I.

This camp site is located on a low sand hill on the banks of Pilot Creek near the place where Pilot Creek flows into East Fork. It covers about one acre of land. Judging from the flint, bone, and shell debris, this camp probably was occupied for a long period of time.

The bone workers of this camp seem to have reached a high degree of skill. A number of needles, awls, and beads of bone have been found in this site.

The arrowheads usually are somewhat crude. The small points, however, show a high degree of workmanship.

The pottery sherds are like those usually found in camps in this part of the State. The three common classes of sherds are found. The pottery of this camp shows very little shell mixed in it.

A stone bead was found which is shown on Plate 18, Figure 33. The bead was made from a white stone. It was drilled from one side.

One unusual shell object which is shown on Plate 19, Figure 4, was found. It was used as either a pendant or a digging tool.

Rockwall I.

This site covers about 3 acres and is located on a sandy ridge extending to East Fork bottoms. It is about 1/8 mile from the camp to the river. Since there is a large amount of flint, shell, and bone debris, the writer believes that this camp was occupied over a long period of time.

Flint: The arrowheads are mostly heavy, coarse points, with stemmed base and small barbs, and are usually about 1 1/2 or 2 inches long. There are also a few rectangular stemmed points. Some of the best of these points are shown on Plate 18, Figures 9, 15, and 16.

Some of the small points are thin, slender, long stemmed points with wide sharp barbs. Others are

thin, slender, short stemmed points, with wide flaring barbs, and serrated edges. A few are thin, wide, flaring stemmed square barbed points. Some of these points are pictured on Plate 18, Figures 10, 19, 21, 22, 23, 24, 25, 26, 27, and 28.

Flint drills are of two types. First is the flake based drill with long slender point and base not worked, and then the flaked drill with short stubby point and base worked into a rounded edge. I, also, have one drill from this camp which has a slender point with the base worked into a long straight edge. This drill could have been used for a scraper, also. It is shown on Plate 18, Figure 5. Some of the other drills from this camp are shown on Plate 18, Figures 3, 4, 6, 7, and 8.

Scrapers are of three types. The first type is a small, round snub nosed scraper, with the end sometimes pointed. The second type is a slender keelbacked scraper with the end worked into a sharp point. The third type is a small scraper which has

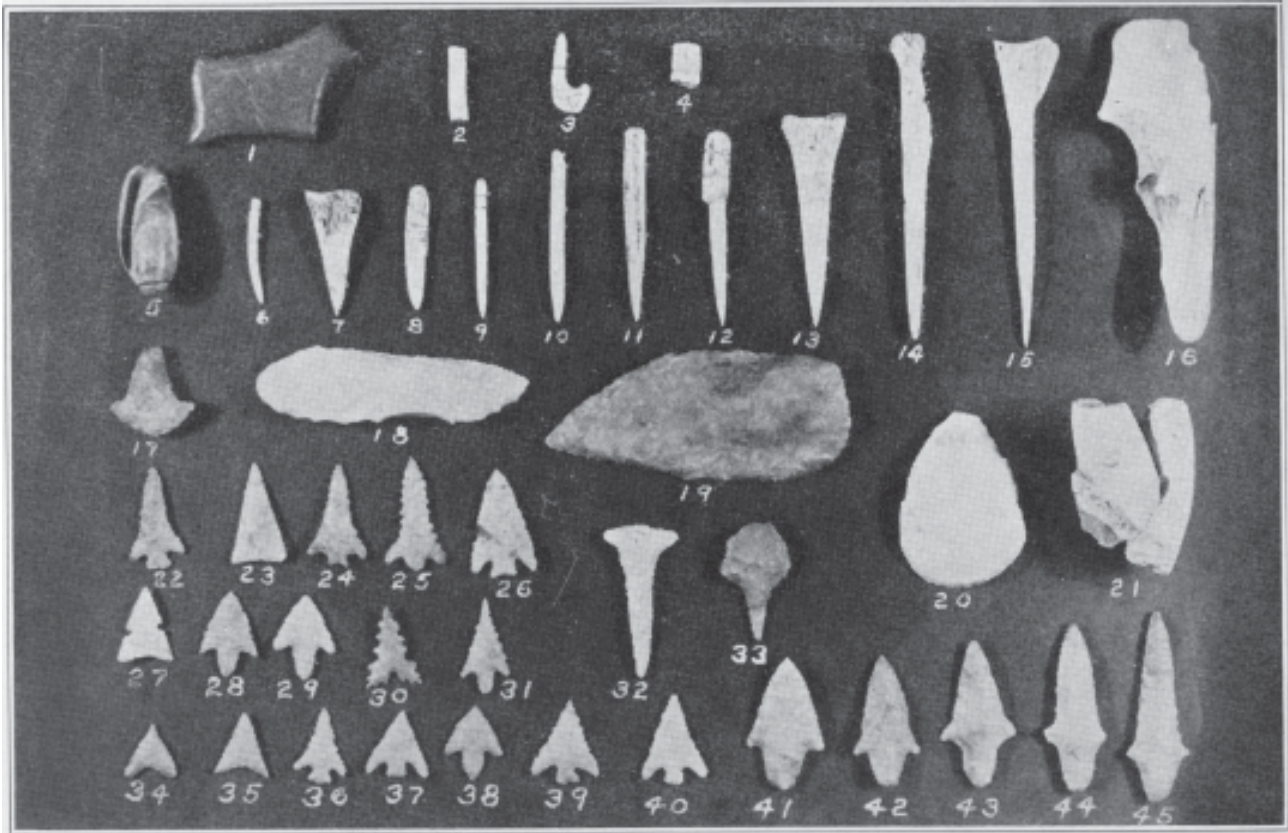


PLATE 17.

Shell and bone beads, bone awls, scrapers, drills and projectile points from campsites of the Upper Trinity River drainage.

the appearance of a retouched arrowhead which has had the point broken off. Some of the scrapers are pictured on Plate 18, Figures 11, 12, 13, 14, and 20.

Shell: Very few shell artifacts were found in this camp. The writer has found a few shells which have been drilled or punched like the shell pictured on Plate 19, Figure 2.

Bone: The bone implements are well made. The writer has one bone awl, and two bone needles. The bone awl is 3 1/4 inches long. It is made from a piece of split bone. This awl is shown on Plate 17, Figure 15. One of the bone needles is 2 1/10 inches long; the other is 1 7/8 inches long. The first one is shown on Plate 17, Figure 11, and the second is shown as Figure 10 on the same plate.

Pottery: Most of the sherds show that the art of pottery making had reached a high level. Almost all of it was tempered with shell and bone, although some sherds show very little tempering material. While most of the pottery is either gray, buff, or brown in color; some sherds are red, brown or black, and some nearly black. Plate 21, No. 1, shows some of the shapes and designs of pottery from this camp.

Rockwall II.

Rockwall II, is located on a low sand rise in the bottoms of East Fork. The camp covers about 2 1/2 acres of land and is approximately 1/2 mile from the river. It was occupied for many years. Flint, shell, and bone debris cover the entire camp, and extend down below the ordinary plow level. On the east of the main camp, there is another small rise covering about 3 acres. On this rise are the remains of an old brick building of some kind, which was built of handmade sun-dried bricks. From all indications, the brick ruins may have been there when the Indians used the campsite. I judge this from the arrowheads, pottery sherds, scrapers, manos and metates, and other artifacts which I have picked up among the bricks. I also found a broken celt among the bricks. It was made of a greenish granite rock. The cutting edge had been finely

worked down and then highly polished. I have talked with a few old settlers of Rockwall regarding the old bricks, and they all said that there were no brick buildings there when they settled. They have all said that the bricks were in ruins when the land was cleared.

The main rise, however, was occupied much longer than the one with the brick ruins on it. On the southeast side of the main camp is located the remains of a place which was used for firing pottery. I judge this from the pieces of burned clay and pieces of broken pottery scattered around in the burned soil.

Stone: The writer has a small grooved quartzite axe in his collection from this location. It is shown on Plate 20, Figure 1. The object is the only whole one of its kind, found on the river so far. Another interesting stone object from this camp is a little red dog shaped object. The dog stone seems to be made of hard red paint-stone. This stone is shown on Plate 17, Figure 1.

Flint: Arrowheads from this camp are of several types. One type is a coarse, heavy, stemmed base point with small barbs. Another type is a short stemmed base point with wide barbs. Some of the arrowheads from this camp are shown on Plate 17, Figures 41, 42, 43, 44, and 45.

Small points from this camp are about the same as those of other East Forks camps. However, in this camp one more type of small point was found. This type is a triangular point with indented notches on each side. One of this type is shown on Plate 17, Figure 27. The writer has 98 fine small points from this camp, and knows of about 150 more points in collections of his friends. Some of these small points are shown on Plate 17, Figures 22, 23, 24, 25, 26, 28, 29, 31, 34, 35, 36, 37, 38, 39, and 40. One of the finest and most unusual small points from this camp is shown on Plate 17, Figure 30. It is a gray triangular point, with side notches and indented base. One unusual thing about this specimen is the fact that not only the sides are serrated, but also the base.

The writer also has another point from this site that is unusual. This is about 1 inch long and is

pointed on both ends. A friend has a fine collection of Louisiana Cane points. The last mentioned point is identical with these Cane points.

Two good specimens of flint knives have been found in this camp. They are shown on Plate 17, Figures 18 and 19.

The drills are of the same type as those of the last mentioned camp. Two of these are shown on Plate 17, Figures 32 and 33.

Two types of scrapers are found, one is of the type of scraper shown on Plate 17, Figure 17, and the other is a thin, round snub nosed scraper shown on Plate 17, Figure 20.

Shell: Shell objects were in demand by the inhabitants of this camp. One of the best shell pieces is shown on Plate 17, Figure 5. This is a sea shell

which has been drilled through the long way and used as a bead. Fresh water mussel shells were used as material for beads, pendants, and other ornamental artifacts. One of the best mussel shell artifacts is shown on Plate 19, Figure 2. It was probably used as a pendant.

Bone: Bone work was highly developed. Bone needles, awls, and beads were used. Some of the bone needles and awls are shown on Plate 17, Figures 6, 7, 8, 9, 12, 13, and 14.. Two bone beads from this site are shown on Plate 17, Figures 2 and 4. A bone ceremonial object shown on Plate 17, Figure 3 was also found. It is grooved around the neck and is engraved on each side.

Pottery Sherds: Some very beautiful pottery sherds were found at this camp, and these are shown on Plate 21, No. 2.

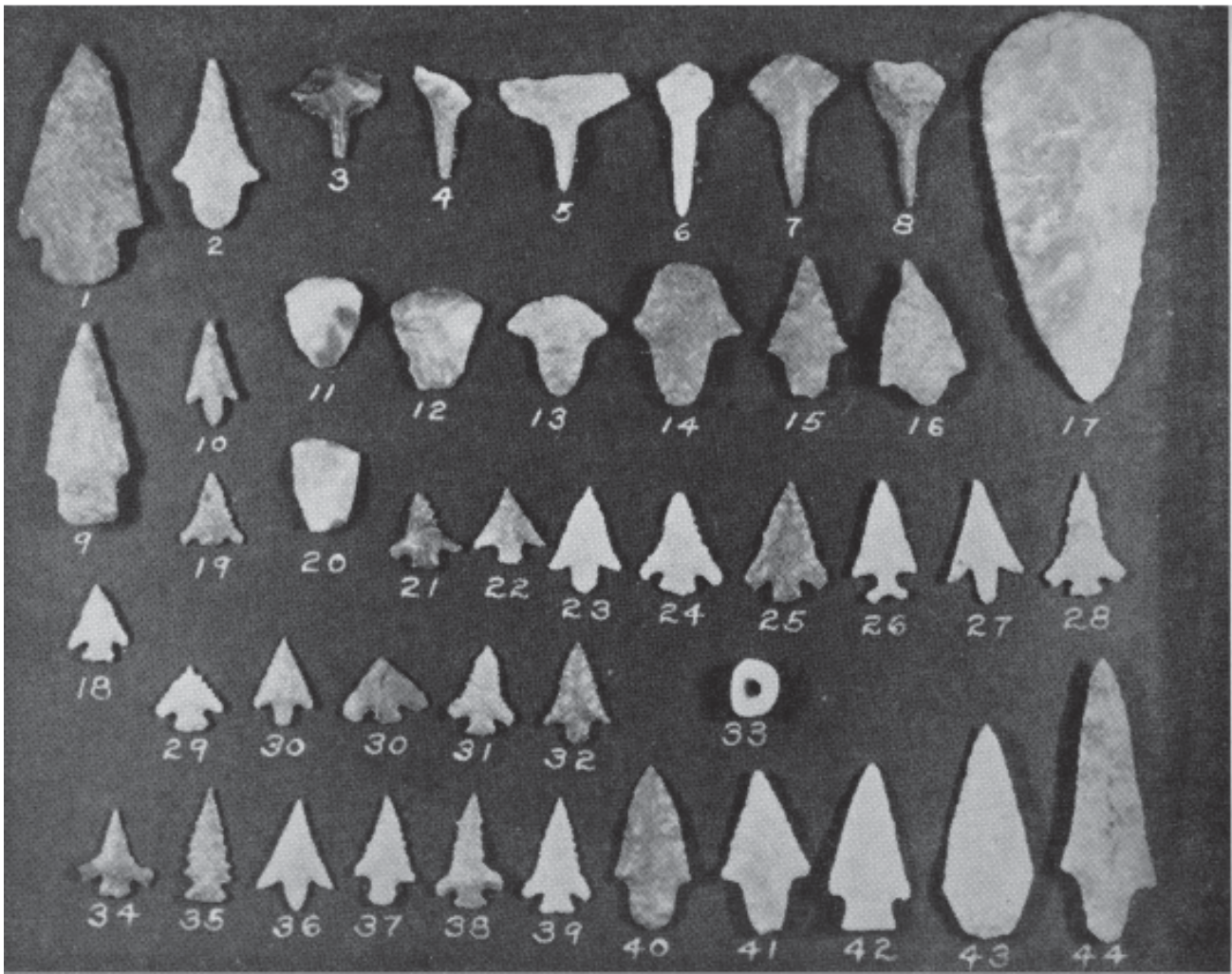


PLATE 18.

Various types of projectile points, drills and scrapers of the Upper Trinity River drainage sites.

Figure 21, Plate 17, is the remains of a beautiful clay pipe. It resembles white stone, but it is of shell tempered pottery.

Rockwall III.

This site covers about 2 ½ or 3 acres and is located on a ridge near Rowlett Creek. It was not occupied long, but the Indians left some well made implements. One of the best of these is a small point shown on Plate 19, Figure 34. It is 1 7/8 inches long and 5/8 inch wide at the barb, and is made of a very light tan flint. The small points shown on Plate 19, Figures 31, 32 and 33, are also from this camp. About 50% of the arrowheads from this camp are either triangular, or leaf shaped points.

One broken bone awl and two or three broken needles were found.

Pottery sherds are about the same as at other East Fork camps. However, one sherd found here has a perfect sun design engraved on it.

Arrowheads with the exception of triangular and leaf shaped points, are of about the same types as at other camps along the river.

Kaufman I.

This camp site is located on a low sand ridge on Buffalo Creek. The camp covers about ¼ of an acre of land. The camp site probably was not occupied very long.

The pottery sherds appear to be in the same class as sherds from other camps along the river.

The flint work is very fine. Small arrowheads, and scrapers from this camp are finely chipped. Figure 36, Plate 19, is a well made arrow point from this location.

