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SALVAGE ARCHAEOLOGY IN OKLAHOMA

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PAPERS OF THE

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NUMBERS 18 - 21

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Identification and Morphology

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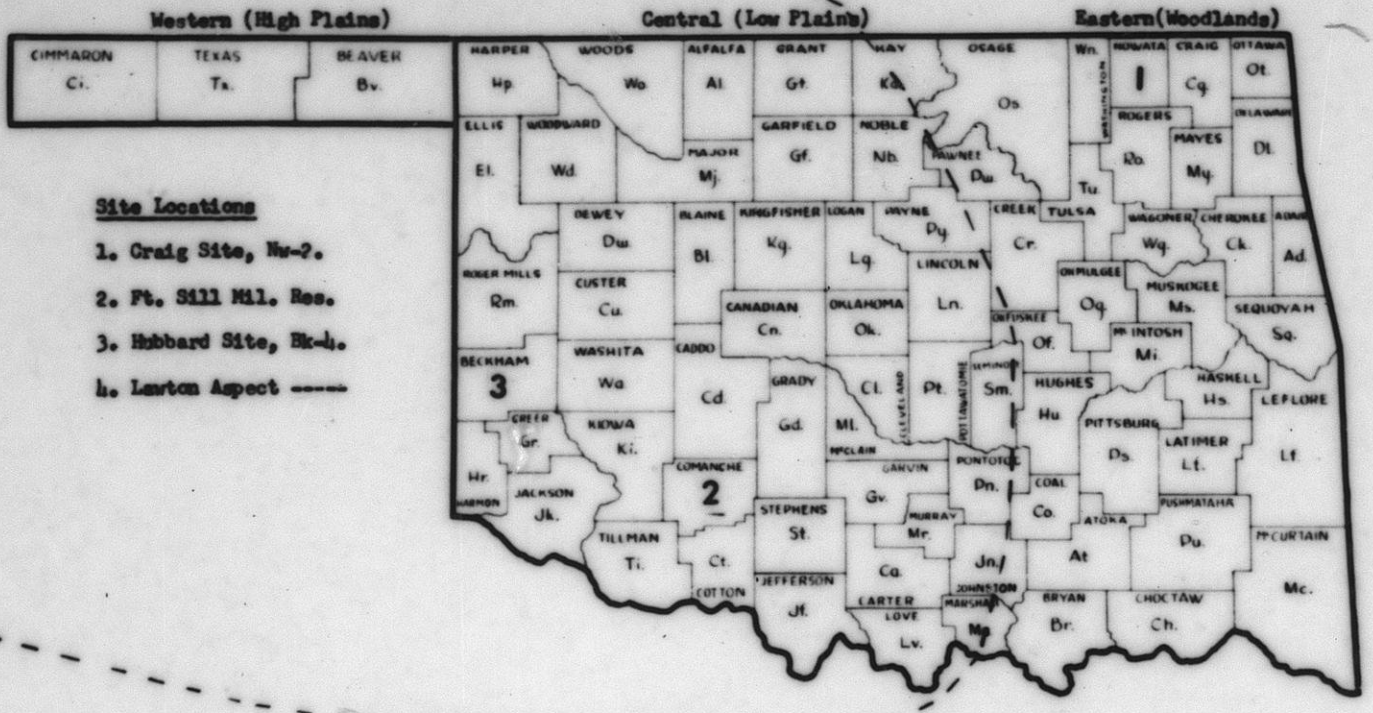
1960

ARCHAEOLOGICAL DIVISIONS OF OKLAHOMA



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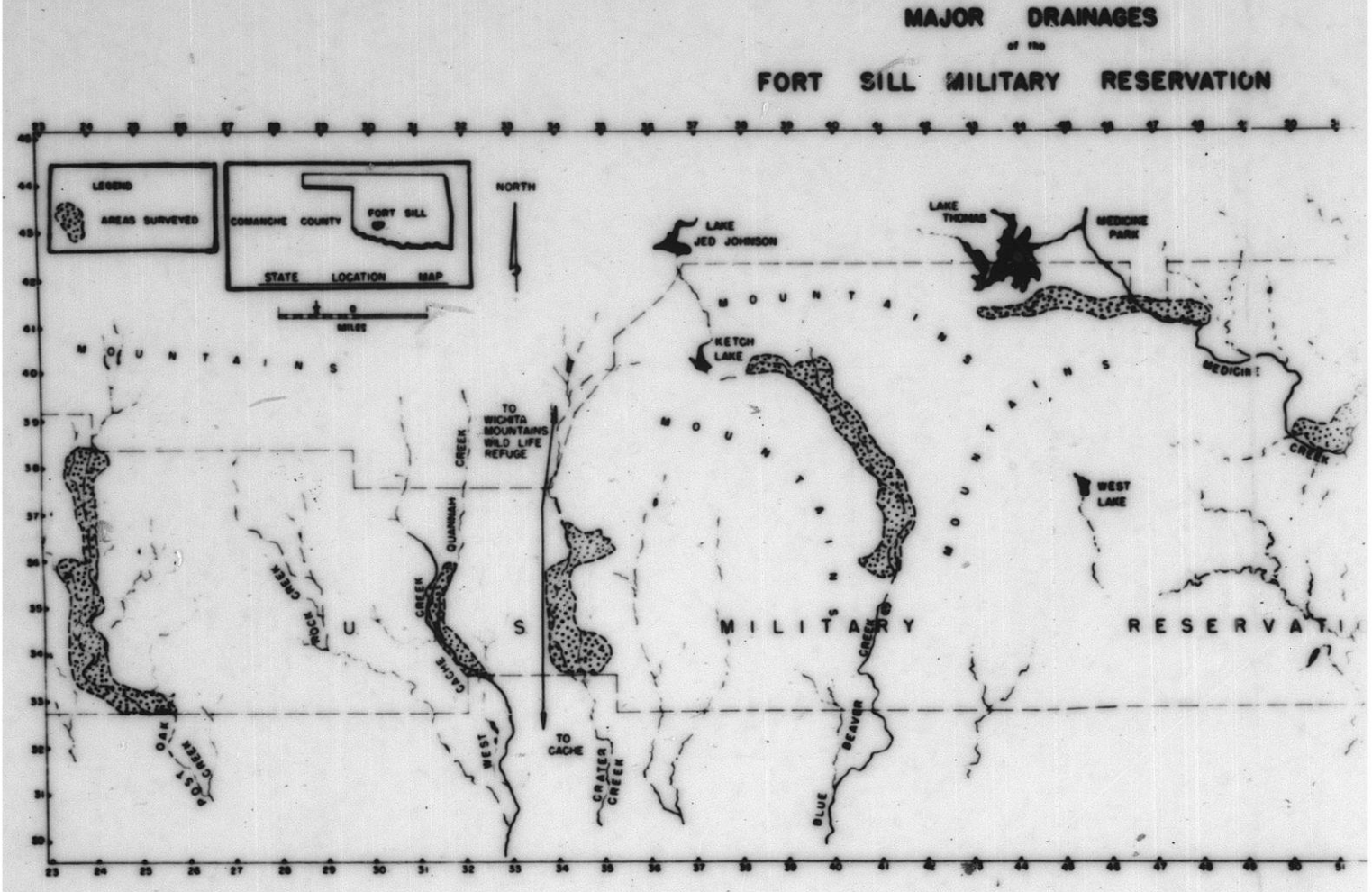
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Fig. 1.

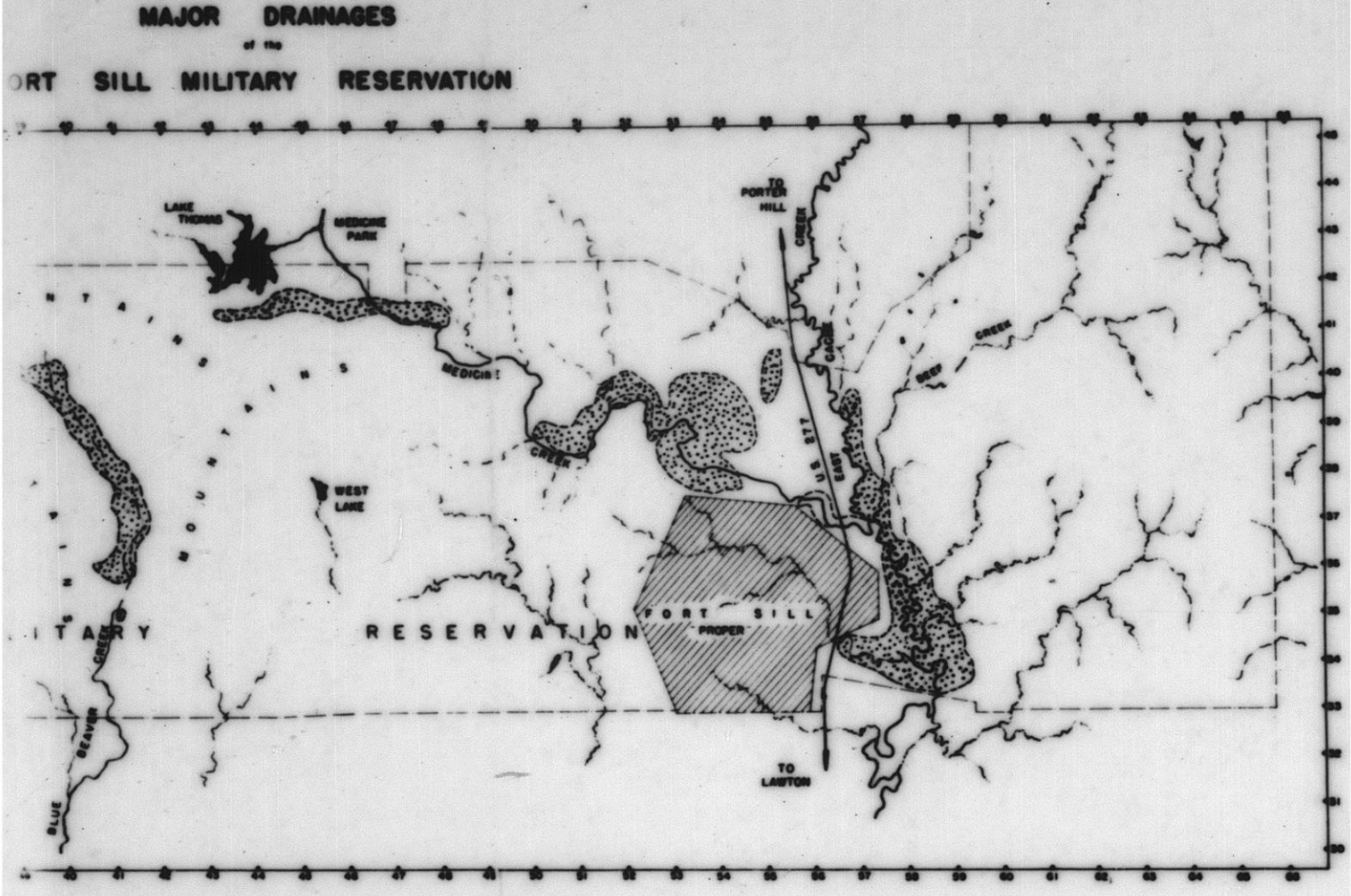
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Fig. 1.

ARCHAEOLOGICAL SURVEY
OF THE
FT. SILL MILITARY RESERVATION

Background and acknowledgments:

The survey of the Ft. Sill Military Reservation was the result of collaboration with the staff of the Ft. Sill Artillery and Missile Museum in connection with the problem of identification of a military burial uncovered near Altus Lake (Shaeffer, 1959).