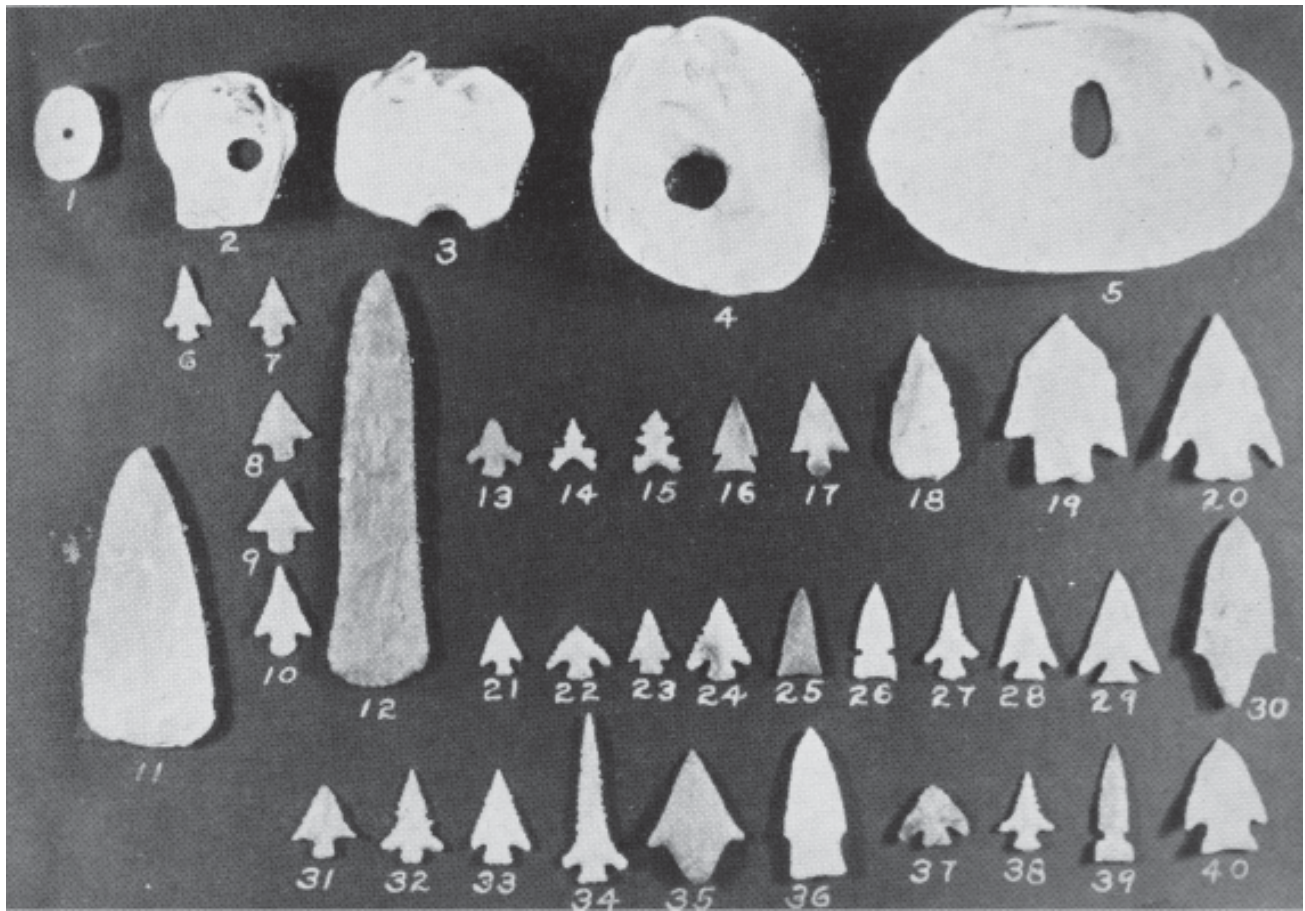


PLATE 19.

Mussel shell artifacts, arrow heads, and knives of the Upper Trinity River drainage sites.

Kaufman II.

This camp, which covers about 1 1/2 acres, is located on a sandy slope near Buffalo Creek on which Kaufman I lies.

In the southeast corner of the camp is located a large circle which is about 25 or 30 feet across. The soil in this spot is burned from a dark gray to almost black. This circle seems to contain a group of cremated burials. This is indicated by the number of pieces of human skulls, and teeth found in this spot. On the north side of the circle, I found a bone implement which was used as a flaker. This is pictured on Plate 17, Figure 16. I have also found a number of shell artifacts there. Most of these shell objects have been used as scrapers. Probably some of them may have been used for scraping arrow shafts and other objects of that size; while others have deep narrow notches in them. These probably were used for dressing bow strings. One of the larger shell scrapers is shown on Plate 19, Figure 3.

In this black spot I have found several broken bone needles and awls; but have yet to find a whole needle or awl. Most of the flint objects are fine specimens.

In the middle of the black circle many fine small points have been found. Some of these are pictured on Plate 18, Figures 36, 37, 32. One unusual arrowhead was found in this black spot. It is about 1 3/4 inches long, and is beveled to the left. This is pictured on Plate 18, Figure 43.

At this camp the writer found the remains of a grave which had been displaced by a plow. The bones were in very bad condition. I found 3 large pieces of the skull and about 8 or 10 of the teeth. This grave was located on top of the ridge between the creek and the river.

Kaufman III—Gilkey Hill

This camp, which covers about 8 acres, is the largest I have found. It is about 1/4 mile off of East Fork. There are two parts of the camp. The larger is located nearer the river on a low rise which extends to the bottoms. This was occupied longer than the smaller part. The smaller part is located

on a high hill overlooking East Fork and the larger part of the camp. The camp has many cooking pits in it. These cooking pits are about four to six feet in diameter, and about ten to fourteen inches deep. The writer has dug most of these pits and has found shell, bits of flint, bones, and ashes in all of them. The best find was at a depth of about 8 inches. This object is a large shell with an oblong hole worked in the center of it. It probably was used as a digging tool, or may have been a cooking implement. It is shown on Plate 19, Figure 5. Another shell object is a shell bead shown on Plate 19, Figure 1.

Flint work and pottery are about the same as in other camps along the river. Some of the arrow heads are shown on Plate 18, Figures 1, 2, 40, 41, 42, and 44.

Some of the small points are shown on Plate 18, Figures 18, 29, 30, 31, 34, 35, 38, and 39.

Many metates and manos have been found at this camp.

Camp Sites Along the Elm Fork

Camp sites along Elm Fork of the Trinity, usually are located on small sandy hills; however, these differ from those of the East Fork in that they are more scattered. This condition is due to the fact that most of the land along East Fork is black land, while most of the land along Elm Fork is sandy.

Elm Fork of the Trinity seems to be the dividing line between Caddo and western Indian cultures. Camps along the east side of Elm Fork appear to be closely connected with East Fork camps; however camp sites found on the west side of Elm Fork show indications that they were more closely connected with the western Indian cultures.

The flint most common along Elm Fork is a smooth white flint which probably came from flint quarries located along the Brazos River.

Camp sites along Elm Fork of the Trinity River show a lack of pottery sherds; however, two camps in this vicinity show some little evidence of a knowledge of pottery. Pottery sherds found in the two mentioned camps are all very crude specimens.

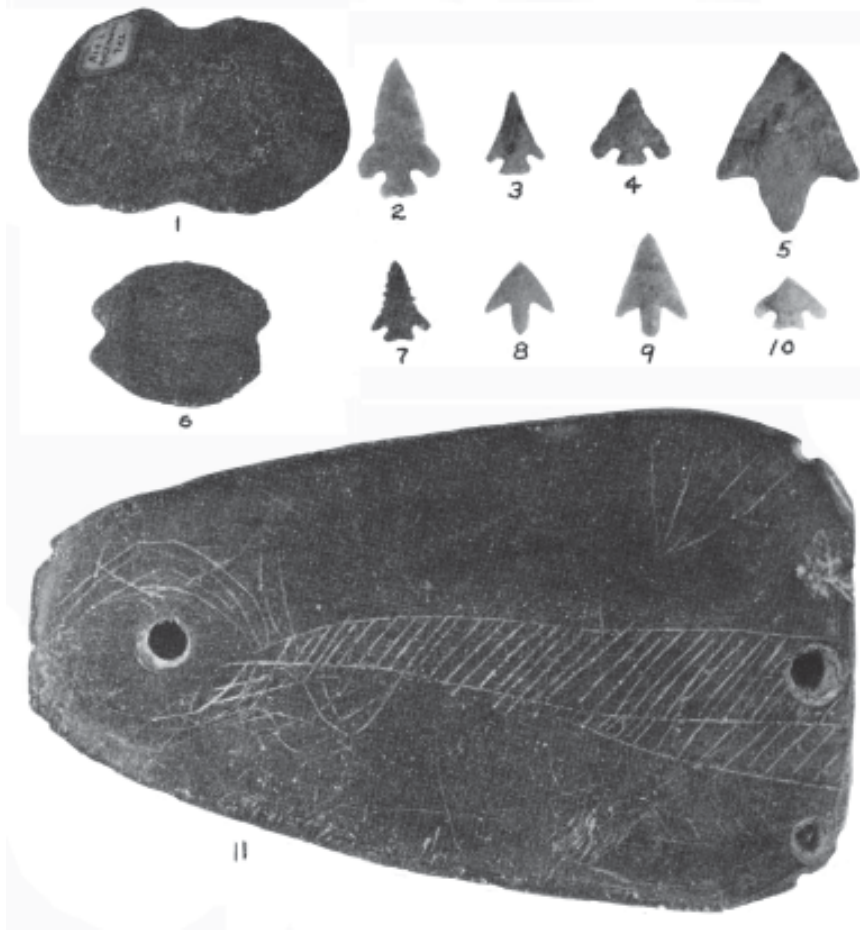


PLATE 20.

Pecked and ground artifacts, and arrowheads of the Upper Trinity River drainage sites.

Denton I.

This site is situated on the east side of Elm Fork, near the Lake Dallas dam. It is now impossible to determine how much land this camp covered, due to the fact that the lake now covers most of it; however, about two acres remain above the water level. With the lake removed one could see that this camp is located on a ridge which slopes off to the river.

Flint: Arrowheads while few, are well shaped and well chipped. Arrowheads are about the same as the types of East Fork with a few exceptions. These probably are trade points from tribes to the west of them. One arrowhead is shown on Plate 19, Figure 30.

Small points found show a high degree of workmanship. Most of them are thin points with flaring short stems and wide sharp barbs. Some of these are shown on Plate 19, Figures 21, 22, 23, 24, 27, 28, and 29.

Figure 25, Plate 19, is a triangular point from this camp. Figure 26 on the same plate is the only triangular point with indented sides found so far in this camp.

Pottery: Pottery seems to be lacking, thus far only one pottery sherd has been found. This sherd belongs to the cooking ware class. It is from the bottom of the pot and shows quite a bit of crushed shell has been used as tempering material. Stone work in this camp consists only of grinding and milling tools such as manos and metates.

During the past year, the action of the waves on Lake Dallas has exposed three graves.

In one of these, pieces of a large, deeply hollowed out metate were exposed. This metate was turned face down about the chest of the skeleton. The skeleton was stretched out with the head to the south. The metate was the only mortuary object found with the burial. The second burial contained one arrowhead, which was of the typical East Fork type. The third contained no mortuary objects. All three were adult burials.

Denton II.

This camp covers about four acres and is located on a sand slope on Denton Creek, a tributary of Elm Fork.

Flint: Most of the arrowheads are typical western points. Two of the points found at this location are shown on Plate 19, Figures 19 and 20.

Small points found in this camp are also typically western points, with the exception of two which are pictured on Plate 19, Figures 14 and 15. These two seem to be of a type which is rare along Elm Fork and East Fork. Only one other whole point like them has been found anywhere along East Fork or Elm Fork. Other small points from this site are shown on Plate 19, Figures 16 and 17.

Figure 18, Plate 19, is a small keelbacked scraper from this camp.

Pottery: Pottery consists of a very few crudely made sherds.

Dallas I.

This camp covers about one and one-half acres and is located on a low sand mound on the banks of Elm Fork. It probably was occupied during a longer period than any other site along Elm Fork.

The flint is very similar to that found in East Fork camps, with the exception of arrowheads. Most of the arrowheads are similar to those in the vicinity of Mineral Wells. Figure 13, Plate 19, is a small point from this camp.

There is very little shell work to be found, although a few shell scrapers were found.

Dallas II.

On Mountain Creek, is a very small camp site. This camp appears to have been occupied only a short time, as only a few well worked flint artifacts were found. Most of the large flint artifacts are pictured on Plate 19, Figures 11 and 12. Figure 11, Plate 19, is a triangular lance head about four and one-half inches long, and two inches wide at the back end. Figure 12 on this same plate is a lance head about 4 3/4 inches long, and about 1 inch wide at the base. Nearly all of the small points in this camp seem to be of western types. Some of these are shown on Plate 19, Figures 6, 7, 8, 9, and 10.

Dallas III.

This camp covers about two acres and is located on a ridge on White Rock Creek. From all

indications the inhabitants were closely related to the Indians of East Fork. Some very well made flint artifacts have been found; the most important of these being a small point identical with the one pictured on Plate 19, Figure 15.

There is a difference between this camp and those of Elm Fork in that many fine pottery sherds were found. These are closely related to East Fork sherds. A number of fragments have been found that are identical with the red on black sherds found along the Red River in Lamar County.

Dallas IV.

This camp is located on a hill overlooking White Rock Lake, about 1 1/2 miles above White Rock Dam. Nothing of importance has been found here as this camp is in pasture land. Of all the small points found here, about 75% are triangular. No pottery fragments have ever been found at this location.

Dallas V.

This site is situated below White Rock Dam, on the creek. Most of the camp has been washed away by the lake overflow. One round flint scraper, two arrow points, and numerous small bones were found mixed with ashes, about two feet below the surface of the soil. The continual overflow of the creek washed away the bank in which these were found. No pottery fragments have been found at this location.

Dallas VI.

This site which covers about 5 acres is located on Scyene Creek in Dallas County.

This camp is closely related to East Fork in types of projectile points, but the lack of pottery sherds is peculiar. Some of the types of arrowheads and small points are shown on Plate 20, Figures 2, 3, 4, 5, 7, 8, 9, and 10. The writer has a record of 1,200 arrowheads and small points from this camp.

Miscellaneous

The artifact photographed on Plate 20, Figure 6, is a grooved net sinker made of hard sandstone.

It was found at a small site on Little Elm Creek, about one-half mile above the junction of this Creek and Pecan Creek, in Denton County.

The arrowhead shown on Plate 19, Figure 40, is from this camp.

The small points pictured on Plate 19, Figures 37, 38, and 39 were found at this camp.

The object pictured on Plate 20, No. 11, is a gray slate, pendant. This fine article was found amongst a group of broken small points, and chips of flint.

The artifact shown on Plate 18, Figure 17, is a large hide scraper found on Cedar Creek in Dallas County.

Dallas, Texas, November 2, 1935.

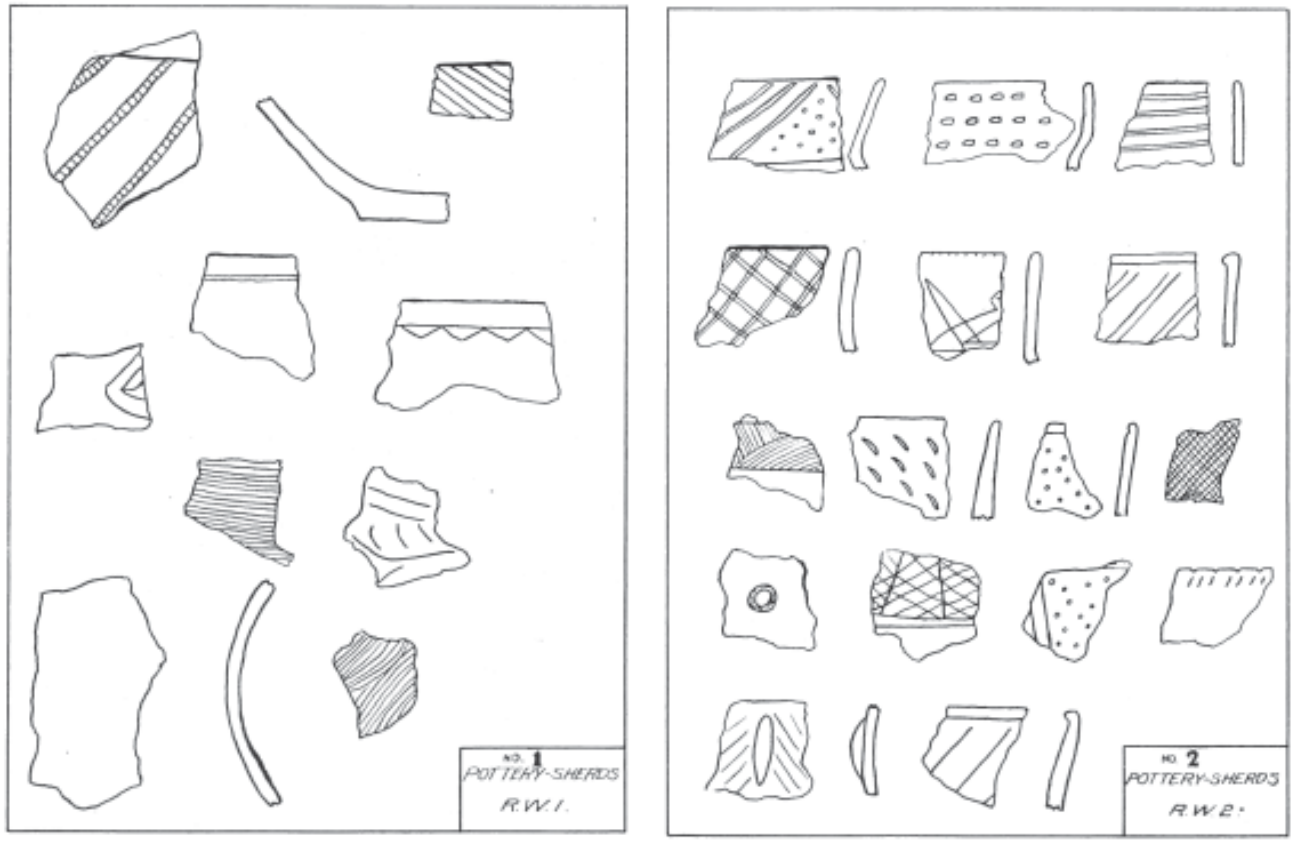


PLATE 21.

Pottery sherds of the campsites on the Upper Trinity River drainage.

A "PERPETUAL FIRE" SITE

BY A. T. JACKSON

The A. C. Saunders site is located near the western edge of the East Texas "redlands." It is one-half mile west of the Neches River, three and one-half east of Frankston, and 25 miles northeast of Palestine, Anderson County. The region is timbered with pine, oaks, gums and smaller trees. Wild berries and fruits abound. There are numerous small spring-fed streams emptying into the muddy water of the Neches. A permanent spring is about one-fourth mile from the site.

At this place are found an ash mound, a large housesite—outlined by postholes—and a dense midden deposit.

The ash mound is 7 feet high and its diameter varies from 120 to 150 feet. The midden heap is 2 1/2 feet in height and from 50 to 60 feet in diameter. (See contour map). It is of particular interest not only on account of being one of the largest of its kind in East Texas, but also because we here find archeology dovetailing with historical records. The archeological record seems to indicate that the occupancy of the site was confined to the prehistoric period. Yet many of the findings coincide with facts noted by early Spanish writers.

For these reasons, I shall first give an account of the exploration of the site, calling attention to similarities with other regions; and follow with certain historical references that tend to throw light on the problem.

Mr. Saunders very kindly granted full permission for the University of Texas to excavate the site and extended many courtesies to the workmen while they were on his place. His co-operation is greatly appreciated.

The first work, in the nature of a preliminary test, was done on October 23 to 25, 1931. Four men were employed digging a trench in the ash mound, another in the midden deposit, and testing for a cemetery. The test work in the ash mound disclosed so little in the way of artifacts and camp

refuse as to create a problem. On the other hand, work in the midden deposit was so productive and representative of the culture complex of the area as to make desirable the excavation of the entire midden.

Thus, after a lapse of four years, the work was resumed. From October 1 to 10, 1935, the midden was completely excavated, a second trench dug into the ash mound and additional work done in an effort to locate the cemetery.

Ash Heap

In an attempt to discover of what use, if any, the ash mound was, 2,500 cubic feet of hard-packed ashes were moved. The net result of all this pick-and-shovel work was mostly negative. Only about a dozen small fragments of pottery, and even fewer splinters of animal bones were found. A typical cross-section near the center of the mound showed the following:

1"-8"—Sandy loam, top soil. Contained one potsherd.

9"-20"—Red sand intermixed with red clay, some charcoal and a small amount of ashes. No bones or sherds.

21"-26"—White ash, containing a few lumps of charcoal and red clay. No bones or sherds.

27"-62"—Brownish-black ash containing much hard-packed red sand that has the appearance of clay. A potsherd and piece of split animal bone were found near the top of the stratum.

63"-80"—Undisturbed red sand.

81"—Undisturbed red clay.

The edges of the mound, for about 15 feet inward, contained no ashes. The actual diameter of the ash heap was, therefore, from 90 to 120 feet.

The man-made mound or ash heap was started on a two-foot elevation or natural knoll. The finding

of so few sherds and bones would seem to show that it was not used for domiciliary purposes, and that the ashes came from fires located elsewhere. The small amount of midden material could have found its way into the mound along with the ashes when conveyed to the dump.

The stratum of mixed earth overlaying the ash indicates that, after ashes ceased to be dumped there, the later occupants added a layer of earth; but still did not live on the mound. The work so far has brought to light no evidence of human burials. Additional work needs to be done in this and other ash heaps of the region.

Returns from the Midden Deposit

It was in the midden deposit, 125 feet south of the ash mound, that quantities of interesting materials and information were unearthed. The refuse heap had an average diameter of 53 feet. Excavation began at the extreme east edge, with a 55-foot north-south trench sunk to the unmoved red clay. The "broadcast" method was employed—the entire area dug—working toward the west. The

midden deposit at the eastern edge was only six inches deep, but gradually increased to an average depth of 24 inches. The greatest depth—exclusive of fire pits and postholes—was 31 inches, reached at 20 feet inward.

For the first twenty feet increasing numbers of potsherds, animal bones and mussel shells were uncovered. Intermixed with the midden materials were numerous whole and fragmentary artifacts. This made it necessary that most of the work be done with small pointing trowels.

There being no easily recognized levels, the returns were arbitrarily kept separate by ten-inch layers. These, designated as top, middle and bottom levels, served as a basis by which to determine differences—if any—in cultural traits of the inhabitants in the various periods. Several things worthy of mention came to light.

The discussion of pipes from this site, included in a previous article¹ was based on the preliminary work done in 1931. The subsequent complete excavation materially altered some of the findings.

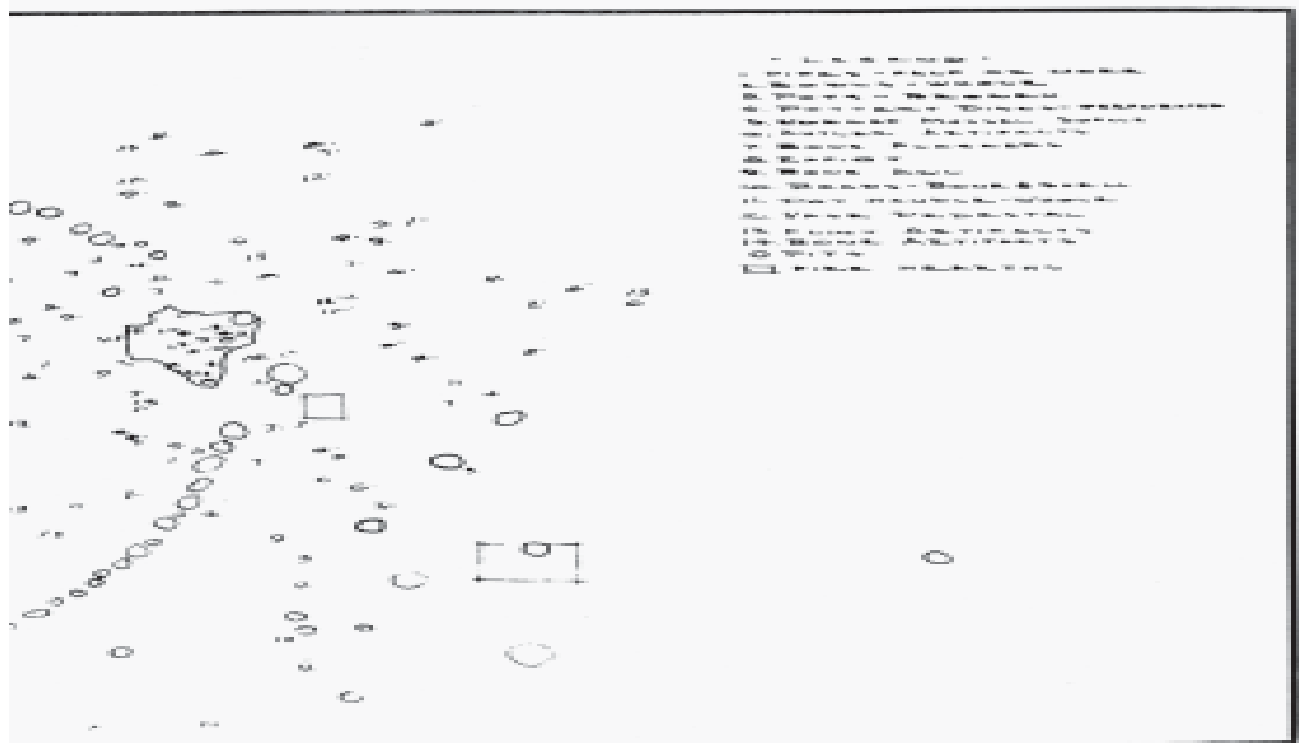


PLATE 22.

Plan of the house ring, illustrating the spacings of the postholes, locations of fire pits, etc.

SUMMARY

Number of Sherds by Depths

Depth Range—Inches	Number Sherds	Percentage
1-10	3,583	50
11-20	2,697	38
21-30	<u>881</u>	<u>12</u>
	7,161	100

Of 108 fragmentary pipes recovered from the midden, thirty per cent came from the upper, fifty from the middle and twenty from the bottom level—in the middle (11 to 20 inches) were found as many as in the other two combined.

Another interesting feature concerning the pipes is that, with a single exception, all those bearing punctate decoration were from the upper ten inches. The exception came from a depth of 13 inches, bearing punctate decoration on one side of the stem and four concentric incised circles on the other. This distinctive form of decoration on pipes thus seems to be comparatively recent.

Many of the pipes from the middle level had deeply incised, carved and grooved, or trailed lines around the outer ends of the stems and the lower back portions of the bowls. Most of the pipes from the bottom level show lack of decoration of any kind. Two large, long, plain stems, from depths of 27 and 30 inches, are much like some from the T. M. Sanders site, Lamar County, Texas. It is worth noting that the shapes of most of the pipes—conical bowls with large stems—remain much the same from the surface down to the deepest finds. The deepest one—from 47 inches in a fire pit—is of the same shape and as well made as those in the top layer.

Modeled animal effigies—broken from vessels—were about evenly distributed from the top down to a depth of 25 inches. This agrees with nearby finds of effigy bowls in old graves as well as in some where the skeletal material was in a good state of preservation. From these facts one might conclude that the placing of animal effigies on the rims of bowls was started at an early date and continued until the abandonment of the site.

In one case the mouth and eyes were not shown; in the others they were deeply gouged. Most of them had short necks. Long, sharp ears predominated. The figures bore only a fair polish.

All the animals are too highly conventionalized to permit of definite identification. Some, however, suggest the dog or wolf.

Bird effigies were twice as numerous in the middle as in the bottom and four times as plentiful as in the top level. Most of them are highly conventionalized, but some seem to represent the duck.

Pedestal vases, on the other hand, were twice as abundant in the last period of occupancy as in the one just preceding, and were not found in the bottom level. The twelve fragmentary pieces came from depths of 5 to 19 inches. The fragments are identical with whole vessels found in nearby graves.

One small bowl, in perfect condition, was discovered at a depth of 11 inches. It was with no other artifacts and is one of the very few whole vessels found in East Texas not with a grave. The bowl is 2 inches tall and 3 3-16 inches in diameter.

At a depth of 10 inches were uncovered the fragments of two large pots. The pieces were spread over an area 30 x 26 inches. One of the pots bore nodes around the rim.

About 600 pounds of potsherds were found in the midden. Fifty percent came from the upper, 38 per cent from the middle and 12 percent from the bottom level. The sherds showed fewer types of design elements as one went downward. Red and yellow slips and paint rubbed into the incised designs were found in small numbers in the upper level, but

were not found at lower depths. Only one sherd with white paint in the incisions was found. It came from a depth of three inches. This scarcity of white paint in prehistoric sites has been noted in various cemeteries in the vicinity.²

The sherds show what appears to be shell and sand tempering material. The question of whether this is shell or other calcareous material has not been definitely settled.

In addition to the ware common to the region, there were a number of sherds of foreign or aberrant types. These included corrugated and deeply ridged ware, large nodular lines, and a rim bearing square notches. The latter type of decoration may be merely a variation of the more common form of saw-tooth or triangular-notched edge. It, however, seems worth noting that the square and rectangular notched edges of certain sherds from Texas coastal campsites³ bear a close resemblance in technique to this one from Anderson County.

Another interesting feature was the finding of 123 pot handles and knobs. Many of them are massive, the sherds showing they were from large, thick pots. This is in striking contrast to the fact

that no large vessels are found in graves of the region. A question accordingly is raised as to whether there was an Asinai taboo against placing very large pots in their graves. (Among the Caddo large pots are common in graves). The large handles were evenly divided between the upper and middle, but scarce in the lower, levels. The large knobs or "lugs" were almost twice as plentiful in the middle as in the other two levels combined. The percentages of the large handles and knobs from the various depths are as follows:

Types	Percentages from Depths Shown		
	0-10"	11"-20"	21"-30"
Handles	42	42	16
Knobs	21	64	15

Both the handles and long hand grips were attached vertically, with the upper ends very near the edges of the vessels. Many of them bear punctate and gouged decorations. A few show fingernail indentations. The lengths of the handles vary from 1 1-2 to 3 1-2 and the width from 1 to 2 inches. The long hand grips range from 1 to 3 inches in length, with widths of one-half to 1 1-2 inches.

TYPES OF POTTERY DESIGNS BY DEPTHS

Types of Designs	SHERDS BY DEPTHS						TOTAL	
	0-10"		11"-20"		21"-30"		No.	%
Brushed or Combed	2141	.597	1532	.571	537	.610	4210	.588
Incised and Engraved	366	.102	302	.112	88	.100	756	.106
Fingernail Impressions and Gouges	95	.206	124	.046	41	.047	260	.036
Corrugated or Coiled	41	.012	19	.007	7	.008	67	.009
Red paint in incisions	37	.011	31	.011	2	.002	70	.010
White paint in incisions	1	—	—	—	—	—	1	—
Red slip	10	.003	—	—	—	—	10	.001
Raised or Applique	3	.001	11	.004	2	.002	16	.002
Punctate	12	.004	5	.001	1	.001	18	.003
Grooved or Trailed	4	.001	5	.001	1	.001	10	.001
Plain (Undecorated)	757	.210	628	.232	186	.211	1571	.219
Brushed—Incised	40	.012	8	.003	3	.003	51	.007
Brushed—Gouged	73	.020	32	.012	12	.014	117	.017
Punctate—Incised	3	.001	—	—	1	.001	4	.001
	3583	100	2697	100	881	100	7161	100

These handles and knobs are, on the whole, larger than those found in Northeast Texas in the so-called Caddo territory.

Of twenty-one perforated sherd discs, five were whole and sixteen broken. The diameters of the discs range from 1 1-4 to 3 1-2 inches. The percentages from the various depths were as follows:

Depth	Percentage
Surface	14
1"-10"	22
11"-20"	50
21"-27"	14

Exactly half of them came from depths of 8 to 16 inches.

Fragments of two clay coils, from depths of 8 and 14 inches, together with a number of corrugated

sherds, show that the coil method of pot-making was employed.

Only eighteen flint artifacts were found in the camp refuse. Fourteen of these were arrowpoints of the typical small, tanged type common in Asinai graves. The arrowpoints were found at depths ranging from 2 to 48 inches. Half of them, however, came from the bottom, with one-fourth each from the other levels. They varied in length from 5-8 to 11-4 inches, and in maximum width from 1-2 to 13-16 inch. They were fairly well made and bore sharp points; but they did not exhibit the splendid workmanship, extreme thinness and needle-like points typical of Caddo burial points.

No large projectile points came from the midden deposit, although twelve such were picked up on the surface adjacent to the housesite. A few small arrowpoints and a flint drill also came from the surface. Most of the few scraping implements were of the side-scraper type. They were found in all levels.

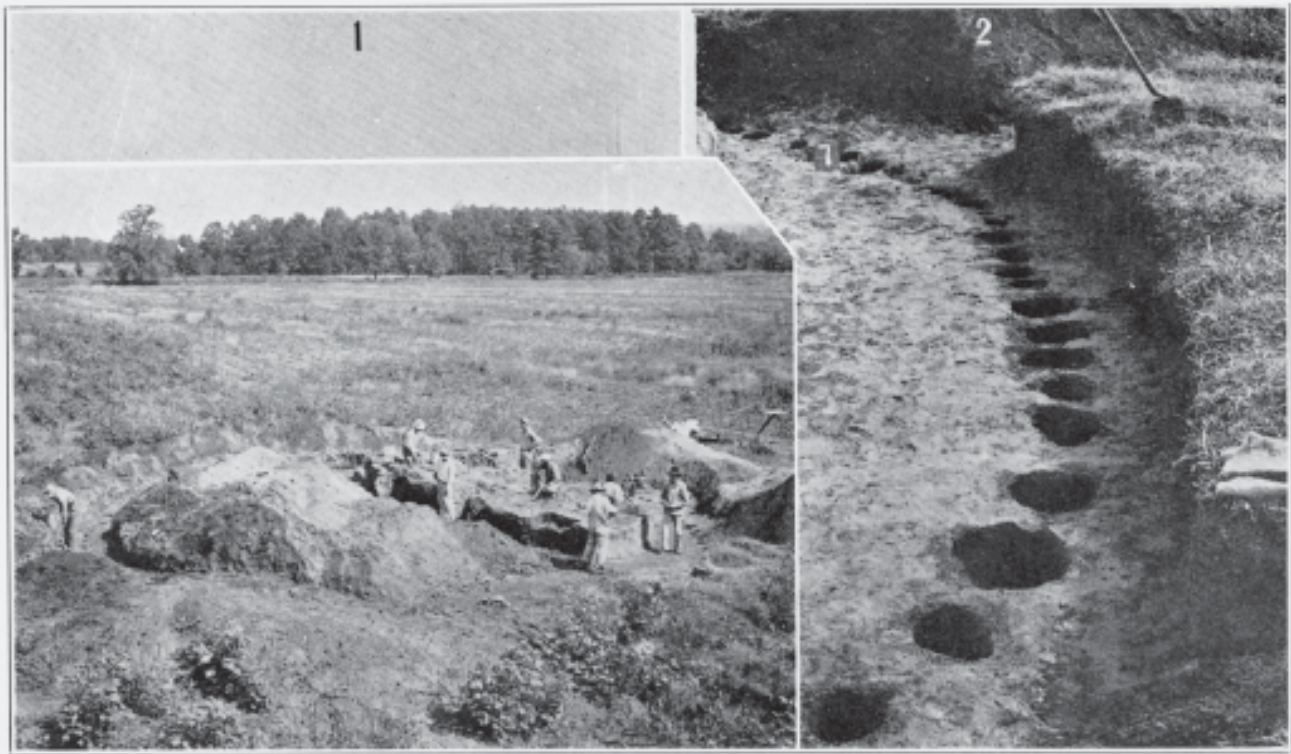


PLATE 23.