The Museum was interested in the Indian history of Ft. Sill which could be used as a background for future exhibits. The Salvage Project was anxious to make a survey of the ranges recently added to the Ft. Sill area, and had a long standing interest in the area because of its importance in the Indian history of the state, and since little was known about the archaeology of the counties along the Texas border between Lake Altus and Lake Texoma, it was felt that a survey of the Ft. Sill area would help fill a geographic gap in the archaeological reconstruction of the state's prehistory. Therefore, arrangements were begun for a joint investigation by the Oklahoma Archaeological Salvage Project and the Ft. Sill Artillery and Missile Center Museum.

In consultation with Mr. Gillett Griswold, curator of the Museum, tentative plans for a survey were drawn up. It might be noted that Mr. Griswold is solely responsible for the general arrangements which made the survey possible. His interest in broadening our historical knowledge of the Ft. Sill area during the vital years of the Oklahoma territory between 1870 and 1900 is to be commended.

These plans for the survey were submitted to the Commanding General, Ft. Sill. Following a staff study and approval by the Chief of Staff, Col. Arthur C. Goodwin, Jr., the survey was authorized by Maj. General Verdi B. Barnes, to be conducted under the general direction of Col. Samuel L. Morrow, Assistant Chief of Staff - G-4, acting in his additional capacity as President of the Museum Board. for permission to conduct this survey appreciation is extended to the Commanding General for the opportunity to record this chapter in the state's prehistory. The success of the survey attested by the number of sites recorded and collections made can be attributed to the cooperation which the Salvage Project received from his staff and members of his command.

Funds for the survey were approved upon application to Region Three of the National Park Service acting under the authority of the Historic Sites Act which provides for the salvaging of archaeological information on federal lands, of sites threatened by destruction. These funds were transferred to the Research Institute of the University of Oklahoma under whose auspices this investigation was carried out. Appreciation is extended to Mr. Charlie Steen, Regional Archaeologist of the National Park Service and to Mr. Verne Kennedy, Director of the Research Institute, and to his staff, for their cooperation and forbearance with the administrative problems encountered.

CONDUCT OF THE SURVEY

Aerial reconnaissance

A reconnaissance by helicopter was made of the entire reservation prior to the survey on foot. This reconnaissance was made on two different days; approximately 3 hours were spent searching the drainages

east of Ft. Sill and in the Punchbowl area and 4 hours searching the drainages to the west of this point.

There were two original purposes: first, to obtain an over-all impression of the terrain which would be traversed on foot and to note the relationship of the drainages to each other and second, to discover, if possible, the location of former Indian villages by surface and sub-face indications.

The first purpose was successfully accomplished. As a result of the flight and considering limitations of time and money, it was decided to concentrate upon the area esatward from East Cache Creek, leaving the eastern third of the reservation unsurveyed for the present. From the air it was apparent that the drainages in the latter area were too shallow and the terrain too unlikely for much late prehistoric, protohistoric, or historic Indian occupancy, although under different ecological conditions that area might reveal evidences of early or middle prehistoric occupation. The area close to the Wichita Mts. was also eliminated as being too rugged as was the impact area in the central part of the reservation. This was not only because of the problem of duds and disturbance by cratering but because the area appeared to have few major drainages and probably few sites.

The second purpose of the reconnaissance, the location of Indian villages from the air, was not realized. In the eastern part of the range (east of Cache Creek) numberous craters, vehicle turning circles, machine gun and artillery trail traverses, and infantry entrenchments confused the occupation situation to the extent that it was impossible to even check all these disturbances. However, test checking of a number of these points gave no surface indication of Indian habitation. The second part

of the flight in the eastern section, was undertaken after a week's survey along East Cache Creek and part of Medicine Creek. But even the circling of located sites in these areas failed to reveal any subsurface evidence from the air of either tipi rings or house foundations.

Actually, the speed which must be maintained for safe flight even in a helicopter at the low altitude such as is necessary to spot small Indian campsites makes it difficult for the untrained eye to survey the surface for details of depressions, grass discoloration, and structural details. This may account, in part, for the negative results of the flight. On the other hand, the explanation may be that older villages such as known Wichita sites may be completely leveled and late Plains encampments may have been too transitory in character to leave such evidence as may be distinguished from the air. At any rate, the survey proved most valuable from the standpoint of general planning for the surface survey.

Extent of the surface survey

Taking into consideration the time limitations (18 survey days), it was decided to limit the survey to the areas along the major drainages from east to west across the reservation, a distance of approximately 30 miles. Seven drainages were covered in whole or in part. East Cache Creek was surveyed from the southern boundary to approximately the Old Ft. Sill boundary. Medicine Creek was surveyed to its junction with Deer Creek except for a middle area. Deer Creek was covered northeast several miles until the valley narrowed and became obviously unsuitable for prolonged Indian encampment. Most of Blue Beaver Creek was covered except for the lower 1 or 2 miles near Boundary Road. Crater Creek was covered to Craterville Park where the stream enters a narrow gorge.

West Cache Creek was walked to its junction with Quanah Creek and the latter, to within a mile of Burma Road. Post Oak Creek was entirely covered. The only major gap is the area in the middle of Medicine Creek. Frequent inclusion of this drainage within the impact area precluded the total survey of Medicine Creek. Undoubtedly there are more sites in this area. Likewise there were sites on Upper Quanah Creek and West Cache Creek which were not located because of lack of time. Rock Creek was not surveyed as it is shallower than the other drainages but again it is likely that some settlement took place on both creeks under favorable conditions. Beef Creek, Scout Creek, and Wattron Creek in the east part of the reservetion were, as previously indicated, not surveyed. Some light occupation probably occurs in this area of low hills. The main impact area in the hills 3 miles on either side of Wolf Creek in the center of the reservation was not included for obvious reasons. Aerial surveys suggest that it was one of only moderate small site occupation.

Survey procedure

During the survey the director was assisted by Mr. Elmer Craft of Eldorado, Oklahoma. Mr. Craft is an amateur archaeologist of considerable experience in surface collecting and has one of the largest collections of prehistoric Indian material in southwestern Oklahoma. The survey is considerably indebted to Mr. Craft for his diligence and keen observation throughout the period involved. The extent of the collections is mainly due to his perserverence especially at the many sites which showed very thin and evanescent evidence.

Usually the collecting procedure was as follows. Survey activities were begun on the bank of a stream working toward the source. One person followed along the edge of the trees which bordered the stream. These were often paralleled by a firebreak made by bulldozing the surface

sod to form a shallow trail which is used by military vehicles during fire exercises or troop manoeuvres. The majority of sites were picked up by evidence along these firebreaks where the sod had been removed. Forays into the woods were made whenever the terrain suggested flats or other suitable camping areas. The other person covered the area between the firebreak and the nearest rise of ground or, in flat country, a hundred or more yards from the stream bank. The opposite side of the creek was surveyed in the same manner on the way downstream. When sites were located by one person, the other was usually called over and the site thoroughly investigated until a representative collection was obtained or, in the case of thin sites, until the material was exhausted. In some cases as much as 40 minutes might be spent on a site but 10 to 20 minutes was the rule.

Sites were designated numerically; materials placed in a sack. Collections made each day were washed that night. A descriptive location of the site and grid coordinates of the site were made as each site was located. Serious analysis of the material was not attempted until the completion of the survey although some preliminary observations were made from the daily material as it was spread out to dry.

Excavation

No serious excavation was attempted, though many sites were shallow, because it was felt that the survey would benefit from a knowledge of the maximum distribution of sites. However, several small tests were made in an attempt to differentiate between large historic Plains sites and large prehistoric campsites. In this the survey team was assisted by Mr. James Marler, Assistant Curator of the Museum. We are indebted

to him additionally for the location of and information about, known sites occupied by Indians during the historic period. Mr. Marler also assisted with the survey when possible and in many other ways went out of his way to be helpful.

The most extensive excavation was at Site 26, on the east bank of East Cache Creek at Pig Farm Crossing. Here Mr. Marler located a rather large site among some old oak trees. From prehistoric times this seems to have been a favorite camp area. The travel of military vehicles had exposed a number of stone hearths, some of which lay in the roadway. A trench 8" deep was cut from one of the small (3 ft. in diameter), circular, stone hearths eastward to a concentration of partially exposed buffalo bone some 20 feet away. In the course of this digging a stone maul, hematite paint, a few shells, a diagonally notched dart point (type 1), a stone knife (type 1) were uncovered. No historic material on the surface or subsurface was encountered, leading to the belief that it was a prehistoric, rather than a historic Wichita or Plains site.

Several other stone hearths were uncovered near the Apache Mission Site (site 31) and other at Upper Blue Beaver Creek (site 63) which was a site showing only quartzite material. These hearths were quite consistent, being about 2 feet in diameter, composed of rather flat rock laid on a more or less level plane. Since the historic records do not mention this type of hearth for the Plains Indians or the Wichita, it is assumed that this represents a hearth type associated with the prehistoric occupancy of the region. As most of the large sites contain this type of hearth, we were led to the conclusion that the majority of sites located were prehistoric rather than, as expected, historic sites. This, however,

is a tentative conclusion pending more complete excavation since the interpretation of the mass of material obtained from 115 sites is quite complicated and does not conform to the expected pattern.

Interpretative problem

Prior to the survey, it was expected that the material recovered would fall into 3 main catagories: (1) historic period - a late 19th century phase of exclusively European goods and a middle and early 19th century phase probably containing both European and Indian materials; (2) a protohistoric period in which Plains campsites and the more sedentary Wichita villages could be distinguished from each other; and (3) a prehistoric period characterized in a late phase by pottery and in an early phase by the lack of pottery and the presence of dart points and other evidences of the Archaic level of culture. However, this pattern did not develop or at least upon analysis the surface collections did not fall into these categories.

For better understanding of the situation it might be well to first describe and summarize the findings by drainages, as was done in the analysis. Thus the interpretative problems will emerge. In this connection it might be appropriate to explain that the extent of the appendices which summarize this material results from two facts: (1) an attempt, through typological description, to lay the groundwork for the interpretation and understanding of future excavation and (2) to sort out the archaeological material into some sort of time sequence. This situation is complicated by the fact that the time sequence is compressed into a very shallow vertical space in this area and that it is overlapping due to the reoccupation of sites by people of different periods and cultures and, in addition, by the concentration of sites due to the favorable

ecological location of the Wichita Mountain area which might be described as a watered oasis in a semi-arid environment.

DRAINAGE GROUPS

East Cache Creek

This is a wooded creek bottom consisting of a variety of large trees, principally oak, elm, and cottonwood interspersed with hackberry, plum, etc.. The woods usually grow to within 100 to 500 yards of the creek. It was in this area, near the edge of the woods and in them, and on the flats ... especially on the numerous bends of the river ... that the early explorer Col. Dodge reported large encampments of Plains Indians in 1834. Catlin reports that the Wichita formerly had a few villages along the creek at unspecified locations. During the reservation period in several instances, for example in 1874 after the unsuccessful Adobe Wall incident, the surrendered hostiles were located in a "concentration camp" for a period of several months "below Ft. Sill along East Cache Creek". The Kiowa, too, are referred to as having had a separate camp on East Cache Creek prior to the removal of the Indian Agency to Anadarko in 1874. Despite the reported relatively intense occupation of the area by Plains tribes, it has not been possible to definitely locate any of these encampments.

Table 1 indicates that 32 sites were located on the stream within the area indicated on the map. Of these 20 showing historic material only 4 lack associated flint, shell or other Indian materials. Twelve sites lacked evidence of European contact. These contained Indian types of material exclusively such as flint, quartzite, shell and hematite.