1. Uncovering the house ring. It was not difficult to follow the line of postholes.
2. Postholes exposed in one section of the house ring, looking toward the east. Note the variations in spacings and sizes of the holes.

A type of bone implement peculiar to this region came almost exclusively from depths of 10 to 14 inches. It is of the general class commonly called a flaking implement, but is differentiated by a beveled, screwdriver-like end. The edges appear to have been ground fairly sharp and show little evidence of wear. One is thus caused to wonder whether it was used for flaking arrowpoints or for some other use—perhaps as an incising tool for decorating pottery. The flakers of the round-end type, on the other hand, are much worn and bear scratches and cuts.

Of 58 bone flaking implements, 26 were from the upper, 27 from the middle and five from the bottom level. More than half of them were from depths of 9 to 14 inches. This is surprising in view of the facts stated above concerning the depths of the arrowpoints.

Half of the used antler came from the upper level; with the remaining half divided about equally between the other levels.

Twenty bone awls came from the midden. Six were from the upper, eight from the middle and six from the lower level. The awls were comparatively crude, with the sharp end fairly well worked but the remainder, in most cases, left in a rough state. Most of them are of deer, a few of fish bones. These partly worked awls are in striking contrast to the well worked artifacts found in rockshelters in West Texas.

Shell artifacts were scarce. A few mussel shells (*Unio* sp.) were ground down to form so-called spoons. Two—from depths of 8 and 12 inches—were perforated, either for use as rattles or for hafting. One showed use as a digging implement.

The ornaments included a small conch shell pendant, a conch shell bead, three beads of bird bones and one which probably is of antler. All these came from the upper 12 inches.

The pendants' measurements were 1 1-8 in. by 3-8 in. by 1-8 in.; and it had two drilled holes 1-8 inch in diameter, separated by a space of 1-16 inch and 1-8 inch from one end. The edges were roughly smoothed and, except for the perforations, the workmanship was poor. It came from a depth of only one inch.

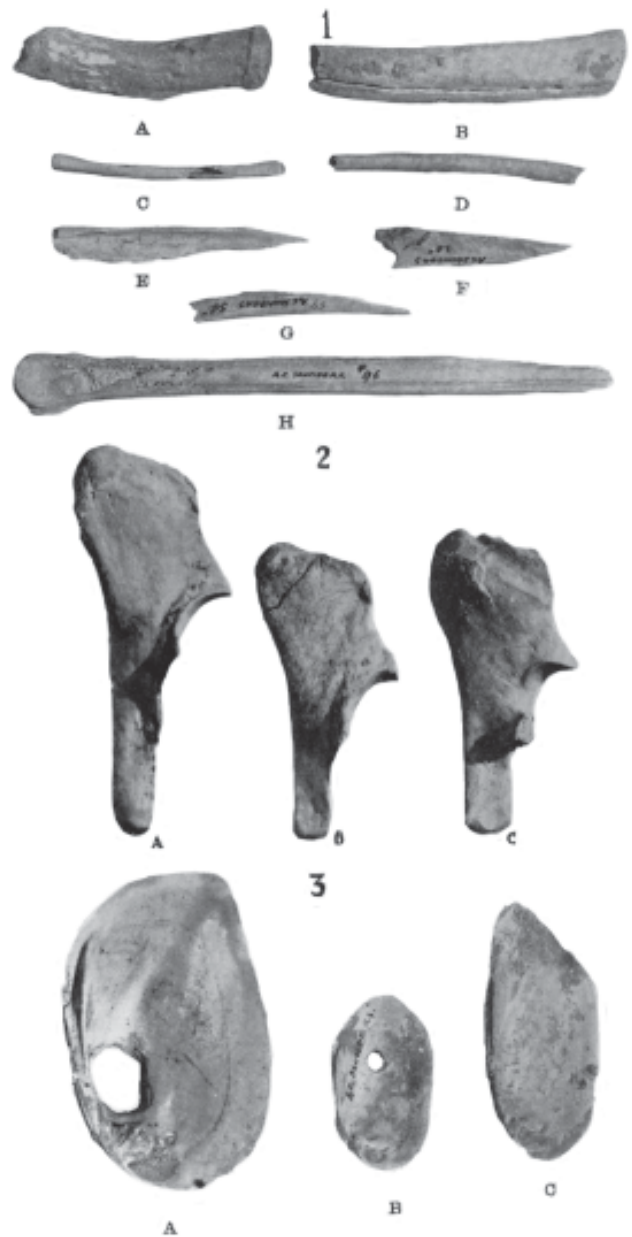


PLATE 24.

1. Bone and antler artifacts. "A" may have been used as a pestle or grinding implement; B, C, and D, beads; E, F, and G, awls; and H, an incomplete awl.
2. Bone flaking tool and probable pottery incising implements. Specimen "A" has a rounded end, while "B" and "C" have beveled edges.
3. Shell artifacts from the midden. A is a digging implement; B possibly strung as a rattle; C, a so-called spoon.

The conch shell bead, made from the columella of the shell, was found at a depth of 11 inches. It measured 2 3-4 inches long and 1-2 inch in diameter. It bears a horizontal and a vertical hole. The longitudinal hole was drilled from each end and has a diameter of 1-4 inch. The hole drilled through the side of the bead may have been for the purpose of connecting the two ends of the long hole. The side hole is 3-16 inch in diameter. The specimen shows fair workmanship and is in an excellent state of preservation.

The bone beads have lengths of 3 5-16 inch, 3 inch and 2 inch; diameters of 1-4 inch, 3-16 inch and 3-8 inch. They were found at depths of 8 inch and 12 inch. The ends of the two long beads have been cut but none were smoothed.

The antler specimen has a maximum length of 4 1-8 inch, a minimum of 9-16 inch and a maximum diameter of 3-4 inch. Each end bears a gouged-out hollow 7-16 inch deep, from which runs a longitudinal hole 1-8 inch in diameter. Around the edge of the large end are a series of shallow notches. The small end apparently was unfinished. Similar antler specimens have been found in certain burnt-rock middens of Central and West Texas.

The following tabulation gives a list of specimens found in the housesite and environs:

Summary of Finds

Types of Artifacts	Number Specimens
<i>Stone:</i>	
Flint and chert arrowpoints -----	24
Flint spearheads -----	4
Flint knives -----	2
Flint side-scrapers -----	6
Flint end-scrapers -----	1
Flint triangular scraper -----	1
Flint awls and drills -----	3
Flint ax -----	1
Manos -----	5
Pitted stones -----	5
Pottery smoothing pebbles -----	9

61

<i>Earthenware:</i>	
Bowl, whole -----	1
Pots, broken -----	2
Discs, perforated -----	21
Pipes, fragmentary -----	108
Pot handles and knobs -----	123
Bases of pedestal jars (broken) -----	12
Animal effigies (from vessels) -----	10
Bird effigies (from vessels) -----	7
Coils (short pieces) -----	2
	286

<i>Antler:</i>	
Flaking implements -----	30
Picks (?) -----	4
Pestle -----	1
Bead -----	1
	36

<i>Bone:</i>	
Flaking implements -----	58
Awls -----	20
Cut bones -----	4
Beads -----	3
Gouge -----	1
Hog tusk awl -----	1
	87

<i>Shell:</i>	
Mussel shell "spoons" -----	9
Perforated mussel shells (hoes) -----	4
Mussel shell awl (?) -----	1
Conch shell pendant -----	1
Conch shell bead -----	1
	16

Total specimens -----	486
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Included in some 400 pounds of bone and shell were evidences of the following foods: Deer (more abundant in the upper level, squirrel, rabbit, opossum, raccoon; turkey, dove; mussel, snail (few); fish—large and small; and a few tortoise. No buffalo bones were found. No charred remains of corn, beans or other vegetable foods were discovered. In this connection it may be mentioned that only five manos and no metates were found. This, however, is not significant; early writers mention the grinding of corn by the use of wooden mortars and pestle.⁴⁻⁵⁻⁶

"Fire Temple"

One of the outstanding features of the place was the housesite, outlined by postholes. Before the digging had progressed very far several holes were discovered. (See map No. 2). These first finds appeared to be in no orderly arrangement. A few broken animal bones and potsherds were removed from the bottom of nearly every hole. Most of them contained ashes and some charcoal. Some of the holes were not vertical—as ordinarily would be expected of postholes—but showed to have been dug at an angle of fifty to sixty degrees. A little farther on a series of holes with a gradual curve came to light. When completely uncovered, the

latter proved to be almost a true circle. It had an east-west diameter of 46 and a north-south diameter of 43 1-2 feet. The narrow opening or doorway was to the east. This latter fact corresponds with Spanish accounts,⁷ that state:... "The Indians have the doors of all their houses toward the east..."

The depths at which these postholes were found ranged from 22 to 25 inches. There was no intimation of a hole until the refuse was penetrated to its bottom. The fact that all the holes were overlaid with some two feet of undisturbed midden material shows that they were dug before the camp refuse accumulated. The holes were readily

discovered by the difference in color of the fills. They had been dug into solid red clay and were in most cases filled with a mixture of red sandy soil, ashes and some charcoal. While the surrounding clay was extremely hard, the fill was loose and easily removed with the hand. This loose soil probably accounts for the finding at various depths—particularly at the bottoms of the holes— of a few potsherds and broken animal bones. Rodents had numerous burrows in the midden deposit and could have been responsible for the articles in the postholes.



PLATE 25.

1. Effigy bowl from a grave on Jim Alien farm, Cherokee County, some ten miles from the A. C. Saunders site. Note the striking resemblance to the fragmentary animal effigies pictured from the latter place.
2. Tubular pipe of clay, showing side and end views.
3. A restored pipe of unusual effigy form. From the midden deposit. Note the punctate decoration and the deeply incised lines about the stem.
4. A pedestal vase from a burial on Mrs. J. M. Cook's farm, about five miles from A. C. Saunders site, where fragments of the same type of vessel were found.

The holes outlining the housesite were of various sizes, depths and distances apart. They had top diameters ranging from 5 1-2 to 15, and bottom diameters from 2 1-2 to 10 inches. The depths varied from 6 1-2 to 30, with an average of 17 inches. In a number of cases there were alternate large and small holes. The large ones usually were deeper. But even some

of the small ones went to depths of more than two feet. The holes were separated by distances varying from 2 to 52 inches—the latter being the eastern entrance or doorway. Most of them were from 3 to 22, with an average of 8 inches apart.

The circle was made up of 99 postholes. Three additional holes were spaced in the east-west diameter. One of the latter was very near the exact center of the house. It was 30 inches deep, had a top of 12 and a bottom diameter of 10 inches.

There was a considerable quantity of ashes intermixed with much of the camp refuse, both inside and to the east of the house; also five fire pits or hearths that contained concentrated ash deposits. One of the hearths was located five feet southwest of the central posthole; one outside and 15 feet southeast of the house; one to the northeast, in the line of postholes, was rectangular, 34 in. by 21 in., with a depth of 12 in. It contained ashes, broken bones, sherds and charcoal. Another was near the entrance, just inside the east wall. The latter, the largest of the hearths, was somewhat irregular in shape but roughly 53 x 72 inches. It was 60 inches deep, filled with ashes intermixed with charcoal and an occasional lump of burnt clay. The clay showed no signs of reed or pole imprints. Numerous artifacts were found in, and immediately above, the ashy deposit. A smaller number of specimens and sherds came from the other hearths.

The question arises as to whether the two fire pits located in and adjacent to the line of postholes may have been used after the house was no longer standing. The walls having been covered with grass would seem to preclude the use of these hearths while the house was standing.

The midden material was not evenly distributed over the entire housesite. It was more plentiful just outside to the east, and near the east and north sides of the interior. It gradually decreased toward the center as well as to the south and west. Around the two latter sides was an almost barren area: where the blackish-red midden soil contained less ashes, charcoal; and fewer bones, shells, clay lumps, potsherds and artifacts than any other part of the house.

Comparisons With Other Sites

No other site in East Texas exactly comparable to this one has been explored by the University of Texas. There are, however, two or three places within a radius of fifteen miles that bear a close resemblance to the A. C. Saunders refuse heap. It is the writer's opinion that complete excavation of these might disclose additional house rings.

There also are several outstanding mound-shaped middens in the edge of the Caddo territory—where vessels of Asinai shapes have been found. One might find circular house foundations at these places. Further work needs to be done in this connection.

The problem of the ash heaps does not appear to be easy of solution. Only one or two other mounds in the region that might be classed as such are now known. They differ from the Saunders ash mound and are not connected with a circular midden heap, although there is a campsite nearby.

On the Pace McDonald or Royal place on Mounds Prairie, some fifteen miles south of the Saunders site, is a mound 191 x 123 x 10 feet. A test pit eight feet in diameter showed that the mound is artificial. At a depth of 84 to 103 inches was a layer of ashes that contained charcoal, lumps of red clay and some sand. Beneath this was a stratum of sandy clay that contained a potsherd and a few fragments of bone.

A small mound, 60 feet in diameter, located some 300 yards southeast of the large one, is made up almost entirely of ashes. After penetrating six inches of ash-laden surface soil, a deposit of about 95 per cent pure ashes extended downward for 26 inches. The ash was very loose. Intermixed with the ashes were a few small lumps of red and yellow clay and an occasional sand streak. There was no midden material. Beneath the ash deposit was red clay.

On the northwest side of the small mound, a cross section showed 6 inches of soil mixed with ashes. From 7 to 22 inches was a stratum of hard-packed ashes, with occasional gravel and lumps of red clay. No midden material. From 23 to 39 inches were alternate strata of red and yellow clay and sandy soil. Layers were irregular and merged in spots.

Further work may prove that these ash deposits are of similar origin to that on the Saunders place. The work probably will be barren insofar as returns of artifacts are concerned. But it should be done for the sake of the information to be secured.

Postholes outlining housesites have been uncovered at three sites in Northeast Texas. These were in earthen mounds and were found at depths ranging from two to fourteen feet. No ash heaps were found with the sites.

Postholes were found near the base of a fifteen-foot mound on the George L. Keith place,⁸ Titus County, Texas. A wide trench, dug in 1934, indicated that the mound was built on a shallow midden deposit and added to from time to time. The trench disclosed, in the black bottom stratum, a posthole-outlined semicircle with a radius of fifteen feet. To the east and west of these holes were others in straight lines. Complete excavation of the mound probably would reveal a circular housesite and possibly show evidence of a larger rectangular structure or enclosure. Except for the seeming shape of the house and the fact that the holes were in the bottom midden deposit, this partial excavation furnishes no definite tie-up with the Anderson County situation.

At the T. M. Sanders site, Lamar County, Texas, postholes were found outlining rectangular earth lodges. They were small, ranging in size from 8 x 10 to 10 x 12 feet. A peculiar feature was that there were no holes at one side—either the south or west. The entire side of the small structure would seem to have been used as a doorway. The holes were small, ranging from 2 1-2 to 4 inches in diameter. In depth they varied from 5 to 28 inches; in spacing from 9 to 50 inches apart. The fire pit was near the middle of the structure, and contained some camp refuse. But the situation there is entirely different from that in Anderson County.

Harrington¹⁰ reported a number of mounds in Southwestern Arkansas that contained postholes and other remains of structures of the earth-lodge type. None, however, are comparable to that on the A. C. Saunders site. Of five sites where Harrington found postholes, only one had the holes

at the original ground level—with a later mound built on top. The others were in mound soil several feet above the original earth level. The structures he found were square, rectangular and oblong with rounded corners. The largest was 30 x 30 feet. The postholes were 4 to 5 inches in diameter, spaced 6 to 18 inches apart and 12 to 20 inches in depth. Two entrances were to the southeast and one each to the east, west and southwest.

It will thus be seen that the Arkansas structures bear a much closer resemblance to those in Northeast Texas than to the A. C. Saunders in East Texas.

In going farther afield for comparative data dealing with post" hole sites, there is the case of House Ring No. 1 in Yazoo County, Mississippi, excavated by Henry B. Collins, Jr.¹¹

The latter place bears certain similarities to, as well as various differences from, the Saunders site. These comparisons are brought out in the following tabulation (located at end of article):

Historical Records

So much for the archaeology. Now let us take a look into the historical records describing Asinai sites such as this one. One learns about the house in which the so-called perpetual fire was kept, and various other details, from the account of Father Morfi as translated by F. C. Chabot:¹²

“. . . Its construction does not differ from that of the other houses of the community, except that it is larger. . . . In front of the bed there is located a little square stool. . . . On this stool it was customary to have tobacco, pipe and some feathers, little pots of clay—where they burned tobacco and grease. The sacred fire is in the middle of the temple, and they always keep it burning with four very long, thick and heavy logs, which they constantly attend, arranging them in the direction of the four principal winds; the little wood with which they light them they keep out of the house alongside the walls piled in pyramids. . . . They exercise great care in taking out of the temple the ashes of the sacred fire, which they keep to make large mounds. When they

celebrate the removal of the bones of their enemies, killed in battle, they bury them in these ashes.