The initial supposition was that some of these Indian materials overlapped and were contemporaneous with the occupations represented by

the white culture. However, it is now felt that in the instances where white and Indian material occur on sites, they represent different time periods and reoccupations of the same areas.

East Cache Creek and Medicine Creek, as will be seen later, are differentiated from the remainder of the reservation by several characteristics: the presence of bone, shell and hematite (paint) as well as the presence of small arrow points, especially types 2, 3, and 4, the dominant use of flint coupled with the minor use of quartzite as a tool material, and the use of stone hearths. A review of the literature which exists on the material culture of the southern Plains tribes does not suggest the use of any item of this list of traits as characteristic of these tribes. All reports, where positive evidence exists, state that metal points were used by the tribes in this area when encountered by the whites. This observation includes not only the Plains tribes but the Wichita as well. Not one metal point was found during this survey, a commentary on the ephemeral evidence of the Plains occupation for this period.

Both the Plains tribes and the Wichita are represented as employing circular firepits in their dwellings, the difference between the two being in size. No mention was made of stone hearths, even for outdoor cooking. The matter of shell is also of some importance here as it is absent from other parts of the reservation but occurs in 20 out of 32 sites on this drainage and is uniformly local mussel shell. There are no reports of shell fish forming a part of the Plains diet but there is an occasional mention of shell used as ornaments and Catlin illustrated one Comanche chief with earrings of half shells. However, no pierced

shell was found here and there was no evidence that the shell had been worked. Its absence from the rest of the reservation is hard to explain if such sites represent Plains sites. Hematite appeared to be concentrated in the East Cache Creek and Medicine Creek drainages and to have had about the same distribution as shell. In 6 sites, 14, 19, 21, 26, 28, 29, shell occurs without European trade goods and on 4 of these sites 13, 21, 26, 29, hematite also occurs as well as one instance with pottery. The obvious deduction must be that shell, hematite, pottery and small points predate the historic material.

This conclusion is, of course, very unsatisfactory as it does not locate the large Plains Indian campsites known to have existed along the creek. As Table I indicates the majority of the sites showing white culture were of late occupation, most of them being between 1880 and 1895, except for the fort dump area represented by Site 9, is poorly represented. Apparently absent altogether is any certain evidence of the 1870's, ie. between 1870 and 1880 when the Plains Indian occupancy was at its peak. It may be that crockery and glass for this period has not been recognized as such. If the fort dump for this period could be located, possibly it would clarify what now appears to be a missing period of the Ft. Sill history as far as archaeological remains are concerned. Until that area is found, there is no satisfactory explanation to be offered for the missing large Plains campsites.

There is some deposition in some of the bends of the river, notably buffalo bone and hearth material, 6 ft. below the present surface along the southeast creek bank north of Site 26 which appears to be contemporaneous with that site which is now almost on the surface. However, a greater depth for the material prior to 1880 would not explain how still

earlier material was left on the surface at many points close to the stream unless one postulated a period of deposition between the prehistoric occupation and the historic period followed by a period of erosion in the late 1870's and 80's. Such a situation followed by a period of stability could account this but such a possibility had not been investigated. Therefore, for the present there is no explanation for the missing Plains Indian occupation. We can only hope that excavation of some of the larger sites will clarify this situation, possibly by linking some of the European and Indian material as contemporaneous although, judging by present evidence, there is little possibility of such a solution.

For this reason, no substantiating archaeological evidence is available for the correct location of Camp Comanche. The marked area may or may not be the correct location. If the location is correct, the large Comanche encampment situated across the creek from Col. Dodge's encampment now lies underneath the 1880 dump. If it was located farther back from the bank of the river, this area was under cultivation during the 1890's and early 1900's. However, no evidence of Indian occupation has been found in this particular field.

Medicine - Deer Creek

Medicine Creek joins East Cache Creek about half a mile northeast of Old Fort Sill and extends in a northwesterly direction to the northern reservation boundary. Deer Creek joins Medicine Creek about one quarter to one half mile below the northern boundary and extends in a westerly direction paralleling the northern boundary for three and a half miles

almost to Blue Beaver Creek.

The most prominent feature of the Medicine Creek drainage is the sheer granite walls of Medicine Bluff which rise abrouptly 200 feet from the river's edge on the south bank. Directly across the river from these bluffs (to the north) lies the Punchbowl, a very flat circular area about a half mile in diameter with the open south side facing on the creek. Toward the northwest the northern bank of the river flattens out. Near Deer Creek low hills begin. The drainage is well timbered along most of its course and grass covers the upper terraces to within a few hundred feet of the creek banks.

Deer Creek itself is a rather narrow valley which becomes increasingly rocky as it progresses westward and upward. Most habitation sites were located on the northern bank of this creek, the southern bank being too hilly at the northern end of the creek and its banks too steep, for the most part, at the southern end.

39 sites were located in the area surveyed. Of these, 21 sites showed white contact. 18 sites lacked articles of white culture. 5 of the European contact sites gave some evidence of a slight post World War I occupation while 17 of the sites indicated occupancy during the period 1895-1915. 8 of the sites showing white contact lacked any evidence of Indian material on the sites. Since some of these sites were known to be those of the Chiricahua Apache (Chato's Band), it is assumed that these sites represent at least a part of that occupation. It may be that all sites having white artifacts represent the Apache occupation but this cannot be determined at present.

Again there is the problem of the presence of shell on some sites, its absence on others, and the probable significance of this distribution. It is possible to see this as a remnant of proto or prehistoric, rather than historic, occupation. For instance, 21 of the sites show shell: 18 lack it. If it were assumed that the white contact material and the Indian material go together on these sites, the presence of shell on most of the sites would mean that the greater part of the Indian material is of the 1900 vintage. The survival of a prehistoric type of small arrowpoint to this late date would indeed be surprising. Moreover, the Apache of this period had food taboos against eating shell fish, in fact against eating fish of any kind or water animals. Therefore, shell and associated artifacts must have preceeded the white contact period.

Of the 18 sites lacking shell, 13 lack white artifacts, 5 have white artifacts. This would suggest, if the occupation were prehistoric, two time periods ... one having shell and one lacking shell. However, the 5 Indian sites lacking shell show such a small amount of material (with the exception of Site 101 which appears to be entirely different in character) that the above deduction is not valid. The conclusion must be, rather, that shell was a characteristic of the precontact occupation and its absence characteristic of the historic period. If this deduction is correct, pre-reservation Plains Indian sites have not been found. In fact, the historic Indian occupation cannot be distinguished at all from white occupation on the basis of material, artifacts, or typology (although other characteristics such as location, size of the site and possibly the selection of items present might be diagnostic. A further

interpretative limitation at this point is that the Wichita occupation referred to by Catlin and Marcy cannot be distinguished at all in this material unless one assumes that it is the continuation of the prehistoric material. In any other context in Central Oklahoma, these materials would be thought of as late prehistoric.

Blue Beaver Creek

This drainage lies about 15 miles west of East Cache Creek. The valley averages one quarter to one half mile in width and in the upper reaches which were surveyed it is bordered on both sides by hills. The terrain rises sharply at the northern end and becomes heavily wooded. To the south the stream runs between fairly shallow banks. Here the land is flat enough, especially on the eastern bank, to allow for fairly large camps although it is not as ideal as Medicine or Cache Creeks. In addition Blue Beaver Creek is different in character, being much straighter. It, thus lacks the bends which create the characteristic campsite areas on the streams in the eastern part of the reservation. The cover is generally thinner and the trees not as tall as those to the east although the kinds of trees are similar with oak and elm predominating.

20 sites were located on Blue Beaver Creek. 10 of these show white contact and only 2 of these lack flint or quartzite material. This occupation appears to be somewhat later than that on Medicine Creek, probably having occurred during during the first and second decades of the 20th century. Occupancy may have begun about the turn of the century. It is assumed that these are largely Comanche sites although some may possibly be those of white farmers.

The general run of the Indian material differs markedly from that

encountered on the two drainages to the east. These sites all lack shell and hematite. Animal bone is minimal. Quartzite as a tool material is stronger on more sites. In this area larger, late type dart points (or early arrow points) become dominant for the first time. There is some overlap with small arrow points which are found in the Medicine-East Cache Creek drainages. On the sites where quartzite predominates as a tool material the dart points have a stronger occurrence than at the sites where flint is the popular tool material.

The above occurrences suggest that an earlier prehistoric horizon occurs along Blue Beaver Creek, a horizon characterized by the use of quartzite and dart points. The occupation continues and overlaps the later trend toward flint material and the manufacture of small, light arrow points. The absence of shell and hematite is another difference. A further point of differentiation is the stronger occurrence of opaque flints as against the translucent types of flint which are more common in the easterndrainages.

Crater Creek

This a rather undistinguished flow of water, fairly heavily timbered along its course. There are few flats for occupation areas as the bank is on a slight upgrade and is cut by small drainages. Around Craterville Park the area is heavily timbered. Although there are large flat areas backed up against the rocky hills, this entire area appears to have been lightly occupied.

Very slight indication of 20th century contact occupancy was found on 2 sites. On all sites quartzite predominated by a total ratio of over 3 to 1. It is assumed from this fact coupled with the unprepossessing aspect of the sites that the Indian occupancy in this area was of the

early phase, previously described, or was a survival area for weaker, more conservative, prehistoric groups.

West Cache Creek - Quanah Creek

West Cache Creek was followed from the southern reservation boundary to its junction with Quanah Creek. Quanah Creek was then followed for somewhat over a mile, time preventing further investigation. West Cache Creek is less heavily timbered than the drainages to the east and there are wide flat fields bordering the banks, especially on the east. Yet despite the available campsites, relatively few sites were located. Site 85 was the only large campsite found. Site 86 was of interest because of fairly abundant remnants of white culture which included an 1881 Indian penny and pieces of pottery reminiscent of the historic Indian pottery of eastern Oklahoma. Very little Indian material was found on this site.

In general, remains of white culture indicated occupany somewhat before the turn of the century as well as afterwards. This coincides with the reported use of the area by the Comanches during the period mentioned. Quartzite and quartz was fairly popular in the Indian material as was the use of scrapers. Small points occurred here but the knife and the mano were uncommon. No shell or hematite was found.

Post Oak Creek

The lower 2 miles of Post Oak Creek north of the reservation boundary runs through an area of heavy brush which is difficult to traverse. The stream banks are low except for a few rises and it was on such points that the few sites were found. North of this area of thickets and timber, the banks of the river rise on either side and there is re-

latively little vegetation, but there is a scattering of small campsites along the east bank to the reservation border. The west bank at this point shows a number of quartzite sites on the tops of hills overlooking the stream and back from it several hundred yards. In general the area seems arid and since the soil is iron bearing, it is not especially suited for agriculture or pasture.

The Post Oak Creek area shows a very high percentage of sites in which quartzite predominates over flint, where scrapers are fairly abundant but points are rare. The use of quartz and the presence of quartz crystals was common. The Post Oak Creek material equates with that from West Cache Creek and Quanah Creek whether found with or without artifacts of white culture. However, it is extremely unlikely that this material represents historic Plains material since manos, scrapers of flint and quartzite, knives and points certainly did not persist into the 20th century as part of Comanche culture and furthermore, they are not even reported as prominent during the reservation period.

Occupation Phases

Phase 1 (? - 1000 A.D.) Guessdates

Four sites of this earliest occupation have been located during the course of the survey. These sites are characterized by large pieces of quartzite, flakes, hammerstones, scrapers, and choppers. The location is usually on high ground well back from the modern river beds. Geologists working the area say such material does not belong where found and must have been brought in.

Affiliations of this culture appear to be toward Lake Altus where material of this crude sort has been found. More of this

material may occur on the reservation but time did not permit checking of areas back from the major drainages or along side drainages. Missing as yet is an intermediate phase found at Altus characterized by large dart points and scraper-planes.

Phase 2 (1100-1200) Guessdates ,A.D.

Sites of this type are found principally along Blue Beaver Creek with some isolated finds to the east and west. Sites are characterized by the strong continuation of quartzite as a tool material, however flint is often dominant. The dominant point is a small dart point (or heavy arrow point);there is a lesser occurrence of small arrow points. Manos occur to some extent. This phase was found mainly in the central portion of the reservation on Blue Beaver, Crater, and West Cache and Quanah Creek drainages. It would appear to be an attenuation of the older tradition described for Phase one. There is a typological and probably a temporal gap between Phases 1 and 2.

Phase 3 (1200-1300) Guessdates, A.D.

Concentrated along Post Oak Creek with some overlap to the east on West Cache and Quanah Creek. Dominance of quartzite as a tool material as opposed to flint, but dart points are absent. Scrapers strong; few manos or small points found. Use of quarts especially strong in this area as a tool material. This phase appear to be related to the basic quartzite tool tradition and to have survived to a later date than Phase 3.

Phase 4 (1300-1500) Guessdates,A.D.

Concentrated in the eastern portion of the reservation principally along East Cache Creek, Medicine and Deer Creeks. Extends

and overlaps sites of Phase 2 on Blue Beaver Creek. Characteristic of these sites is the presence of shell, hematite and occasional pottery, all of which are lacking in other phases. Small arrow points of late prehistoric type, especially Harrel and Fresno type point, are common. Flint is dominant over quartzite as a tool material; the latter has only minor occurrence.

Phase 5 (1550-1869) Historical Records

This phase represents the protohistoric and early historic period of occupancy by the Wichita, and other Caddoan groups and, later, the Plains tribes, Comanche, Kiowa and Iowa-Apache. Historical records indicate not only considerable and recurrent occupation but approximate locations as well (see Locations under Appendix G). However the survey was unable to correlate the material culture of this period as described in the literature with the archaeological evidence (which was at varience with it). This problem has yet to be resolved. It may be that camps of this period are subsumed as minor sites in both Phases 4, 6, and 7.

Phase 6 (1869-1880)

The Post dump along East Cache Creek contains some undated types of carbine cartridges as well as Crockery Types 1 & 2 and Glass types 6, 8 and 9 which may possibly represent the material remains of this period. However such material does not occur on Indian occupation sites andseems confined to Post occupancy. This phase therefore does not show up in Indian encampments though it presumbaly was contemporary with them.

Phase 7 (1880-1895)

This phase represents the Indian Reservation period when the Indians were mostly in small family camps or living in frame houses.

Site distribution of this phase is almost entirely confined to the east bank of the East Cache Creek while the west bank of the creek is occupied by the Fort dump of this period. Dating for this phase is fairly good because of date stamping of military cartridge cases began just prior to this phase.

Phase 8 (1895-1915)

House sites of the period appear to be mainly those of the Chiricahua Apache prisoners of war. They are concentrated mainly in the area of the Punchbowl along Medicine Creek with a lesser distribution along East Cache Creek north of Hoyle's Bridge and the southern portion of Beef Creek. Some scattered sites of this phase along Blue Beaver Creek and Medicine Creek might be Comanche sites.

Phase 9 (1915 to present)

This phase is represented more by a thin scattering of World War I and II military equipment, principally calibre. 30 ammunition than by house sites. Outside the training areas proper this material is most heavily concentrated along the east bank of East Cache Creek with some scattered extensions which may represent occupation, along Blue Beaver and Medicine Creeks.

Discussion

The survey has, as usual, resolved some questions but raised many others. Three of these problems require some discussion for clarification. These are (1) the significance of the underlying tradition of quartzite as a tool material and its survival into historic time; (2) the problem of the identification of Wichita and Comanche sites during the protohistoric and early historic phases, and (3) the relationship between the pottery sites of the Wichita Mountain area and those of the Washita River, 30 miles to the north.

The quartzite tool tradition in the Ft. Sill materials is one that awaits further clarification. As previously indicated, the earliest phase in this area appears to be related to a similar manifestation in the Lake Altus area. As a matter of fact this is but one regional variation of a manifestation which is distributed in Oklahoma from the Panhandle to the Cross Timbers and from there in fading occurrence to the Arkansas River. Typologically, the material is crude, being composed mainly of hammerstones, choppers, and high backed scraper-planes. In some cases it is seemingly associated with well made large flint points of the Paleo-Indian type which in other contexts would be definitely assigned to a period of extinct fauna. The exact assessment of this cultural complex has not yet been made. Some regard it as quarry material associated with later horizons. However, it does not appear to be directly related to the cultures which follow since few of the tool types and little of the material survives into these later periods. An exception to this survival has been in the area of southeastern Oklahoma where the use of quartzite continues quite late. The Wichita Mountain

area now appears to duplicate this situation. In both cases, not only cultural survival but cultural lag is indicated. The Ft. Sill survey does not throw much light on the origin of this complex but does raise the question of the late survival of the quartzite-using tradition at a time when it was replaced in the surrounding area by flint. It would be interesting if this manifestation could be linked in any way with the precursers of the historic Plains tribes. An excavated house plan might do much to clarify this relationship.

Another preplexing unsolved problem of the survey was the inability to find any physical manifestation of the protohistoric or contact period between 1850 and 1870. Early travellers such as Catlin in the 1830's and Marcy in the 1850's make reference to both the present and former occupancy of the area by Wichita and Comanche. Later, after the establishment of Ft. Sill in 1869, there are a number of references to Comanche and Kiowa encampments along East Cache Creek. Finally, there was a ration issue area and corral which was used in the late 1880's for a decade or more. No convincing trace of these large encampments were observed, either from the air or from the ground.

In fact, no evidence for any large occupancy was found on East Cache Creek below the old Fort. Moreover, it is difficult to reconcile the paucity of Indian material, as described by writers of the period, with the type of material found by the survey. According to the writers of the period the principal material was metal. In fact, so little mention is made of flint and stone material that one is led to believe they were used in such minor quantities as to escape description. No mention is made of any extensive use of flint or stone. Yet the Indian artifacts most often found were small points or else small chips

indicating the use of fine secondary flaking. Evidence of this latter sort has therefore been assigned to the prehistoric phases. It may turn out that this allocation was erroneous. Yet it must be mentioned that these early writers were not too much concerned with the household goods and arts, considered to be woman's business. It is difficult at present to obtain a reliable inventory of Indian artifacts and material except for the more obvious items.

A possible solution to this impass lies probably in much more archival work than time has permitted. The Post's military records as well as those of the Indian Bureau and the wealth of personal recollection in the files of the Oklahoma Historical Society all need to be better studied. Another alternative is excavation. Possibly some of the larger campsites will prove to be of this contact period rather than prehistoric. Until one or both of these methods is further explored, this protohistoric-early historic period is for all practical purposes not identifiable in terms of archaeological survival.

Finally, one curious fact stands out in the prehistoric sequence... the lack of evidence for much contact with surrounding areas during the late prehistoric period. During this time, say between 1300 and 1500 A.D., the areas to the north...from Beckham County southeast through Washita, Caddo, Grady and Garvin counties, were all characterized by buffalo hunting peoples who used cordmarked pottery, buffalo scapula hoes, and an assortment of other bone tools. Only one instance of cordmarked pottery was found by the survey. Such pottery as was found along East Cache Creek and Medicine Creek was a plainware characteristic of the Red River drainage. The ultimate source of this pottery is undoubtedly northeast Texas and southeastern Oklahoma.

The virtual absence of cordmarked pottery and the presence of grit-tempered plainware strongly suggests the following development. That the Washita River Focus, which covers the previously mentioned area to the north, was a culture mainly derived from the central Plains via Kansas and eastern Colorado with lesser influences derived from the Panhandle and eastern Oklahoma. Correlated with this southern and eastern movement was a gradual and similar movement extending up the Red River from its source. It is quite probable that this is the source of the plainware tradition in the Ft. Sill area. To the northwest in Greer and Beckham counties sites occur on which the pottery is either predominately cordmarked or predominately plainware of the southern type. This could have been the area of overlap. The apparent lack of cordmarked pottery in the Ft. Sill area suggests that Caddoan groups held this area before the arrival of the central Plains immigrants along the Washita and that the former were sufficiently strong to keep the mountain area until the 19th century. The other alternative is that the Washita River and the Wichita Mountain pottery horizons occupy different time levels, in which case the Wichita occupancy was quite late, and short, while the Washita River Focus is earlier than heretofore imagined.

SUMMARY

Between April 9 and 29th the Oklahoma Archaeological Salvage Project, represented by Mr. Elmer Craft and the writer in cooperation with Mr. Gillette Griswold and Mr. James Marler of the U. S. Army Artillery and Missle Center Museum conducted an archaeological survey of parts of eight major drainages of the Ft. Sill Military Reservation on the southern slopes of the Wichita Mountains in southwestern Oklahoma.

The material from the 115 sites which were located was divided into 4 prehistoric phases, 2 contact phases, and 3 historic phases. The earliest occupancy of the reservation area began possibly as early as 500 to 1000 A.D. by peoples having the same crude culture as that found in the earliest phase in the Lake Altus region. There is a developmental break in the present records which picks up again, at least several hundred years later. The time of this next phase is the period when the use of the spear was declining and the bow and arrow was becoming popular...in this area possibly 1100 A.D., ie. later than in most other parts of Oklahoma. The culture is still characterized by the use of quartzite as a tool material.

In the subsequent phases, about 1200-1300 A.D., the quartzite-using tradition gradually withdraws to the west while a new tradition enters the eastern parts of the reservation...a tradition embracing the use of pottery, hematite, flint instead of quartzite for tools and weapons, especially for the small arrow points which are characteristic. It is conjectured that the bearers of this culture might be Caddoan peoples ancestral to the later Wichitas who occupied the region around Devil's Canyon at the extreme western end of the Wichita Mts. between 1765 and

1835. Thereafter they moved to the Ft. Sill area until 1850 when they removed again to a location 30 miles northwest, at Rush Springs.

Unfortunately, no archaeological evidence has been adduced to support the two contact phases which have been historically recorded: the precontact seasonal use of the area by the Comanches as described by Col. Dodge, Catlin and Marcy or of the decade which followed the establishment of Ft. Sill in 1869. After this period, however, the archaeological record again becomes clear. Along East Cache Creek a number of individual family camps or frame houses of the Plains tribes can be assigned to the period 1880-1895. Likewise, the occupation sites of the Chiricahua Apache prisoners of war along Medicine Creek can be identified for the period 1895-1915.

Positive results of the survey were (1) the establishment of a preliminary time sequence for this archaeologically unknown part of the state, (2) the recognition that the affiliations of the earliest culture of the area are with the Lake Altus region, (3) analytical evidence suggesting that the pottery phase was of southeastern Caddoan origin and forms a distinct and separate area (here designated as the Red River Focus) from the Washita River Focus 30 miles to the north, and (4) the establishment of a preliminary archaeological chronology based upon glass and crockery types for the historic period.

Negative results of the survey were (1) failure to establish criteria which make it possible to distinguish between prehistoric and Wichita sites, (2) inability to locate Wichita vallages described by Marcy, (3) inability to distinguish Wichita from Plains campsites, and (4) inability to locate or recognize large Plains campsites historically located on East Cache and Medicine Creek.