“. . . When they attain a victory over their enemies they bring to their country as many heads as they can as spoils, and hang them up together on a tree, until the time for their burial is determined. . . . As soon as day breaks, they all paint their heads and arms with earth, take the skulls to the fire temple and in the ashes kept for this sole purpose they bury them with many ridiculous (superstitious) ceremonies. . . .

“An early fire temple, the house of the Governor or Caddi of the Nabadache, was described by Father Manzanet in 1690 as ‘built of stakes thatched over with grass; it is about 20 varas (55 1/2 feet) high, is

round, and has no windows, daylight entering through the door only. . . . In the middle of the house is the fire, which is never extinguished by day or by night, and over the door on the inner side there is a little mound of pebbles very prettily arranged. Ranged around one-half of the house, inside, are ten beds, which consist of a rug made of reeds, laid on four forked sticks. Over the rug they spread buffalo skins, on which they sleep. . . . In the other half of the house, where there are no beds, there are some shelves about two varas (5 1/2 feet) high; and on them are ranged large round baskets made of reeds (in which they keep their corn, nuts, acorns, beans, etc.), a row of very large earthen pots . . . and six wooden mortars for pounding corn in rainy weather. . . .

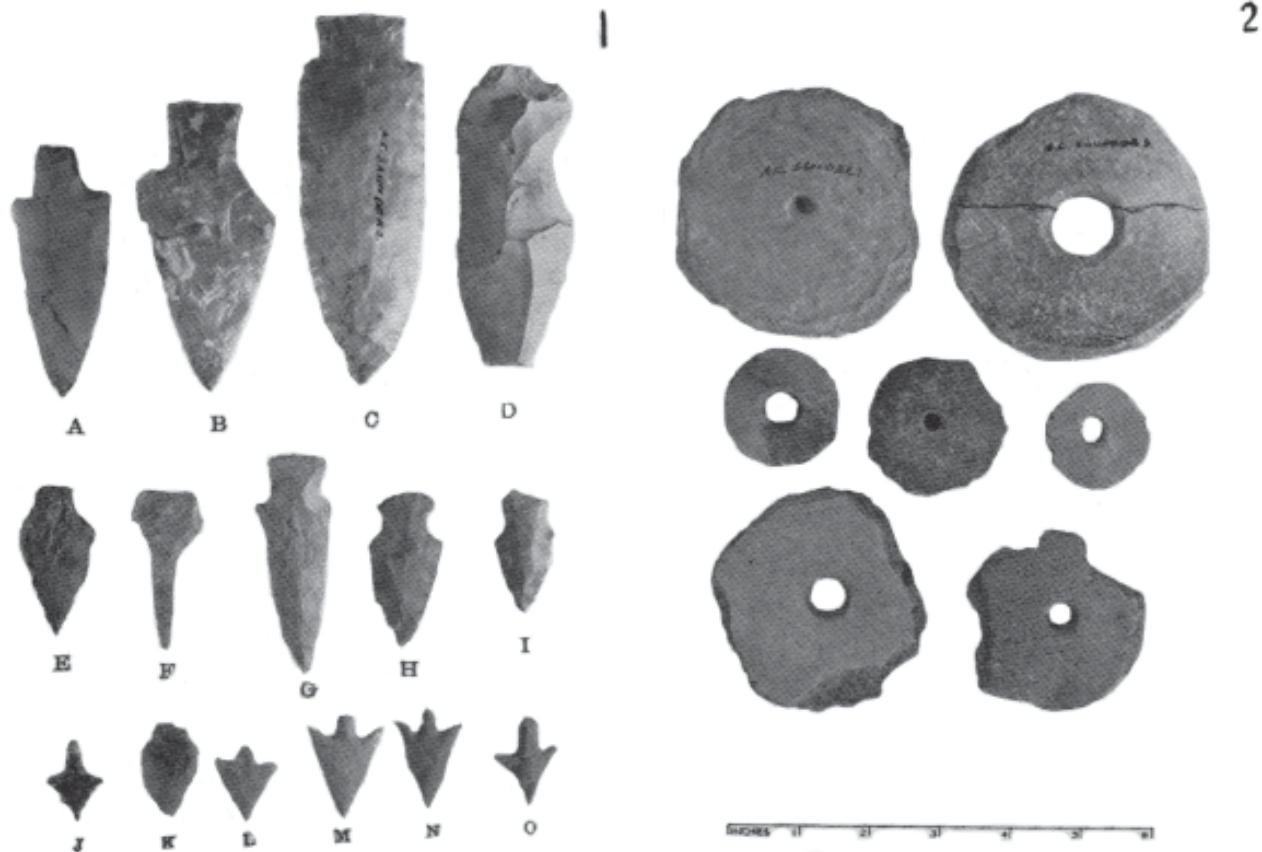


PLATE 26.

1. Flaked artifacts from in and near the housesite. Specimens A to I are from the surface; others from depths of 12 to 48 inches. All flint except E and G which are chert. Specimen C, 3 7/8 inches long.
2. Perforated earthenware discs of problematical use. Various uses are attributed to them, ranging from spindle whorls and shaft smoothers to hair ornaments. Many are found in camp refuse; but none in a grave. In some cases the edges of the sherds have been smoothed.

"At the distance of a short gun shot from the large temple, they construct two other little ones, which they call the houses of the two *Coninicis*. These, they say, are two children who were sent from heaven by their Great Captain, to be consulted when in doubt. . . .

"Casanas says the grand Xinesi deceived his vassals by telling them that the two children . . . came from the other side of heaven, that they ate and drank, and that whenever he wanted to talk to God, he did so through them. All the tribes were called by the Xinesi to the house, where he kept the two children . . . and a ceremony performed to request favors of God. . . . Around the little box he had placed some crumbs from the bread which the Indians brought him as an offering. In the middle of the box was a hole, into which tobacco was put. The Xinesi told Casanas that the tobacco was for the two children to smoke. . . .

"This great fire house . . . is like the *Metropoli* of the whole province; in addition to this one there is a second at the Notches, and a third among the Nacogdoches and Nasonis, to which fire was taken from the first. Generally the Ainais and Netches meet in the principal one; and the Nacogdoches and Nasonis in the last. Both the former and the latter fear that the fire will get angry with them; and to satisfy it, they make offerings to it of their first corn, tobacco, meat from the chase; and, in a word, all of their crops. . . . When in need they always appeal to the fire. . . .

" . . . From this temple all the households of the surrounding tribes kindled their fires, directly or indirectly." In 1710 Hidalgo¹³ wrote: "The fire the Tejas Indians have in their houses was brought from the house of their high priest. . . . If the fire goes out they start immediately for the house of the priest to get new fire. It never goes out in the house of sacrifice. . . ."

Confirming the matter of the two children "sent from heaven," another writer makes this observation: ". . . . It was all a lie for no other purpose than to deceive his people in order that they might bring him quantities of supplies."¹⁴

To Morfi's statement that the construction of the fire house did not differ from the other houses, except that it was larger, Espinosa¹⁵ adds the following; ". . . . Their houses are built of wood with very long, flexible laths. . . . They go the rounds and leave at each ranch one of the little sticks, so that he who receives it may take care to cut and clean a lath and bring it and put it in the hole designated for it. Another member of the household is placed in charge of a sufficient number of men to continue the work of lacing the laths together. These thongs, made of the bark of a tree, are so strong that they can not be broken between the hands, however thin they may be. To the Indian women, one or two from each house, is given the duty of bringing a load of grass. This grass is coarser than the largest wheat and is used to cover the whole roof. . . . At sunrise, upon the first call of the messenger, each comes running with his lath on his shoulder and puts it in the hole which he has previously dug. The laths are placed in a circle and in the middle they put up a very tall pole with knots on it for climbing. Two Indians are placed on top on a cross made of two pieces of wood. Each throws out a noose and seizes a lath by the top, working in unison. They continue to tie them until they have formed a figure like a half-orange. They then cover the laths with heavy timbers, all working at the same time; . . . each working upward upon his own lath, they do not take more than an hour to finish it from bottom to top. Others come in to relieve them and cover the house with grass to a thickness of three hand breadths. They work from the bottom, exactly opposite to the way the Spaniards thatch their houses. They work so dexterously that a little after midday they are finishing the hut, forming of carefully tied grass the figure which their imagination suggests to them. The building finished, they cut the middle post off at the bottom and the building is thus left standing. . . ."

Regarding the ash mound Espinosa¹⁶ also corroborates Morfi's account: ". . . . 'The ashes from their fire continue to accumulate outside and when they bring any bones of the enemy whom they have killed, they bury them in the ashes. . . .'"

By way of setting forth the views of the Asinai Indians regarding the distinction between their sacred "perpetual fire" and the temporary or profane fire of others, Espinosa¹⁷ gives the following:

... "They declare that our fire is different because it is made with a rock and iron while that of the Asinai is made with sticks rubbed one on another. . . . They were asked why they did not, like all the Indians at the missions of the Asinai and the Naichai, leave their houses during buffalo time, when the Nazonis and Nacogdoches all left? A fakir answered that it was so the fire would not go out if wood failed; that the Nazonis and Nacogdoches had a different kind of fire, which they made by rubbing two little sticks together. In this way they could leave their fire hanging up in their houses, while the Asinai and Naichas had fire from their forefathers. The tradition is still preserved."

For the sake of better orientation, it may be well to state that the "fire temple" described above was located near the junction of San Pedro Creek and Neches River, in what is now the northeast edge of Houston County. The mission at that place was founded in 1690. The ash mound in Anderson County, described in the first part of this paper, is located some 35 miles up the Neches River from the old San Francisco Mission. This distance is about the same as that between the above named mission and the one at Nacogdoches, where was another fire "temple."

Merging of Archaeology and History

Now, let us take note of some of the differences and similarities between the archaeological finds in Anderson County and the historical account in Houston County. Among the differences are the following:

1—The historical records state that the skulls of slain enemies were buried in the ash mound. The archaeological work thus far done in this particular ash mound has revealed no skulls or other skeletal remains.

2—History tells us that the "perpetual fire" was kept in the center of the fire house or temple. It implies that there was fire in no other part of the building. Our field work has brought to light

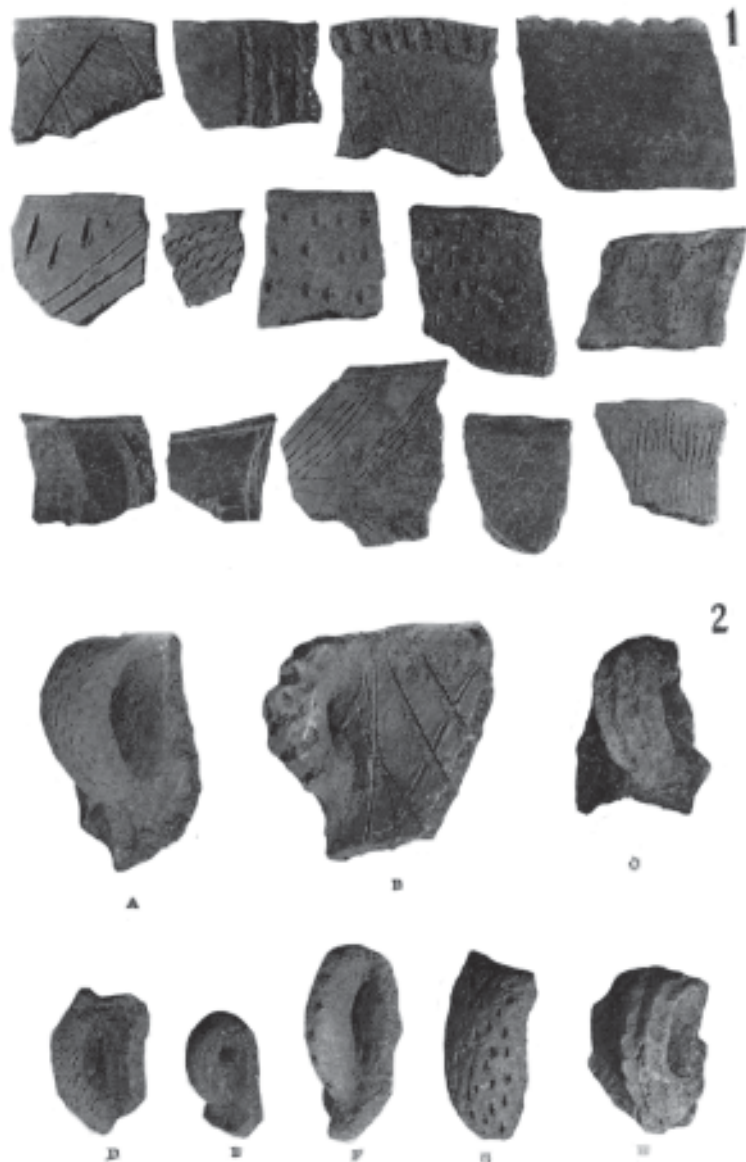


PLATE 27.

1. Rim sherds illustrating various types of decoration.
2. Pot handles, illustrating the various sizes and forms used.
The handle on Specimen A is 2 ¼ inches long and 1 ½ inches wide. All the handles are decorated.

evidence of fire pits or hearths both near the center and toward the eastern part of the house.

3—It is stated repeatedly that the houses were thatched with grass. But no charred grass, recognizable as such, showed up in the excavation of this site.

4—No mention was made of interior holes except at the center. We found two other holes in a line with the central one.

5—The early writers say that in the fire house were kept baskets containing corn, nuts, acorns and beans. Although such articles, in a charred condition, have been found in certain other sites, none was turned up here.

6—The Spaniards assert that buffalo skins were used on the beds in the fire house. No buffalo bones were found in the midden deposit.

7—It was stated that two small houses were erected about a gunshot away from the fire house. Postholes that may have been remains of such small structures were uncovered much less than a gunshot away. These, however, may have served other purposes—such as housing the supply of small wood.

Among the outstanding similarities between the historical records and the present archaeological finds are the following:

1—The historians state that the ashes were carefully removed from the fire "temple," and deposited nearby to form a large mound. At the site under discussion there is such an ash mound located very near the large housesite.

2—We are told that the fire house was circular and larger than the other buildings. Postholes outlining a large circular house were uncovered; but no others found.

3—The records are to the effect that the fire house was about 20 varas (55 ½ feet) high. Although the height may have been overstated, the sizes and depths of the postholes would bespeak the use of long poles.

4—It is mentioned that each workman dug one of the holes. This fact might easily account for the great variation in sizes, shapes, depths and spacing of the postholes.

5—The term "laths put in holes" refers, of course, to the tall uprights, or posts, sunk in the postholes.

6—The records show that the doors were toward the east. The archaeological find verified this fact.

7—The statement is made that a tall pole was placed in the center. We found a large central hole.

8—To one's surprise, the records state that the middle post—after having served in drawing in the tops of the others—was cut off at the bottom. We found considerable refuse above the central posthole. This might be considered as indicative of the post having been cut off. But it must be noted that a similar condition prevailed above many of the other holes. Hence it is not taken as conclusive proof that the central pole in this case was cut off.

9—It is said that there was a small pile of pebbles over the inside of the door. A number of small, smooth pebbles were found in the refuse just inside the doorway.

10—Large pots were kept on a shelf. Two large pots were found crushed, and in the approximate position ascribed to the shelf.

11—Ten beds were ranged around one-half of the house. We found a decided lack of camp refuse around the west and south part of the housesite. This suggests the locations of beds.

12—It is declared that the Indians made offerings to the fire. We found considerable midden material and a number of artifacts in the ashes of the fire pits. Some of these may have been sacrificial.

13—The Indians brought quantities of supplies to the keeper of the perpetual fire. The great abundance of camp refuse in such a small area might easily have resulted from such a practice.

14—Tobacco was offered to the keeper of the fire and to the sacred children. Tobacco and a pipe

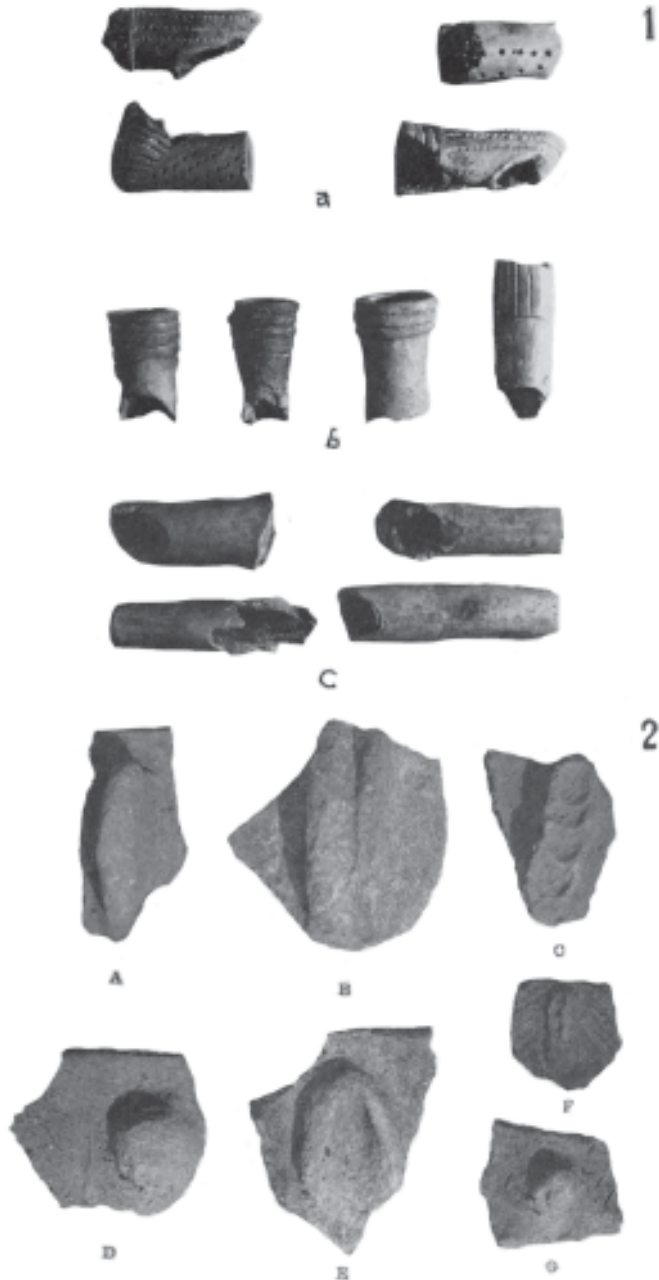


PLATE 28.

1. Fragments of earthenware pipes: (a), top; (b), middle; (c), bottom level. Specimens from the top bear punctate decoration; trailed or grooved lines on those from the middle; and undecorated ones from the bottom level.
2. Pot knobs or "lugs" on sherds from midden deposit. Those illustrated by A and D are most common at this site.

were always kept on a certain stool in the fire house. This may offer an explanation for the finding in the midden of an unusually large number of broken pipes.

15—Surrounding tribes came for fire. This doubtless resulted in the bringing of offerings of effigy vessels and other unusual, highly prized articles for the keeper of the fire. That might help to account for numerous specimens found.

16—The early writers speak of an enemy tribe burning a fire house in 1714. Such a thing also might have occurred in prehistoric times. Some evidence was found indicating that the posts of this house burned.

17—They did not go on buffalo hunts like the other Indians, because the perpetual fire would go out. This may account for the lack of buffalo bones in the midden deposit.

18—There were only three "fire houses" in the Asinai territory in the early historic period. Their wide separation, if a similar situation prevailed in prehistoric times, might explain why there is no comparable site in the near vicinity under discussion. But one cannot be certain about the latter until more work has been done in the region.

Conclusion

From the foregoing it would seem that:

1—This site may be the former location of a fire house and ash mound such as described by early Spanish writers.

2—Differences between certain details of the historical accounts and the archaeological finds at this site might easily be due to either or both of two causes: (a) Lack of thorough investigation by early observers; and the omission by them of what were considered irrelevant details; (b) Differences due to local variations in customs of the aborigines and to possible changes over a long period of time—this site seeming to be prehistoric.

3—The stratum of soil above the ashes in the mound indicates that the keeping of the "perpetual fire" and the dumping of the ashes onto the mound ceased before the final abandonment of the site. The mound apparently was not used for domiciliary purposes.

4—The finding of numerous artifacts in the midden deposit outside, to the east of the house, inside near the entrance and in gradually decreasing numbers toward the west and south, indicate that the people lived near the entrance and that the beds, described by the Spanish writers, were "ranged around" the west and south half of the interior.

5—There is no proof of more than one culture; but indications of an increase in the practice of the ceramic art and of certain changes in the types of ware and design elements. This is particularly noticeable when comparing materials from the upper and lower levels.

6—The arrowpoints are of the small tanged type frequently found in the prehistoric graves of this region. None of the very thin, sharp-pointed, tangless points, such as are common in Caddo graves, was found here.

7—This was an important site occupied over a long period of time.

8—There is some evidence to indicate that the middle level represented the so-called "golden age" of the inhabitants of this site. There were greater numbers of pipes, bird effigies, beveled bone implements, perforated discs, in that level.

9—The similarity of this prehistoric site to some among the historic Asinai as described by early writers, is significant. This, coupled with the finding of the same types of pottery in both prehistoric and historic sites of the region, suggests a long occupancy by the same or a closely related people.

10—The work furnishes a striking example of how history may be used to supplement archaeology. It also suggests that one should not blindly accept all the details of history when archaeological evidence does not agree.

—Department of Anthropology,
University of Texas, Austin, Texas.

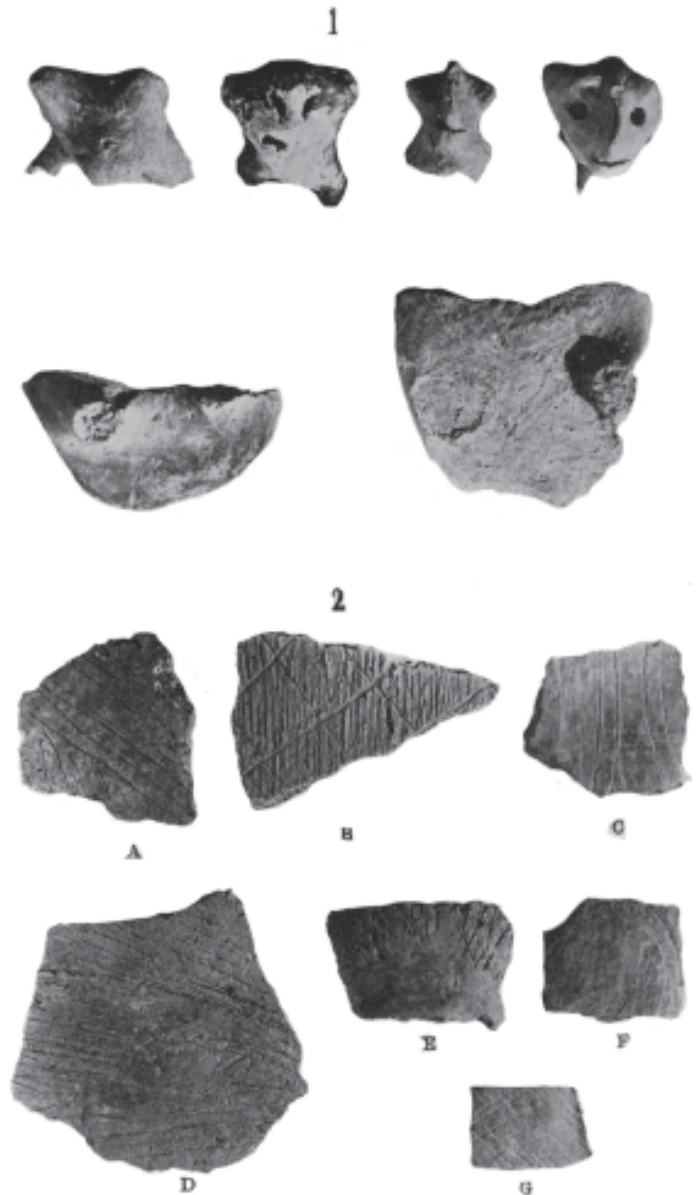


PLATE 29.

1. Heads of animal effigies, broken from vessels, and fragments of the bases showing where the legs were attached.
2. Potsherds illustrating some of the various types of decoration common in the camp refuse. Specimen D illustrates the typical scratched or combed ware from this site.

Comparisons Between the Texas and Mississippi Sites

<u>Features Compared</u>	<u>Anderson County, Texas</u>	<u>Yazoo County, Miss.</u>
Where posts set up	On level surface	In bottom of trenches
Direction of house entrance	East	West
Manner of refuse accumulation	Gradual on surface	Gradual in open trench
Form of housesite	Circular	Circles with square inside
Large central posthole	Found	Found
Entrance shelter or cover	Postholes southeast of entrance	Indicated by postholes
Diameter of house ring	46 feet	More than 60 feet
Spacing of postholes	Most of holes 3" to 22" with an average of 8" apart. In some cases there were alternate large and small holes. Depths ranged from 6 1/2" to 30" with average of 17". A few holes at random.	Large holes (12"-15" diameter) spaced about 5 feet apart. Between them were 1 or 2 smaller holes about 6" in diameter. Certain holes were placed at random.
Locations and sizes of fire pits	One fire pit, located 5 feet SW of the central posthole; another was near house entrance just inside east wall. A third was outside 15 ft. SE of house. The fourth was in line of postholes. The one at entrance was 53" x 72" and 60" deep. Filled with ashes, charcoal, artifacts and other camp refuse.	Small fire pit, 19" wide and 30" deep, just west of central posthole. Another, 6' in diameter and 2' deep. Latter extended over inner house ring and over row of postholes in square. Filled with ashes, soil and refuse.
Contents of postholes	In most cases filled with mixture of soil, ashes, and some charcoal. Sherds and broken animal bones in many holes— frequently at bottom.	Filled with black earth and village refuse
Strata through which holes passed	Dug through thin stratum of former surface soil and into solid red clay. Holes overlaid with unmoved midden material, indicating its accumulation after holes were dug.	Sunk through village refuse and into clay below. This indicates holes were dug after the refuse had accumulated.

<u>Features Compared</u>	<u>Anderson County, Texas</u>	<u>Yazoo County, Miss.</u>
Position of floor	Not sunk below surface.	Not sunk below surface.
Evidence of stratification	Some noticeable differences in decoration of sherds from the various depths. Quantity of sherds decreased greatly toward the bottom.	No distinction in sherds from various sections and depths; same mixed type found everywhere.
Distinctive feature of pottery	Great number of fragmentary pipes	Some sherds had a line incised along the top of the rim.
Punctate decoration	Found	Found
Effigies on vessel rims	A number of animal and bird effigies from vessel rims found in refuse.	One animal effigy head from rim of vessel found on surface.
Pot handles and rim knobs	Many handles and knobs found in midden material.	Handles and knobs found in refuse
Dog bones in camp refuse	None found	None found
Animal bones most abundant	Deer	Deer

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3. Potter, Wendall H., "Ornamentation on the Pottery of the Texas Coastal Tribes, *Bulletin Texas Archeological and Paleontological Society*, Vol. 2, Abilene, September, 1930, Plate 7, Nos. 9 and 10, p. 43.
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5. Hatcher, M. A., "Descriptions of the Tejas or Asinai Indians, 1691-1722," *Sw. Historical Quarterly*. Vol. XXXI, No. 2, Oct., 1927, Austin, p. 177.
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8. Goldschmidt, W. R., "A Report on the Archeology of Titus County In East Texas, *Bulletin Texas Archeological and Paleontological Society*, Vol. 7, Abilene, September, 1935, pp. 97-99.
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13. Hatcher, M. A., "Descriptions of the Tejas or Asinai Indians, 1691-1722," (Fray Francisco Hidalgo to Fray Isidro Cassos, Nov. 20, 1710, translated from the Spanish by M. A. Hatcher), *Southwestern Historical Quarterly*, Vol. XXXI, No. 1, Austin, July, 1927, p. 51.
14. *Ibid.* (Pray Francisca Casanas de Jesus Maria to the Viceroy of Mexico), *S. W. History Quarterly*, Vol. XXX, No. 4, Austin, April, 1927, p. 293.
15. *Ibid.* (Pray Isidro Felis de Espinosa), Vol. XXXI, No. 2, Austin, October, 1927, pp. 154-155.
16. *Ibid.*, p. 160.
17. *Ibid.*, p. 169.

REVIEWS, REPORTS AND EDITORIALS

The University of Texas Bulletin, No. 3618, May 8, 1936, The Corner-Tang Flint Artifacts of Texas, by J. T. Patterson, Professor of Zoology, Bureau of Research in the Social Sciences, Study No. 18, Anthropological Papers, Vol. 1, No. 4, published by The University of Texas, Austin, Texas, contains 56 pages of text, twelve pages of photographs of 48 different corner-tang knives, and also six drawings of knives, size 6 by 9.

The world's lazy and incompetent ever increasing legions, who never in their whole lives have done anything well, have an untrue saying to comfort their wounded vanity when they hear of some one doing several things well. It runs thus: "He is a jack of all trades, and a master of none." Literally the contrary of that old saying is always true. Any person who can do one thing well, can do a half dozen other things equally well. The one who does not have sufficient brains and energy to do a half dozen other things well, does not have sufficient to do one thing well. The average man is extremely lazy, and wastes in entertainment or as a spectator of others' activities, enough time to learn several languages, acquire skill as a painter, sculptor, astronomer, botanist, or proficiency in any of several other arts and sciences.

One wonders what the progress of the world would be, were all to turn to constructive amusements and hobbies. In this respect we think that J. T. Patterson, a professor of zoology, has done a very valuable piece of scientific work in preparing this Bulletin on Corner-Tang Knives. It embraces special research in a field where little has been done before, concerning a type of artifact which probably is exclusively Texan. While it may yet be found elsewhere as a result of prehistoric trade, the home of its makers was in Central Texas. He only has data concerning one alleged instance of a hafted corner-tanged knife. This reviewer has also seen that knife, and thinks that its authenticity is open to debate.

The illustrations of the various types of corner-tanged knives are unusually good and clear. Professor Patterson has obtained authentic records of a total of 533 corner-tanged knives.

The center of distribution seems to be in the south central portion of Texas, and few are found in East or in Northwest Texas, and the Abilene region lies along the northern boundary of their distribution although this reviewer has sixteen corner-tanged knives in his collection from that region.

The reviewer agrees that most of the corner-tang knives probably are not many hundreds of years old. There are two reasons for that belief, lack of patination on many of them, and the levels in which they are found. However the reviewer has not heard of any evidence which he is willing to accept that would indicate that these knives were made in historic times. In no instance known to him have glass beads or any other historic aged artifacts been found with this type of knife. Of course such evidence may yet be found but the reviewer has doubts.

One regrets that the author of this valuable piece of research did not also make a study of the patination of the different types of these knives to determine whether or not certain types are uniformly patinated and others unpatinated and if so, illustrate the types separately. The reviewer has an idea that such differences would have been found based on what he has observed.

Entirely too little attention has been given to the question of patination of American artifacts, and especially those of Texas. These show wide variations in patination, which are found with certain technical differences of form and stone chipping.

* * * *

Texas Technological College Bulletin, Vol. XII, No. 1, January, 1936, Studies of the Yaqui Indians

of Sonora, Mexico. Scientific Series No. 2, published by Texas Technological College, Lubbock, Texas. Size 6 by 9. Contains 142 pages text and illustrations, 15 pages of plates.

This attractive Bulletin contains nine articles, five of these are by Dr. W. C. Holden, and one each by W. G. McMillan, Dr. C. J. Wagner, C. C. Seltzer, and R. A. Studhalter.

These articles describe the history, religion, government, and social structure of the tribe, its architecture, medical knowledge, agriculture, and the physical types to be found amongst the Yaquis.

This Bulletin gives details of Yaqui life which were obtained by a well equipped and staffed scientific expedition, led by Dr. W. C. Holden which was sent to the little known region of Northern Mexico, occupied by the Yaqui Tribe, by Texas Technological College early in 1934.

An early report of this expedition's valuable contributions to science was made in the 1934 Bulletin of the Texas Archeological and Paleontological Society, and reports were read by the staff at the 1934 meeting, giving details of the specialized knowledge acquired. The large collection of Yaqui artifacts obtained by the Expedition was also shown then.

There should be more such studies of those Indian tribes which have not yet lost all traces of their primitive civilizations. Many things which we find in archeological sites in portions of the country where the Indians have vanished, could be explained by better studies of such tribes. Texas Technological College is to be greatly commended for issuing this scientific study of the Yaqui Indians.

* * * *

Bulletin of Central Texas Archeological Society, Number 2, March, 1936, published by The Society at Waco, Texas, size 6 x 9. It has a total of 95 pages of pictures and text, of which 12 2-3 pages are of photographs. About 11 pages are devoted to site maps and 8 pages are drawings of bones and artifacts. One folder shows positions of some cave

burials. It contains 1 long, and 16 short articles, by local amateurs. Price \$2.75.

An article by Dr. Aynesworth entitled "Biographic Studies of Twenty-one Skulls of Central Texas Indians," describes some skeletal materials of somewhat similar type to one of the long headed races discovered, and first described by this reviewer in *Scientific American*, May, 1929, *Science Service*, 1929, and later issues of *Texas Archeological and Paleontological Society Bulletins*.

However Dr. Aynesworth's skulls are not so dolichocephalic as the oldest, most extreme type found here, but are nearer to the Sand Dune man's type.

"Chronic Arthritis in the Early American Indian in Central Texas" by Fred A. Turner is an interesting four page report on some evidence of arthritic changes in Indian bones.

"A Prehistoric Shelter Burial in Bell County, Texas," by Frank H. Watt gives a good description, well illustrated, of the excavation of a number of burials in a rock shelter.

"Buried Midden on the Brazos" by J. K. Mason gives details of the finding of some deeply buried hearths in Central Texas. Apparently these are of similar depths to the series first discovered by this reviewer near Abilene in 1929-30.

Whether the sites near Waco are as old as those previously found near Abilene, only geological research can determine, but it seems reasonable to believe that careful examination will show similar buried sites in other parts of Texas.