It is felt that the positive achievements of the survey greatly outweigh its negative shortcomings and it is hoped that future excavation will partially resolve or totally eliminate most of these latter problems of tribal identification.

APPENDIX - A

ARTEFACT TYPOLOGY

(White Culture)

China Types

1. China with a high glass glaze. Lacks crazing. Crazing results from impurities in the slip and thus tends to be but is not always later than crazed surface wares.
2. A crazed surface white china. Since this feature begins early and continues late in the poorer grade products this feature is not a useful diagnostic of age.
3. China with colored pattern decoration. Type rather rare and almost none of the patterns are repeated. No attempt was made to serialise the styles. However Willow wares are identifiable though rare.
4. Unslipped porcelain. A type popular in Victorian times. Found in cheap sculpture and table wares; continues in modern use for cheap dolls. In present context probably turn of the century.

Glass Types

1. White, clear, modern, post-1900 A.D. Glass prior to this date discolors in sunlight after exposure.
2. Brown, clear; probably modern beer and soft drink bottles, post-1900 A.D.
3. Red, clear; often pressed glass.

4. Violet to purple; originally white glass exposed to the sun. Dated pre-1900 A.D.
5. Green tinted; often glass from window panes; clear; also used in small vials.
6. Brown, cloudy; shows some inclusions and bubbles; probably early beer bottles. Two neck types; early type shows capping groove; later this feature lacking.
7. Pale green, clear; window pane glass; also use for small vials or bottles for food products.
8. Light green; slightly brownish tinge with occasional large bubbles; necks show capping grooves. Said to be beer bottles.
9. Dark green almost black at base; bubbles and small inclusions in glass; 18 bases found. Thought to be wine bottles.
10. Blue, clear. Probably liniment bottles. Rare; probably turn of the century.
11. Milky or opaque white for medicines and ointments. Early 1900's.
12. Light yellow green. Cloudy but no bubbles or inclusions.
13. Bright emerald green; clear.
14. Like Type 12 but darker green; slightly cloudy.
15. Dark blue-green. Clear. Slight distortion.
16. Brownish green; clear but with bubble inclusions. Possibly unburned Type 8.
17. Blue-green; clear. Modern.
18. Baby blue color. Opaque, related to milky glass Type 11.

SCHEMATIC PRESENTATION OF TYPE ASSOCIATIONS

(Based on Relative Occurrence Between Sites)

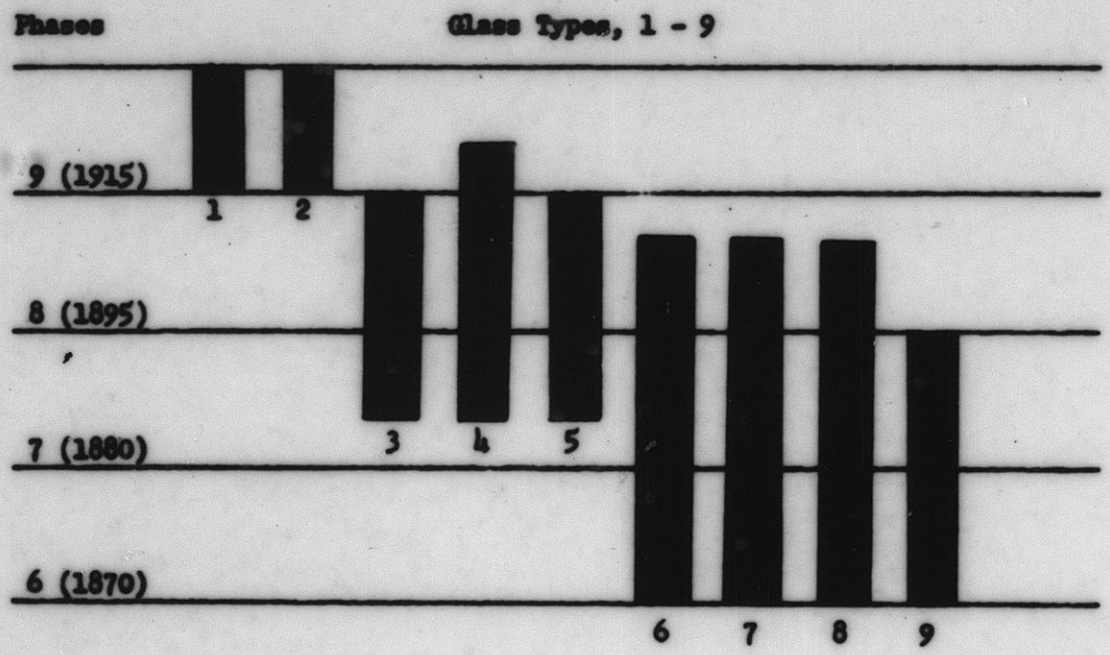


Figure 2

SCHEMATIC PRESENTATION OF TYPE ASSOCIATIONS

(Based on Relative Occurrence Between Sites)

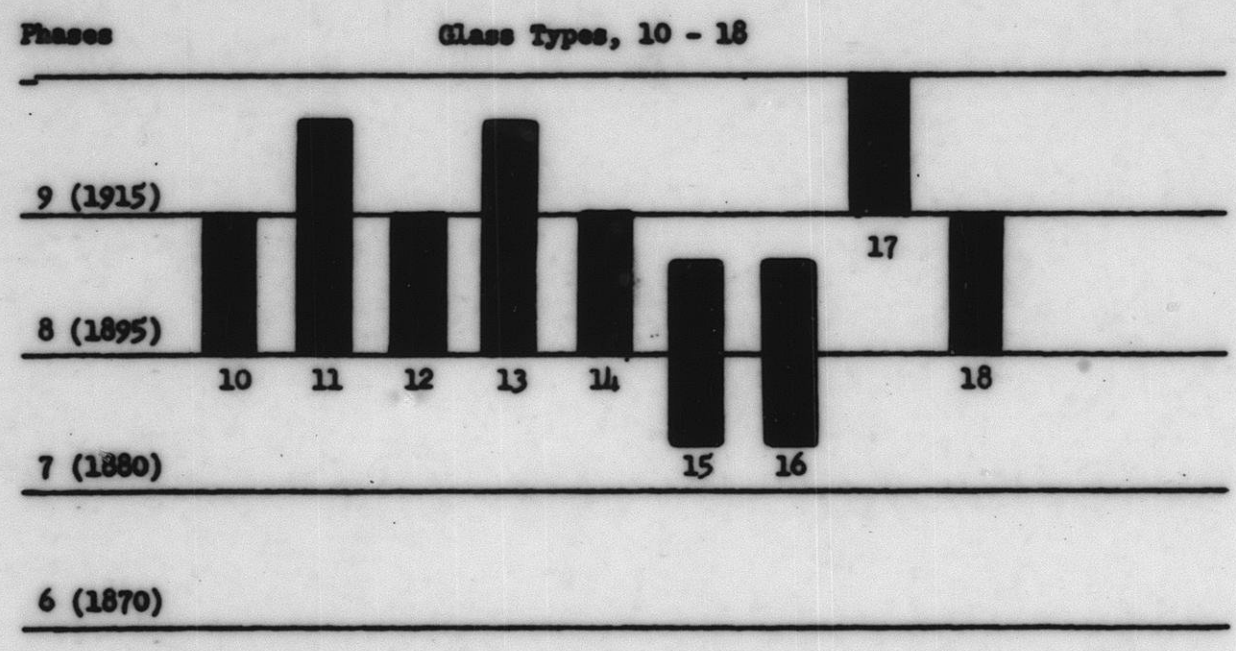


Figure 3

Crockery Types

1. Body sherds light grey; neck sherds yellow tan; light grey glaze both surfaces; low lustre; the yellow glaze has a medium lustre with granular inclusions; an irregular dark band separates the grey and yellow areas. Bottle form with flat base tapering from shoulders; Early type neck has capping groove for wire; later bottles lack this feature. Later type identified as English stout bottles from Glasgow; .5 cm - .9 cm thick.
2. Medium brown glaze with a high gloss; grey glaze exterior of of low gloss; paste a light brown of uniform color; thickness .8 cm to 1.0 cm.
3. Dark brown glaze interior and exterior; medium high gloss; paste light grey with small dark inclusions; thickness .7 cm.
4. Yellowish brown exterior of low gloss glaze; interior unglazed and unslipped; a thin ware; paste grey exterior and light brown interior; thickness, .4 cm - .5 cm.
5. Brown interior and exterior; unglazed, unpolished surface; paste, fine battleship grey, slightly granular and stonelike.
6. Light brown exterior of low gloss; interior yellow tan slip which is half of paste thickness; forms a disconformity with grey paste; thickness .5 cm.
7. Dark brown interior and exterior; high gloss glaze; paste uniform color of lighter shade of brown; thickness, .4 cm.

8. Medium brown surface; exterior has low gloss; darker high gloss brown on interior; paste light brown with dark inclusions; thickness .6 cm.

9. Exterior a light reddish brown with lighter mottling; interior yellow cream. Paste shows granular temper; thickness 2.2 cm.

10. White interior with cracked porcelain glaze; exterior chocolate brown with same glaze; paste brick red with grey streaks; thickness, .4 cm - .5 cm.

11. Interior and exterior sky blue color; surface porous; paste cream color with occasional small dark specks; thickness .5 cm - 1.5 cm.

12. Interior light green; medium gloss glaze; exterior brown with a high gloss; paste light cream, no specks; thickness .6 cm - .7 cm.

13. Interior white; exterior chocolate brown; high gloss glaze interior and exterior; paste red but probably same as Type 10, differs only in shade of exterior brown; thickness .5 cm - .6 cm.

14. Dark brown interior; slipped but no glaze; exterior same but slight gloss; paste almost indistinguishable from slip in color; granular temper and rock-like consistency; thickness 1.5 cm.

15. Yellowish brown interior and exterior; high gloss glaze; yellowish sandy paste; thickness .6 cm - .7 cm.

16. Exterior, chocolate brown speckled with yellow from underlying paste inclusions. Interior a shade of lighter brown; thickness, .8 cm.

17. Exterior black; interior light grey; slip has dull lustre; paste fine and rocklike consistency; thickness, .9 cm.

18. Exterior white; interior chocolate brown with black speckling; exterior medium gloss glaze; interior low lustre; paste yellow to orange; thickness, .9 cm - 1.4 cm.

19. Interior dark brown; medium gloss glaze showing granular inclusions; exterior light grey with smooth surface and same glaze; paste light yellow tan; thickness, .6 cm - .9 cm.

20. Exterior light grey with crackled high gloss glaze; interior same; paste lighter shade of grey; thickness, 1.2 cm.

21. Exterior light yellow brown with grey speckling from under paste; low lustre slip; interior slight yellowish slip; paste medium grey; thickness .5 cm - .6 cm.

22. Interior and exterior have high gloss yellow glaze; glaze crackled; paste same color as surface; thickness, .8 cm.

23. Light grey interior and exterior; black surface speckling; slip has low lustre; paste yellowish to red and light grey; fire clouding; thickness .7 cm.

24. Light grey to cream interior and exterior with slight black speckling; high gloss glaze; paste cream to light grey; vertical air bubbles in fine paste; thickness 1.2 cm - 1.5 cm.

25. Sky blue interior and exterior with high gloss glaze; surface mottled with grey; paste yellowish with bubble holes; thickness, .9 cm.