"Flint Arrowhead Wounds of Bones as Shown in Skeletons in Central Texas" by K. H. Aynesworth is a scholarly article which describes some instances of the finding of flint arrowheads imbedded in Indian bones.

The Bulletin would be improved for students' use by bibliographical citations, since some similar type sites have been previously described in other publications.

* * * *

Evidence of Early Man in North America, by E. B. Howard, published by the University Museum of the University of Pennsylvania, 1935. Contains 122 pages of text and illustrations including 14 pages of photographs, and 12 pages of drawings. Size 8 by 11. Price \$1.50.

This paper-covered book describes and illustrates some excavations of E. B. Howard's, in Burnet Cave in New Mexico, in which he found a generalized Folsom point in a hearth with musk ox bones, and some sand dune blow-outs in the same region in which Folsom points have been found in old lake beds, close to bones of mammoths and other extinct animals.

The photographs and drawings are unusually good and clear, but the terminology of the text could be improved. We note that Howard lists Abilene as a region where only the rough generalized type of Folsom point has been found. That statement is erroneous, since this reviewer has found both types of points in the same campsite near Abilene with artifacts of the Clear Fork Complex.

Another error occurs on page 148 where we read this statement, "E. B. Sayles and C. N. Ray, of Abilene, Texas, have been working for a number of years in stream and terrace deposits along the forks of the Brazos River near Abilene, where even earlier evidence for man in America may be satisfactorily proved upon the completion of further studies of that whole region."

The construction of Howard's statement would imply that Mr. Sayles discovered the deeply buried stratified campsites of the Abilene region, and that "C. N. Ray" assisted in "working" them, whereas the reverse of that is the truth. Reference to December, 1929, Science Service publications, and May Scientific American reports of the year 1929, will disprove that implication.

Mr. Sayles among several others, including Dr. Otto O. Watts, Rev. J. Richard Spann and Ernest W. Wilson, assisted this reviewer in excavating some of these sites in 1929-30, which research was reported in Vol. 2, 1930 Bulletin of Texas Archeological and Paleontological Society. Mr.

Sayles then left Abilene in 1931 and only returned for a few months in 1934 to work in this reviewer's discovery deeply buried stratified sites, and he has not since then been "working" in these sites. On the contrary this reviewer has worked and carefully watched these deeply buried sites since he discovered them in 1929-30.

Despite a few errors, this book contains much valuable textual information concerning the Folsom artifacts and also many beautiful illustrations of them, and in the main is a valuable contribution to the literature on this subject.

* * * *

Occasional Contributions From the Museum of Anthropology, of The University of Michigan, No. 5. Perforated Indian Crania in Michigan, by W. B. Hinsdale and Emerson F. Greenman. University of Michigan Press, Ann Arbor, Michigan, August 15, 1936. Pages of text 15, plates 5, text figures 2, map 1, price \$.50.

This very interesting pamphlet gives details concerning a number of perforated skulls found in Michigan and adjacent regions. A few of these appear to be skulls where true trephination operations have been performed. The major portion however, show bones with smaller holes in them, which probably were made with flint drills after death. In the Michigan perforated bones the perforations are not confined to the skulls as, is the case, in other regions where trephination was practiced by aboriginal tribes.

Plate IV, Fig. 1 shows two drilled femora. One with one hole drilled in the proximal, and one in the distal end. The other one has one hole in the distal end. It shows two long bones with the articular portions removed (probably tibiae) in which one hole has been drilled in one end of each. Fig. 2 shows a frontal bone with a larger perforation.

Plate V shows a cranium with two drilled perforations in the vertex.

Plate III shows two views of a cranium perforated near bregma, and also near the foramen magnum.

Plate II shows a cranium from which a large disk of bone has been removed in the posterior portion, and a small drilled hole in the frontal bone.

Plate 1, Fig. 1, shows trephination near vertex of calvarium.

Fig. 2, shows post-mortem, drilled perforation in fragment of a cranium.

The photographs are good and clear, and this small book is the result of considerable painstaking research.

SOME COMMENTS ON SAYLES SURVEY

An Archeological Survey of Texas, by E. B. Sayles, printed by The Medallion, Gila Pueblo, Globe, Arizona, May, 1935.

In 1929 and 1930 Sayles among others assisted in excavating some of this reviewer's original type or discovery sites in both the deeply buried stratified, and boat-shaped mortar hole sites, and pictures were then taken of these sites, which were used as illustrations in Ray, Cyrus N., "Report On Some Recent Archeological Researches in the Abilene Section," Vol. 2, 1930, Bulletin of Texas Archeological and Paleontological Society, in Plate 11, No. 4, and Plate 13, No. 4. These two pictures were republished in "Sayles Survey" without the usual by line mentioning their previous publication in the 1930 Bulletin of this Society. These are listed in Sayles Survey as Plate VII B, and Plate XI B. Plate VII A was also taken at that time.

On Plate XI are shown artifacts a, b, c, d, and e, which are Small Scraper Culture beveled, dart points; and on Plate 22 a, b, c, d, e, f, g, h, and i. The latter consists of four edged beveled knives, triangular notched arrow points and Small Scraper-gravers. This flint complex was first described in the literature by this reviewer in Ray, Cyrus N., A Differentiation of The Prehistoric Cultures of The Abilene Section, Vol. 1, 1929, Bulletin of Texas Archeological and Paleontological Society. These artifacts types were then described and named The Small Scraper Culture on pages 16 and 17, pictured on the lower two panels of Plate 2 of that Bulletin.

However Sayles seems to have given new names to these artifacts at this late date. We do not believe that there is any warrant for the positive attachment of historic tribal names to any of these artifacts with the exception of the four edged knife. There is only one large campsite of this type in the Abilene region, which is also described in Vol. 7, 1935 Bulletin, Ray, The Pottery Complex Artifacts of The Abilene Region, as Site 17, and in and near this site the writer has found six channeled points of the Folsom type, considered ancient by some writers.

Also on Plate XI Sayles lists f, g, h, i, j, and k, which are typical artifacts of The Sand Dune Culture, which was also named, described and pictured in Ray, A Differentiation of The Prehistoric Cultures of The Abilene Region, Vol. 1, 1929, Bulletin of this Society. Sayles has overlooked this description, also the first in the literature concerning this type of artifacts, and in 1935 gave them new names without reference to the original description.

While Sand Dune artifacts of types f, g, h, i, j, k, as shown in Sayles "survey," Plate XI, under some other name, were found by this reviewer in the same discovery campsites with the boat-shaped mortar holes on the Douthit Ranch in 1929, to describe these boat-shaped mortar holes as "Brazos in type" creates an erroneous impression, as boat-shaped mortar holes are very rarely found on any branch of the Brazos River, but are found in collections of hundreds in many sites on the Colorado River and its branches. While the Sand Dune Serrated Points (first described and pictured on Plate 2, upper two panels, Ray, Vol. 1, 1929, Bulletin of Texas Arch. and Pal. Society) shown, are found on the Colorado River and its branches with boat-shaped mortar holes, the greatest distribution of these Sand Dune Serrated Points is along the sand dunes of the Brazos River and its branches, where the boat-shaped mortar holes are not found, but instead there is a complete substitution of oval pecked manos and shallow sandstone metates. To term these typical Colorado River boat-shaped mortar holes "Brazos Mortar Holes" I believe is incorrect. These boat-shaped holes were used by a long headed people, but are too rare in most of the Brazos River area to be termed "Brazos Mortar Holes." There is

much evidence which indicates that the boat-shaped mortar hole sites were occupied at different times back into very remote periods, and also down into the historic period, and probably by different human types. Certainly some of the burials contain artifacts of very different types.

The giving of new and meaningless designations to artifacts already described fully in the Bulletins of this Society published during the years of 1929, 1930, 1931, 1932, 1933, 1934 and 1935 only makes the study of Texas archeology unnecessarily difficult, and the mixing of several different period cultures, which have been previously properly described, and which have no real relation to each other, further confuses the matter.

Apparently the Sayles "Survey" pictures our Clear Fork Culture Complex Points as "Folsom or Yuma Points" with which we cannot agree, although they evidently are quite old, and are sometimes found on the same eroded surfaces, as we previously stated in *Flint Cultures of Ancient Man in Texas*, published in Vol. 6, 1934, of the Bulletin of this Society. This type of dart point and also the Clear Fork Culture gouges, which Sayles has renamed as "Abilene core scrapers" and shows on Plate X of his "Survey," were first described by this reviewer on the lower half of page 18, Vol. 1, September, 1929. Bulletin of this Society, and four of the Clear Fork Culture Gouges were pictured as Figs. 8, 9, 10 and 11 of the lower panel of Plate 1 of the same 1929 Bulletin. We also pictured and described one of these Clear Fork Culture gouges as Fig. 2, Plate 10 of Vol. 2, 1930. Bulletin of the Society in an article in which we then stated that we had found it on the same eroded surface with Folsom points, which we also pictured on the same plate. In Ray, Cyrus N., "Flint Cultures of Ancient Man," Vol. 6, 1934, we again described, pictured, and named Plate 18, Nos. 88 to 111 the "Clear Fork Culture Complex."

A statement concerning Folsom Points on page 118 of the Sayles Survey states: "Small projectile points, which may have been used with the arrow, are lacking in the lower levels of the Texas cultures. However, they are typical of the Brazos River level, with which Folsom points are also associated."

We do not agree with that statement. No Folsom points of either type have ever been found in so far as we know, in the Sand Dune Culture Complex which Sayles has renamed "Brazos River."* However Yuma points have been found in the clay stratum beneath these Sand Dune sites, which is quite different. In the case of the beveled dart points which Sayles erroneously lists as of "Brazos River" type, but which belong to the Small Scraper Culture of the Pottery Complex, several generalized Folsom points were found. (See Ray, Cyrus N., *The Pottery Complex Artifacts of The Abilene Region*, Vol. 7, 1935, Bulletin of Texas Archeological and Paleontological Society).

The Editor has nearly all of the Folsom points of either type ever found in this region, and none of the typical finer type Folsom points have ever been found in sites with small arrowheads, pottery or beveled darts, but these finer Folsom points have been found in eroded gullies with the Clear Fork Complex, which contains no fine, small arrowheads, but its points are thick, roughly fractured, with twisted, not beveled, blades.

The photographs and drawings are good, clear, and well done. Mr. Sayles is an excellent photographer.

He probably has done as well with this large order, as any other one archeologist of Texas could have, but the subject is too complex for any one person to do well.

Texas is physically too large, its cultures too diversified, and too widely separated in both time and space, to make it possible for one individual without the close collaboration of all the workers in the field, the assistance of all of the staff of Texas University Anthropology Department, and many long years of patient research by experts, to produce a reasonably accurate survey of Texas archeology. It is no one man's job, even though he may have had the best professional training possible.

Too little is yet known of the subject to make it safe to take in so much territory.

When enough is definitely known to justify such an undertaking, it should be done by Texas

University, since their staff has had more experience, and it is the best equipped institution in Texas to do the work.

When or if it becomes necessary to change the names of Texas artifacts and cultures from the terminology used by the writers who originally described them, it should be done by a State wide representative committee of Texas archeologists, and not by any individual's fiat. Such a committee would give citations of the original descriptions and names, beside the new ones if or where changes are made, so that future students of archeology would not become hopelessly confused by the changes.

C. N. R.

*W. J. Van London did find a number of microliths of exceedingly small size, in a sand blow-out near Amarillo with a true Folsom point, but they were all entirely too small for arrow points, are not similar to Sand Dune Culture points, and nothing like them has been found in the region of the Sand Dune Culture Complex sites.

A SURVEY OF THE SAND-HILL CAMP SITES OF LAMB AND BAILEY COUNTIES

Extending eastward from New Mexico into the Panhandle of Texas through Bailey and into Lamb County is a peculiar sand-hill formation. The eastern extremity of the area covered by the sand dunes lies about fifteen miles south of the town of Olton, in the northeast portion of Lamb County. Geologists estimate the origin of this formation as being in the Ice Age or shortly thereafter. An extremely loose top-soil, combined with sand brought by winds from the Pecos Valley in New Mexico, has made this region what it is today. Vegetation is limited to sage, yucca, and a few hackberry trees. Near the water holes, willow sprouts and cottonwood trees grow. The water holes lie along the bed of Sod House Draw, and the camp sites are seldom more than a quarter of a mile from this shallow canyon.

There are eight of these sites which have been named and several Others have been located. The individual sites are located in basins surrounded by dunes. These blown out places are circular in shape. The floor of a basin is seldom more than two acres in extent, while the dunes rise to a height of thirty or forty feet. Hard soil, packed and burned to a depth of from six to twelve inches, forms the floor of a basin where a camp existed. A steady, prevailing wind tends to carry the sand into a basin, while an unusually strong wind tends to sweep out the site. The air currents set up by a violent wind removes the sand from the floor, exposing the artifacts left by the former inhabitants. The process of exposing and covering is continually going on.

This same shifting eliminates stratigraphy as a key to determining the relative ages of the artifacts found. Fortunately, there is an abundant supply of decorated pottery remnants which give us some knowledge of the people who occupied the sand hills.

Several collections of potsherds and flint artifacts were made before souvenir hunters, picnickers, and passersby invaded the locations and removed a great deal of the material. A study was made of a collection of potsherds owned by Mr. C. H. Park, of Lubbock, Texas. The collection, picked at random, contained specimens representative of the types found in the area described. Two hundred and twenty-six pieces made up the group, and the classification was based on the groupings set forth by the Laboratory of Anthropology at Santa Fe, New Mexico. Only twenty sherds in the collection fell outside the Pueblo group. In a letter to the writer, Dr. H. P. Mera of the Laboratory of Anthropology gave a list of the types noted in the Park collection. These were Chupadero Black-on-White, Lincoln Black-on-Red, El Paso Polychrome, Corona Rubbed-Ribbed, Puaray Glaze-Polychrome, and Cicuye Glaze-Polychrome. The makers of these types lived in the southern and eastern parts of what is now New Mexico. The Chupadero Black-on-White sherds constituted over fifty per cent of the pottery types studied. The makers of this type lived in that part of the Pueblo area closest to the sand-hills, and this is typical of

the Fourth Pueblo Period, as are the other types named. It is thus safe to say that the sand hills were occupied for a time between 1300 A. D. and 1700 A. D.

There are at least two acceptable explanations for the appearance of these wares in West Texas. The first of these lies in the possibility that the pueblo people used the sand-hill locations merely for seasonal camp grounds, occupying the region only when they came to the plains to hunt. A number of vessels could have been brought along, broken and left.

The second explanation is based on the hypothesis that the sand hills were occupied by people who resided there permanently. These people could have traded for the pottery, giving to the pueblo people in exchange flint, meat, and hides.

No sherds of the distinctive Panhandle Culture pottery have been found.

The estimate made of the age of occupation does not exclude the possibility that this region has been occupied at other times. Although no writer has mentioned any Indian tribe as inhabiting the sand-hills, it has been proved that the area has been invaded in historic times. Mr. Park and Mr. W. G. McMillan uncovered a buffalo hide shield near a trail in the dunes. With the shield were several hundred glass beads and a Civil War model bayonet. Whether transients or permanent inhabitants were responsible for this is not known.

Flint objects form a large portion of the artifacts found. Arrowheads, knives, scrapers, and drills have been found. Most of the flint is from the Alabates quarries on the Canadian River, while gray chert and obsidian are also found. Several points of the Folsom type have been found. The knives range in length from four to ten inches, and many of them are of the four-edged type.

If bone implements existed, they have decayed for none have been found. Ornaments, with the exception of bone and glass beads, are lacking.

Since caliche is the only rock native to the region, the manos and metates were evidently imported. These can be found at all of the various sites.

No signs of shelters can be found today. At one time or another, people to the north, south, and west of the sand-hills had shelters of stone, mud, or a mixture of the two; but no trace of rock or crumbled walls can be found here.

Future investigations in the sand-hills, and particularly in the surrounding region, should answer the questions concerning the place from which the inhabitants of the dune sites came, and where they went.

—Wm. M. PEARCE,
Texas Technological College,
Lubbock, TX

EDITORIALS

Destructive Diggers

We read papers and hear lectures on the sins of commission and omission of the unlettered diggers who destroy valuable evidence in their search for arrowheads, and in some regions for pottery, and all that has been said or written is true, and it is really much worse than has ever been told.

Something should be done to stop it, but how to do it effectively is a problem. Many of the articles bemoaning the condition dwell on "the great value to science of the destroyed bones and evidence."

Such articles succeed in leaving an impression on the minds of a large section of ignorant newspaper readers, that if they can only obtain these "valuable" bones or artifacts, that they then can sell them for fabulous prices to museums. So the net result of many such articles is to set a host of ignorant commercially minded diggers to work destroying interesting archeological and paleontological sites. If such articles are given to newspapers at all, the fact should be dwelt on that the "value" of such things is purely educational and cultural, and that their "value" is wholly dependent on the reliability of the excavator, and that no museum will pay them anything for such materials.

Gold Digging Pests

The worst pests are the gasoline filling station and curio store proprietors who want to exhibit

curios to sell to tourists possessed of more money than discretion. These dim-wits furnish the income for the destroyers of scientific data, and material culture.