SCHEMATIC PRESENTATION OF TYPE ASSOCIATIONS
(Based on Relative Occurrence Between Sites)

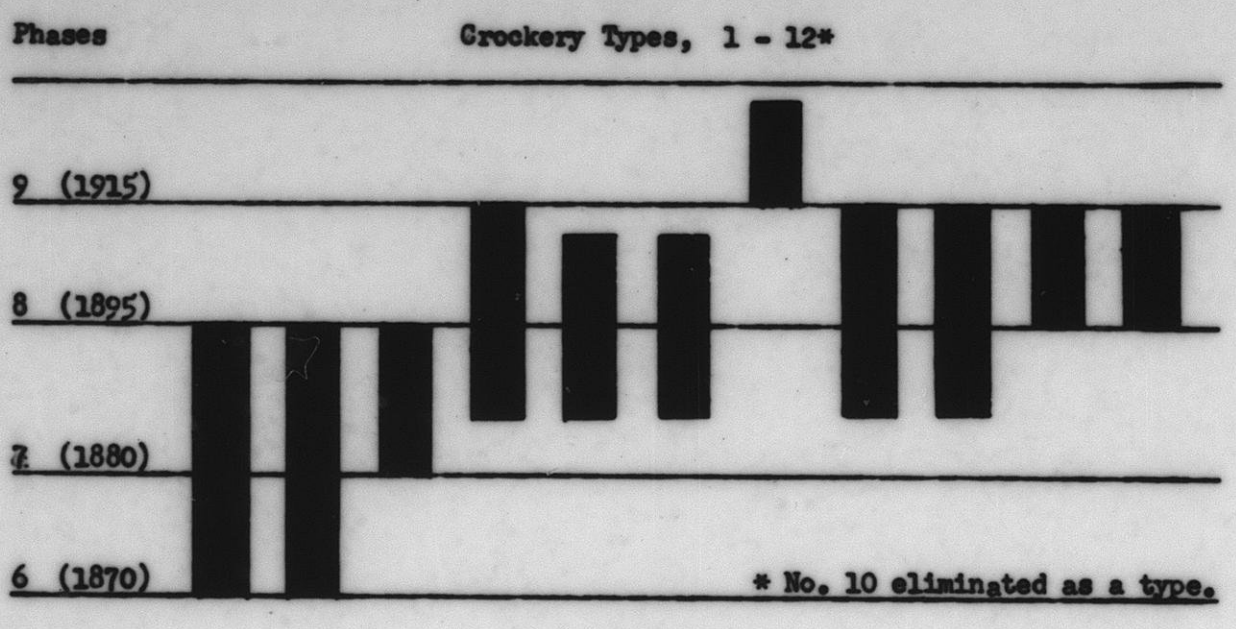


Figure 4

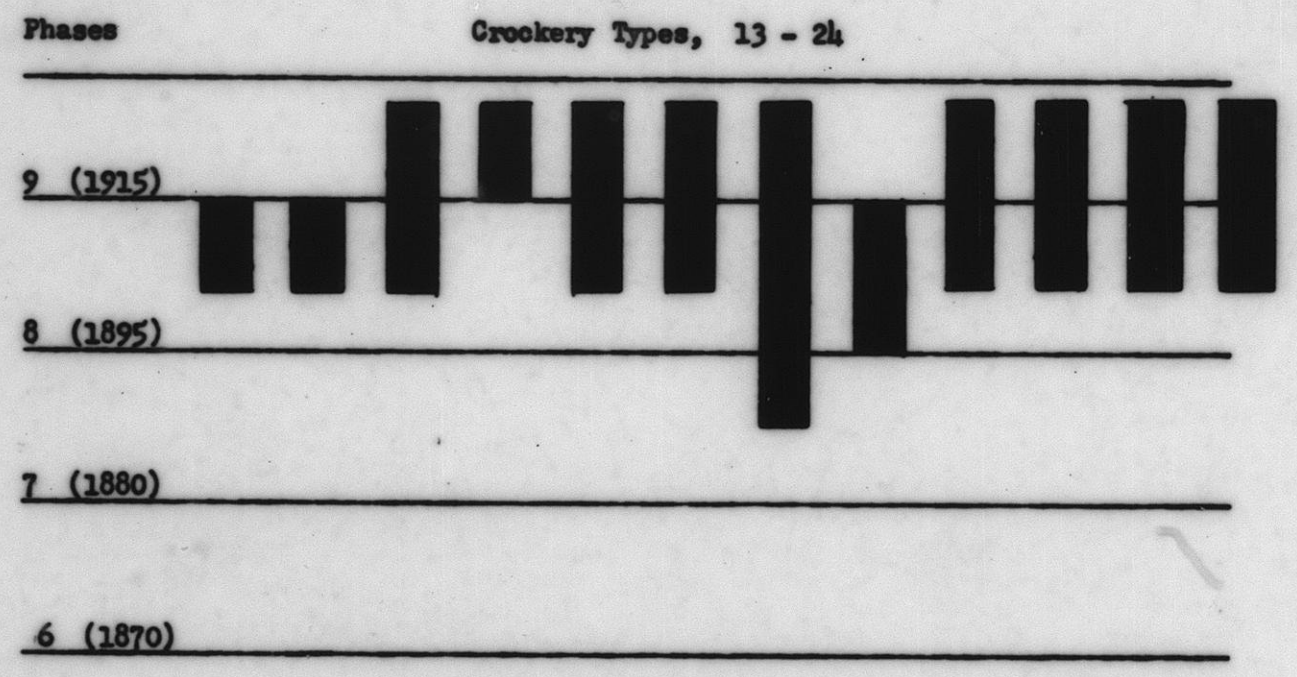


Figure 5

APPENDIX - B

ARTIFACT TYPOLOGY - WHITE CULTURE

(Phase Assignment)

	PHASES ASSIGNED			
	6	7	8	9
Beads, trade		x	x	
Bolts, metal				x
Buttons, metal, shell, other		x	x	x
Buckle, metal			x	
Can, tops				?
Cartridge, cal. carbine	x	x	x	
Cartridge, cal. .45			x	x
Cartridge, cal. .44		x		
Cartridge, cal. 38				x
Cartridge, cal. 32				x
Cartridge, cal. 30			x	x
Cartridge, cal. 22				x
Cartridge, cal. 50				x
Clock, alarm, parts			x	
Coins, 1883, 1881		x		
Feeder, chicken			x	
Hammer, gun			?	
Handle, knife, bone		x	x	
Handle, knife, metal		x	x	
Handle, frying pan			x	
Harmonica, parts			x	

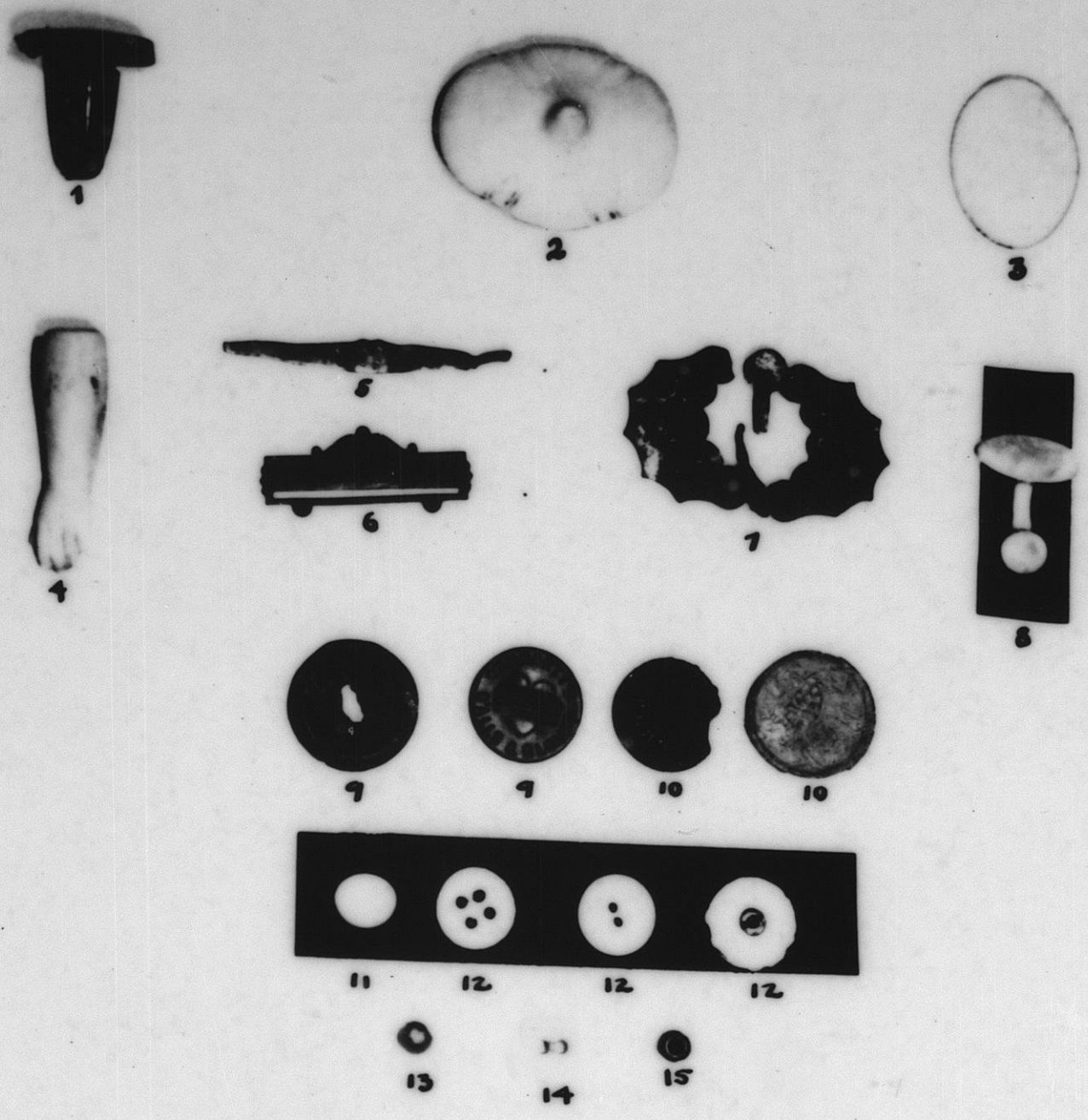


Fig. 6. (1) Glass bottle top. (2) China condiment cover. (3) Glass spectacle lense. (4) Unglazed china doll arm. (5) Sterling silver clasp. (6) Souvenir medal clasp (7) Woman's silver dress buckle. (8) Man's shell collar button. (9) Men's work clothes buttons. (10) Women's dress buttons. (11) Shell shoe lace. (12) Shell underclothing buttons. (13-15) Colored glass trade beads. (14) Blue porcelain button.

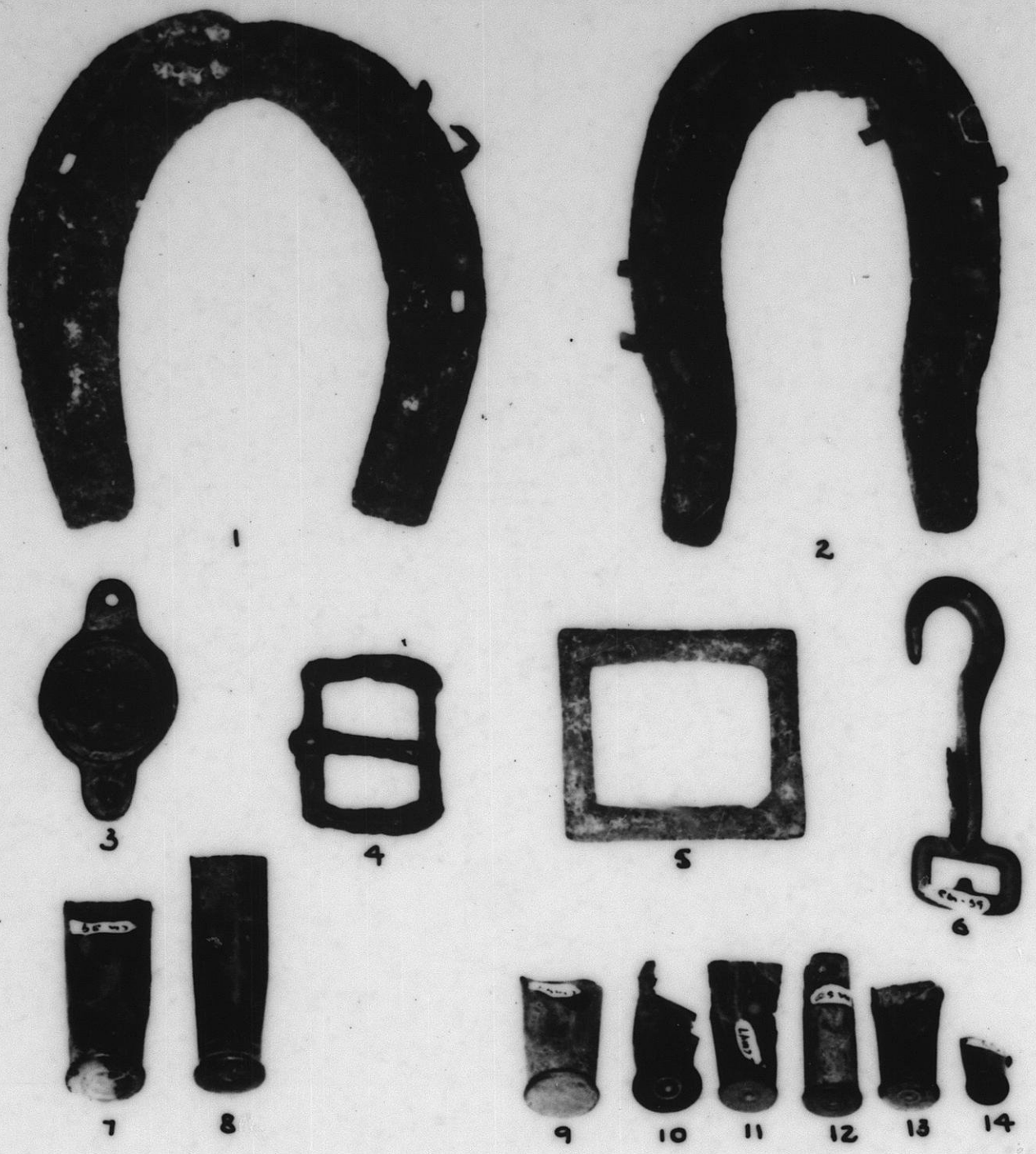


Fig. 7. (1) Mule shoe. (2) Horse shoe. (3-6) Cavalry bridle and accessories. (7) Cartridge, .32 cal.,WRACo,S & W,CF, Cm-42. (8) Cartridge, .38 cal., WRACo, WRC, CF, Cm-50. (9) Cartridge, .44 cal.,US, WCF, CF, Cm-50. (10) Cartridge, ? cal., 1882, HF, CF, Cm-47. (11) Cartridge, .45 cal., UMC, Colt, CF, Cm-47. (12) Cartridge, .50 cal.,JG, Sharp Carbine, (?) RF, Cm-44. (13) Cartridge, ? cal., CF, Cm-39. (14) Cartridge, .50 cal., (?) 1880, 4RF (carbine ?), CF, Cm-9A.

	PHASES ASSIGNED			
	6	7	8	9
Harness, parts		x	x	
Lamp; kerosene		x		
Lead		x		
Lid, china				x
Linoleum				x
Lock, door, parts			x	x
Medal, souvenir			x	
Metal, unidentified	x	x	x	x
Military Equipment, WW II				x
Nails, square		x	x	
Nails, round			x	x
Pistol, percussion cap		x		
Pistol, toy				x
Pipe, stem			x	
Plane, carpenter, part			x	
Purse, frame			x	
Rivet				x
Rubber				x
Scale, arm			x	
Scissors, parts			x	
Shell, shotgun			x	x
Shoes, horse	x	x	x	
Shoes, pony	x	x	x	
Shoes, mule	x	x	x	
Shovel, coal			x	

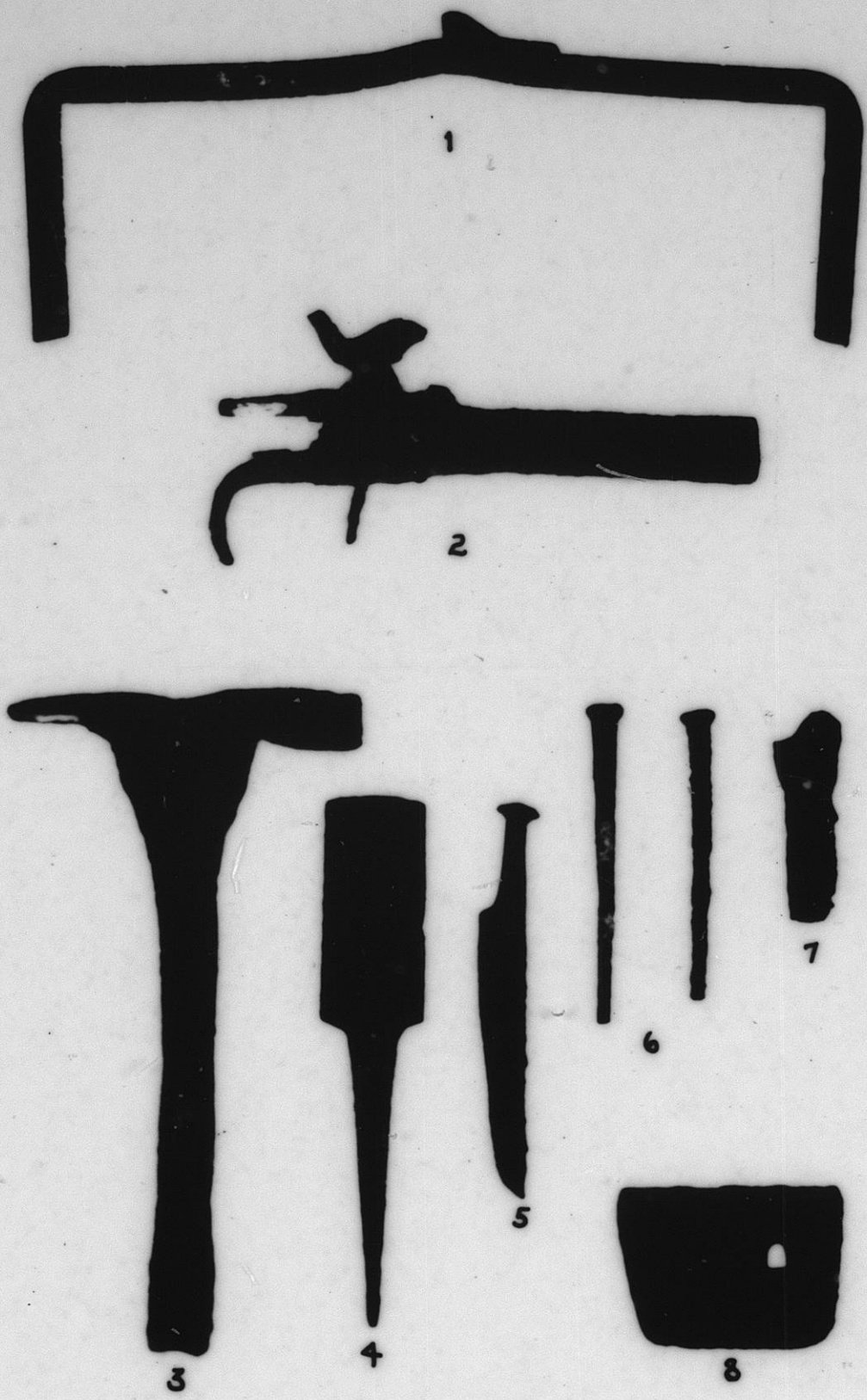


Fig. 8. (1) Woman's purse frame. (2) Belgian percussion cap pistol. (3) unidentified iron tool. (4) File handle. (5) Masonry spike. (6) Square nails. (7) Pocket knife blade. (8) Part from a carpenter's plane.

	PHASES ASSIGNED			
	6	7	8	9
Spike, helmet		x		
Spike, masonry			x	
Spike, tethering		x		
Spoon		x	x	
Stopper, bottle			x	
Stove, part		x	x	
Spark plug				x
Sword, blade			x	?
Tile				x
Tomahawk, tool				x
Washer, metal			x	x
Winecaps & Wires		x	x	

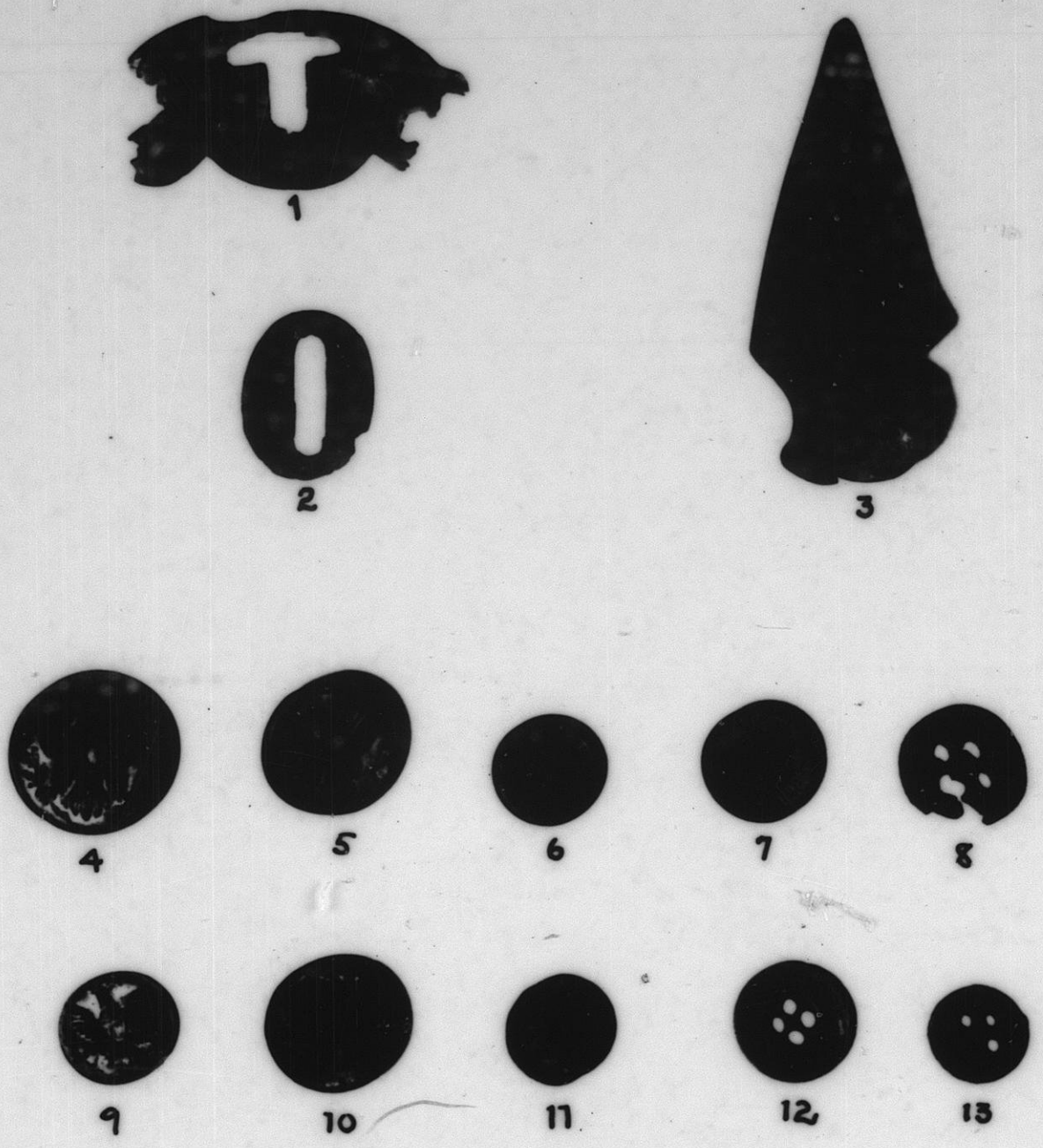


Fig. 9. (1) Epaulet holder. (2) Copper unit designation. (3) Enlisted helmet spike (10-12) Service fatigue uniform button. (13) Legging buttons.