In some manner severe penalties should be enforced against such people before it is too late. Then there are a large number of persons who are victims of the ancient chart selling swindle, which is said to have long flourished in Mexico, and in southern Texas. Seemingly ancient charts are prepared and aged in acid fumes or other chemicals, and sold to the gullible portion of the public as "ancient treasure charts." Apparently most of these must describe the site of the supposed "treasure" as under the limb of a large live oak tree, since these foolish diggers have nearly dug up by the roots several giant live oak trees in this region. Some of these holes made by moronic treasure hunters are so big and deep that one could bury a large automobile in one of them.

Perpetrators of such digging would be interesting cases for the study of abnormal psychology, but it is usually done at night and the diggers are always unknown to the landowners.

Hafted Flints

There was a dealer in artifacts in a small Texas town several years ago, who collected arrowheads and other flints from the farmers of the surrounding region, and sold them by mail. In this fellow's collection were some hafted flint arrowheads which he sold at rather high prices. A tale was told about them having been found on an Indian battlefield in Texas sixty years before. An amateur archeologist bought several of these arrows. These flints apparently were patinated (a chemical process which probably takes thousands of years to produce). The wood had an appearance of age, and the tangs were fastened to the shafts with sinews. But when the archeologist removed the flints from the shafts he then saw that the person who hafted them had neglected to use the brown stain on the ends of the shafts covered by the sinew wrapping like he had on the unwrapped parts, and the wood was as white and fresh as though whittled out the day before. The unwrapped parts had been painted

and were stained and soiled like the work of time. The arrowheads were broken by the archeologist and this revealed that they had a thick coating of patina, covering the original blue flint centers. Of course Indians could have picked up patinated points and again hafted them, but the writer has not heard of the use of flint points by Indians in Texas within the memory of any living person.

Archeologists cannot be too careful in examining artifacts held by dealers. Some of them will go to any kind of pains to hoax a scientist, and in many cases this is made easier by the fact that the scientist being himself free from any desire to deceive, gives the other fellow credit for the same ethics, and sometimes does so to his sorrow.

Teeth of Hipparion, of Trilophodon and Rhinoceros

We have received from Mr. H. J. Bradshaw of Abilene, one trilophodon tooth, (a four tusked elephas species), two rhinoceros teeth, and two teeth of a three-toed horse (Hipparion). These teeth were found by Mr. Bradshaw in the Nueces River gravels.

Glyptodon Species

On a trip to Knox County with W. A. Riney we collected plates of two species of glyptodon, mammoth and mastodon teeth fragments, and extinct horse bones. Some old cremated burials which had been excavated by treasure hunters were examined, and some snail shell beads overlooked by them, were found.

New Prehistoric Burials Excavated

Four prehistoric burials have recently been excavated in the Abilene region. Two of these are of a type different from any previously found in the region, in that they are extended burials. The work will not be finished until after this Bulletin has been printed. A full report will be printed next year.

New Data On Deeply Buried Sites

The Editor has continued his inspections of the results of stream erosion of the deeply buried sites

of the Abilene region and has done some additional excavations, in the stratum which is buried 8 feet deep, during the past year. In a total of eight hours digging on two days, he has dug out of this clay bank stratum 29 bone fragments, 170 man made flint flakes, 3 knife edge fragments, 1 flint dart head expanded tang, 1 rough percussion flint blade, 1 flint knife point, and 1 beautifully chipped straight edged flint spear head from which the tang and one barb have been broken, but with one barb intact, which is $\frac{1}{2}$ inch long. This blade is $3\frac{1}{8}$ inches long from the point to the end of the barb. The finding of this artifact proves that fine barbed spear heads were used in this region long enough to become buried in a stratified campsite eight feet deep. Some have supposed that all older points are similar to the Folsom points and that barbs are a comparatively recent development. Much of the Editor's observation does not confirm that idea. We believe that it will eventually be proved that tanged and barbed spears antedated the Folsom points, and were also used during the same period when that culture trait was developing, and that their use was continuous in varied shapes, and culture types, throughout a long period of time.

This eight feet deep stratified site probably extends through the earth a considerable distance from the high bank of a small creek branch of the Clear Fork of the Brazos, to another outcrop on the high bank of the Brazos River where the latest digging was done. In 1929 when the writer discovered this site, (See Science Service publications for December, 1929), he excavated the small creek branch outcrop, and found quantities of charcoal, flint chips, bones, mussel shells, a horn core, teeth and a square based knife. These bones and teeth, mainly excavated by the Editor and Dr. Otto O. Watts, were loaned to a representative of an institution located in a far southwestern State early in 1934, on a promise of a report when they were identified. At the present time, more than two years later, no report of any kind has been received here.

That excavation was described and the artifacts pictured in Vol. 2, 1930, Ray, Cyrus N., "A Report On Some Recent Archeological Researches in the

Abilene Section," plates 11 and 14. Plate 15 of the same volume pictures another stratified site on another stream where the $24\frac{1}{2}$ and 27 feet buried levels outcrop. In the latter site also erosion has very recently exposed a fine broken blade point and several more man made flint flakes. Here also a great number of flint flakes, and several complete projectile points have been found embedded in place in the stratum of charcoal.

Poor Co-operation and Public Relations

A great deal has been truly written about the sins of omission and commission of some of the amateurs, and all are to the point.

Many professionals deplore the bad relations some times existing between local amateur researchers, and the representatives of some of the larger institutions. There are many reasons for such conditions. In some cases due credit is not given to the man in the field, when publication is made on the results of his discoveries, and years of patient research.

One of the most irritating of all the things sometimes done to the local research man is the obtaining of excavated materials on the promise of their complete identification, then keeping these materials for years without submitting any report to their finders. We once had materials held six years and then returned on our insistence without a report. And then such persons sometimes complain about poor co-operation. What can they expect?

We may be wrong, but we believe that anyone who knows his subject can identify, or have identified, prehistoric bones within a year's time. If he cannot, he should not stand in the way of those who can, and do so. Science would advance much faster if those of us who work at it for recreational reasons could obtain better co-operation.

If the members of The Society will report to this Editor instances of failure to return either archeological or paleontological materials, and of failure to make reports, after a reasonable time period has elapsed, we can then use the information for the benefit of our members.

*Rio Grande Glaze Paint Sherds
Found in Taylor County*

Those who read volume seven of this Bulletin may remember that two sherds from a campsite in Taylor County were identified by Dr. H. P. Mera of The Laboratory of Anthropology of Santa Fe, New Mexico, as sherds of Rio Grande Glaze Paint ware and that the various flakes of obsidian found in Taylor County, Texas, were identified as from the Jemez Mountains in New Mexico. (Pages 83 and 84, description site 15, Vol. 7, 1935, of the Bulletin of this Society).

Since last year the Editor has found three more western sherds in a different site, the one listed as Site 1, page 80, Vol. 7, 1935, Bulletin of this Society. More flakes of New Mexican obsidian have also been found in Pottery Site 1 than in any other local site. See Dr. Mera's report page 79, Vol. 7, 1935 Bulletin. The last three sherds found have also been sent to Dr. Mera for examination and identification, and his report follows:

“Both numbers 1 and 2 are fragments of typical Rio Grande glaze paint ware. Although neither gives a clue to rim form the general character indicates a period not earlier than the latter part of the fifteenth century.

“Number 3 is from a form that does not seem to represent a standard technique in the region in which it is sparingly found, i. e., eastern New Mexico. It appears to be an effort to imitate indented coil ware by means of treating a smoothed surface with some sort of tool. It occurs in sites peripheral to true Pueblo territory. Outside of recognizing the type and its provenience I can tell you nothing further as practically no work has been attempted in that particular area.

“It is indeed surprising what distances were covered in the course of trade. While conducting some archaeological work in the Petrified Forest in Arizona, I found an artifact made of silicified dolomite of the sort quarried at Amarillo, Texas. H. P. Mera, Staff Archeologist.”

Large Piece of Obsidian Found in Taylor County

Since the last report, a farmer who lives 30 miles south of Abilene, showed the Editor a large piece of New Mexican obsidian which he had plowed up in a field. This weighed 61/4 pounds. Prehistoric Indians must have valued this material highly, to have carried an object of that weight six hundred or more miles by foot, when flint of such good quality was so abundant in the region to which they carried it.

* * * *

The Editor asked Dr. J. Alden Mason, Curator, Section of American Archeology and Ethnology, University Museum, University of Pennsylvania, Philadelphia, Pennsylvania, to write an editorial for this bulletin on some subject of archeological interest, and he has submitted the following notes on his 1929 trip to Texas.

Notes On the Archeology of Southwestern Texas

In 1929 I had the pleasure of spending several months in Texas, New Mexico and Arizona, on an expedition from the University Museum, Philadelphia. In the first part of this work I was accompanied by Mr. Charles Bache and Mr. Linton Satterthwaite, Jr. A brief account of this work was published in our *Museum Journal* for September-December, 1929, under the title “The Texas Expedition.” This related briefly the work around Abilene, Mora in New Mexico, and on the Canadian River. It is possible that a fuller report may some day be published on the Canadian River work. Subsequently, alone, I did some more extensive work around Navaho Mountain in Arizona which I hope will eventually be published in extenso. In the interim I spent from September 20 until October 30 visiting sites in southern and western Texas. Most of the time was spent in travel, visiting sites and studying collections under the guidance of well-known Texas archeologists, whom I am delighted to call my friends and whose kind hospitality I remember with pleasure. A few odd pieces of investigation were, however, carried out, which are briefly detailed in the following notes.

Early in October, 1929, I had the pleasure of spending a few days on the lower Devil's River, a short distance northwest of Del Rio. While in the latter city I had made the acquaintance of Mr. John Carruthers and had been kindly invited to visit his ranch on the Devil's River and to investigate the archeology there; four days were spent in these researches.

The lower Devil's River is a beautiful little valley and a surprising spot to be found in arid West Texas. The river is rather broad and still, and for a short distance on either side of its banks are lush green grass and trees before one reaches the low cliffs bounding the valley; beyond these is the usual arid country. Fish, quail, pigeons and deer are abundant. If the valley was in this condition in aboriginal days it must have been a favorite spot for permanent or temporary habitation but, although I neglected to inquire, it may be that this oasis is the result of recent engineering work.

No open habitation sites were noted, but in the cliffs near the river are frequent habitable caves and rock-shelters, and several groups of pictographs were noted; these were the subjects of the archeological investigations. As the results were of slight importance, I take this opportunity of noting them here, though without the photographs and drawings of the caves and petroglyphs.

One group of caves is in the low cliffs about two miles south of the Carruthers ranch. One of these caves extends far back, with crevices and niches; it is about fifty yards from the river bank. The floor is high with much dirt and fallen rock and the roof, where not fallen, is smoke-blackened. There is much detritus at the mouth of the cave, with some flaked artifacts resembling those of the neighboring "burnt-rock" mounds, and many chips of the same material, suggesting an identity of the two cultures.

Another neighboring cave was partly excavated by trenching and making other test-pits. This is about 75 feet above the river and 300 feet from it, and, like all the places investigated, is on the east side of the river. Its maximum habitable length is 27 feet, width 15 feet, the average height about 6

feet. It slopes at the back so that the floor measures about 35 by 20 feet, but the peripheral parts are low. The roof, where not fallen, is very black from smoke, and the floor is covered with fine material and larger spalls from the roof. On some of the surrounding rocks are striated lines such as are often found throughout this region. The cave showed evidences of occupation, with charcoal and some flint chips, but no artifacts; the floor deposit was very thin.

The most interesting cave examined is in a little side canyon or crevice. This is of greater extent than the others, but the exterior rock-shelter is not large. The detritus slope resembles in nature the "burnt-rock" mounds, containing a few arrowheads and other artifacts. Further back, the cave has a low dim interior which had to be entered on hands and knees. Here an interment was found, the head about 8 inches beneath the surface. It lay on its right side facing north with the head toward the back of the cave, the legs to the front. The lower leg bones were doubled against the thigh, not folded against the torso but at right angles to the latter. It appeared to be the body of a young woman or child. Although the body lay on its side, the head lay in vertical position with the jaw at the bottom; the lower jaw was missing or decayed. The head lay against a rock on which were two layers of twilled matting which probably originally covered the head. At the rear of the cave were found several other skeletal fragments which probably had been excavated before; these consisted of a fragmentary child's cranium and a few vertebrae of an adult.

On the site of Mr. Carruthers ranch is a camp-site on which I picked up some complete and numerous fragmentary arrowheads, scrapers, and other flaked artifacts. It is said that the last band of Indians in this region camped here for some time.

Painted pictographs are numerous in this region. One group, excellently made and well preserved, about 150 feet long and 30 feet high, was found on a nearby cliff, and at Cedar Canyon, a few miles north of the ranch, a large group of petroglyphs was found on an overhanging cliff. The colors employed seemed to be various shades of black or dark blue, sepia, buff, yellow and red. Most of the

characters are drawn in outline, but a few are in solid color. Figures of human beings, animals and many of difficult identification were noted.

On the same trip a few days were spent on the ranch of Mr. David Rose, not far from Brackettville. The kind hospitality of Mr. Rose is a pleasant memory. A cave was investigated there, in which only a short time before Dr. Ronald L. Olson had also worked. No artifacts were found by me, and no unequivocal proof of human habitation below the surface, but in one stratum at some depth considerable charcoal was found. Several typical burnt-rock mounds were also observed on this ranch.

A few enjoyable days were spent around Austin with Dr. Pearce, Rockport with Mr. George C. Martin, and Brownsville with Mr. A. E. Anderson, but no excavations were attempted and no observations made that are not well known to the readers of this Bulletin, mainly through the publications of the above-mentioned authorities.

As briefly mentioned in the last number of the Bulletin, p. 34, I took advantage of my presence in Brownsville to motor south to Soto la Marina in Tamaulipas. Except for the Huastec melon olla mentioned in the aforesaid article very few evidences of aboriginal occupation were noted, and the general culture must have been of a low type. In the lagoon area immediately south of Brownsville

a few Indian camp-sites were seen, evidenced by a thin accumulation of shell, far less than in sites near Rockport and Corpus Christi. At San Vicente a number of arrowheads and several potsherds were collected, all large and crude. Very large projectile points are said to have been found there. At Soto la Marina accumulations of shell are very common along the high banks of the river, and many arrowheads are found in these, mainly large and not very well made. Some potsherds were also found, but recent Spanish pottery is so common on these sites that it was impossible on the spot to select the aboriginal ones; possibly all are recent. The arrowheads showed no small fine points, no serrated edges, and no pronounced barbs. Many broken stones were seen, often in small heaps, and somewhat resembling, except in size, the burnt-rock mounds of Texas. At Loreto we were told that there were quantities of potsherds and flints to be found between there and the coast. South of Soto la Marina the culture apparently is higher. Between there and Aldama there are said to be high walls and terraces, and near Eslabones, about 15 leagues to the southwest, we were told of round buildings made of stone without mortar, twenty feet or more high, with vaults or "bovedas" on the top, of obsidian daggers and other evidences of a much higher culture.

J. ALDEN MASON.

SECRETARY AND TREASURER'S REPORT OF THE TEXAS ARCHEOLOGICAL AND PALEONTOLOGICAL SOCIETY

Report for the period from the annual meeting October 31, 1935, to October 1, 1936.

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Balance on October 31, 1935 -----	\$408.55
Eleven Memberships for 1935 -----	33.00
Fifty-three Memberships for 1936 -----	159.00
One Membership for 1937 -----	3.00
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	<u>\$850.05</u>

DISBURSEMENTS:

Printing 1935 Bulletin -----	272.34
Engravings in 1935 Bulletin -----	63.15
Postage, Stationery and Supplies -----	24.50
Expenses For the Annual Meeting From Collections -----	15.00
Expenses on J. L. Bridwell Excavation Fund -----	<u>3.15</u>
	<u>\$378.14</u>

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**TEXAS ARCHEOLOGICAL AND
PALEONTOLOGICAL SOCIETY**

Abilene, Texas

The Eighth Annual Convention of
The Texas Archeological and Paleontological Society
will be held at
Abilene in the Hilton Hotel
On Saturday, October 24th, at 10:00 a. m. to 4:00 p. m.

PROGRAM

Morning session convenes at 10:00 a. m.

“A Proposed Archeological Quadrangle Mapping of Texas” ----- Prof. Victor J. Smith of Alpine
“Extinct Mammals of the Pleistocene Era” ----- Dr. Julius Olsen of Abilene
“Archeological Research in the Abilene Region” ----- Dr. Cyrus N. Ray of Abilene
“Further Archeological Studies in the Trinity Water Shed” ----- Mr. R. K. Harris of Dallas
Reports on Field Work by members.

12:00—NOON LUNCHEON

Election of Officers and Annual Business meeting.

Afternoon session convenes at 2:00 p.m.

“Some Illustrations of Mayan Art” ----- Dr. Otto O. Watts of Abilene
“Aztec Pictographs and Translations from a 1565 Mexican Court Record”
----- Dr. Howard L. Schug of Abilene
“Relation of Geography, Geology, and Human History in the Texas Region”
----- Dr. Robert T. Hill of Dallas