Fig. 10. Handle and blade fragment, Cm-60.

APPENDIX - C

ARTEFACT TYPOLOGY
(Indian Culture)

Adze (1)

Blade fragment; rectangular shaped; ground edge on blade; width, 6.0 cm; maximum thickness 3.3 cm.

Awls (5)

Type 1 (3)

Awl point projects from a roughly rectangular base; occasional points reworked for form stubby awls; length, 2.5 cm - 3.0 cm; maximum width 1.5 cm - 2.0 cm; maximum thickness .3 cm - .5 cm.

Type 2 (2)

Thick pencil-like awls. No complete specimens; all-over flaking; maximum width 1.0 cm - 1.5 cm; maximum thickness, .5 cm - .7 cm.

Blades (5)

Elongated pear-shapes usually of quartz. Same general shape and intermediate in size between Type 2 knife and type 9 point. Use unknown, may be intermediate point or knife stage or a specialised end-scraper.

Chopper (11)

Quartzite pebble either pear-shaped with sharp end showing bifacial flaking along at least one edge with the wide part unworked, or rectangular shape with cutting edge on long side. Probably not a tool type so much as a use of fortuitious

fractures for hasty chopping. Length 6.0 cm - 11. 0 cm; width 5.6 cm; thickness 4.0 cm - 6.0 cm.

Crystals

Quartz crystals were found naturally on hills in western parts of the reservation, especially upper Post Oak Creek. Clear quartz and smoky quartz both occur. Probably used for medicine stones.

Discs (2)

Large sandstone discs with flat top. Use unknown but similar to a type found in eastern Oklahoma. Because of flat back could have been used to mash soft products such as berries; diameter, 11.7 cm - 19.0 cm; thickness, 5.0 cm thick.

Hammerstones (16)

Spherical to round; heavy; greater variety of dense stone used; diameter, 4.5 cm - 7.5 cm.

Handstones (2)

Basalt river pebbles. Chipping shows use as small hammer and grinding shows use as a hone or rubbing stone. Length 7.0 cm - 8.0 cm; width 5.0 cm - 6.0 cm; Maximum thickness 2.1 cm - 2.7 cm.

Knives (40)

Type 1 (22) A curved cutting edge and a flattened back. One specimen shows a cutting edge on the straight side. Central part of blade is usually thickest. Flaking is usually but not always unilateral. Length 6.5 cm - 9.0 cm; maximum width 2.5 cm - 4.0 cm; maximum thickness .6 cm - 1.5 cm.

Type 2 (18) Essentially the same as Type 1 but curve is less pronounced. Both sides tend to be parallel. Most of these

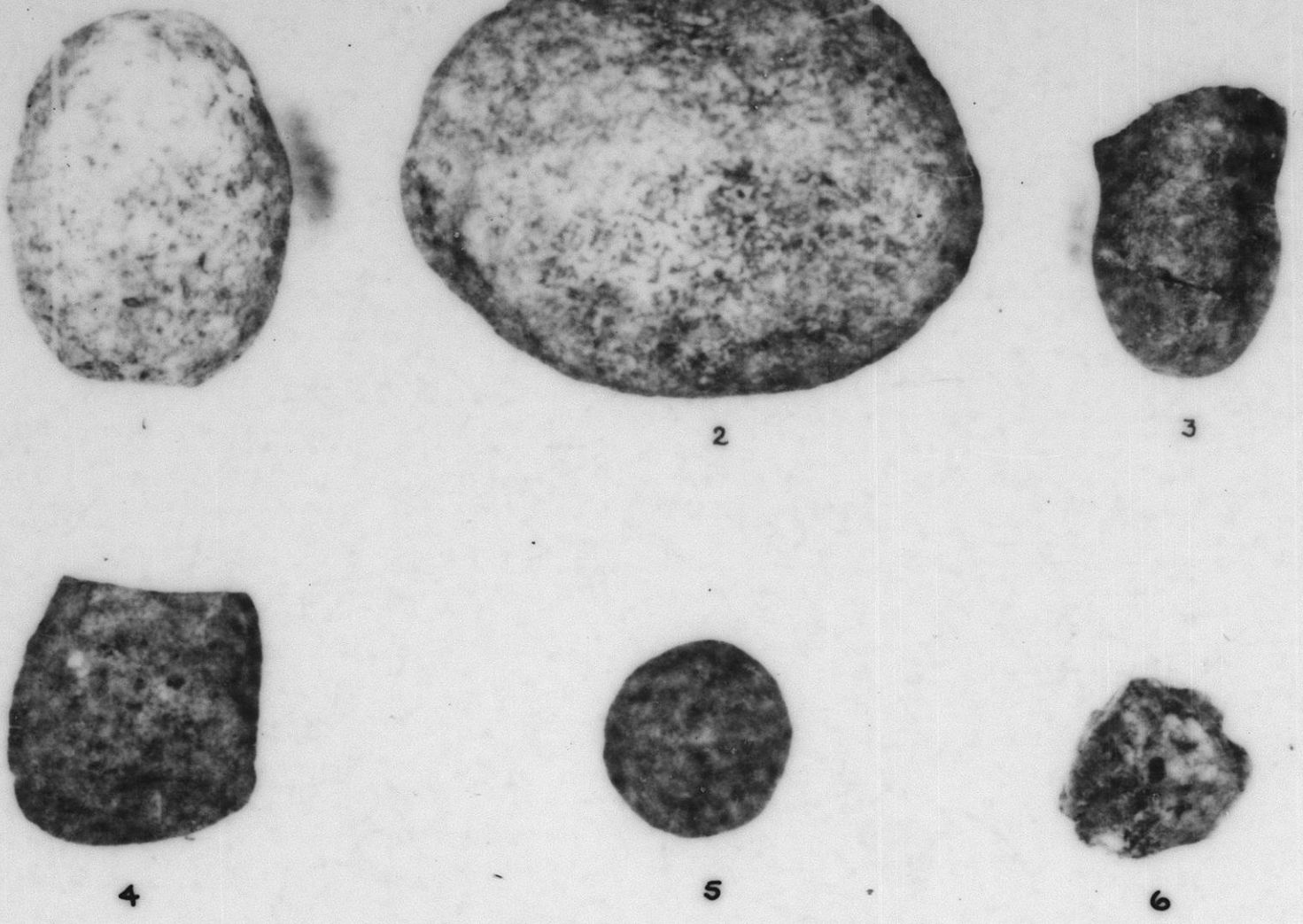
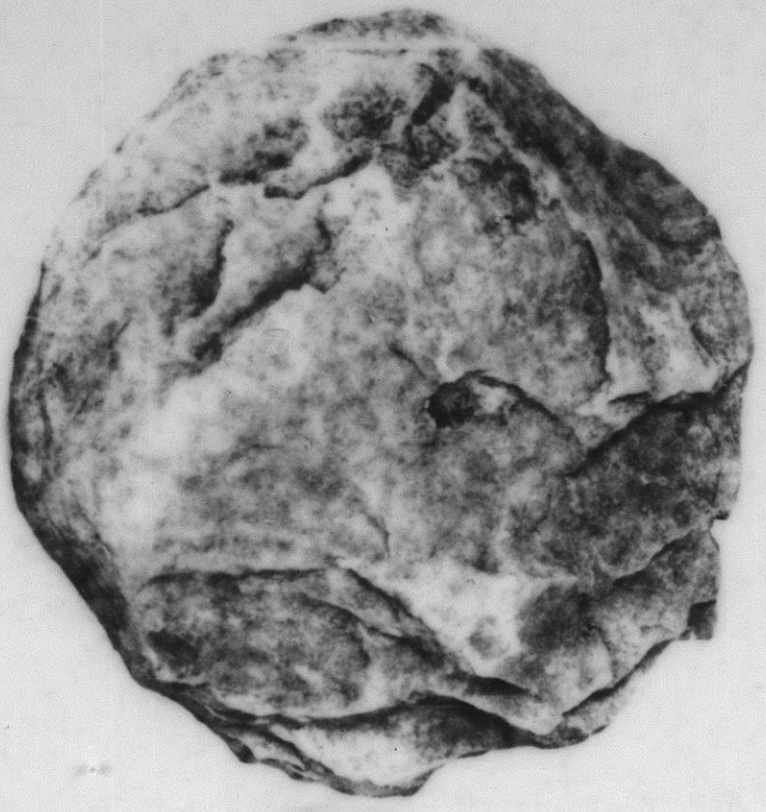


Fig. 11. (1) Pounder. (2) Handstone. (3) Grooved maul. (4) Adze. (5) Spherical hammerstone. (6) Quartz core.



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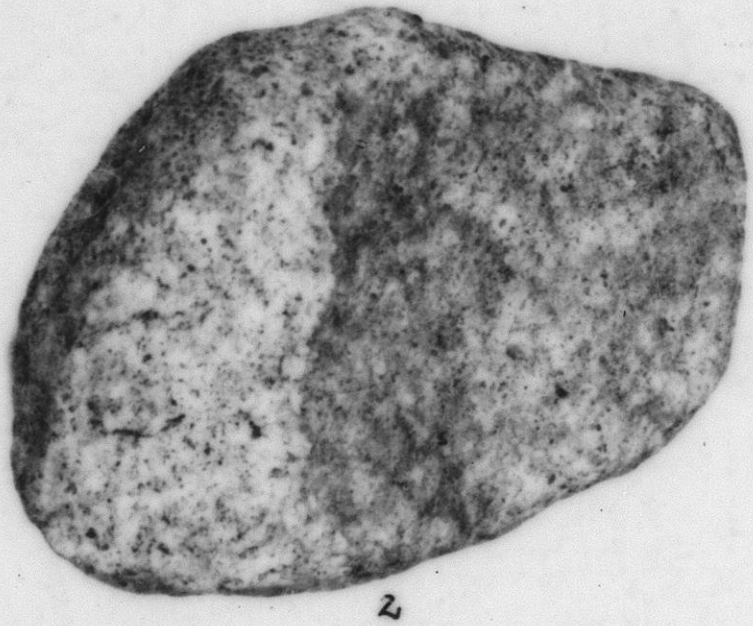


2

Fig. 12. (1) Sandstone disc. (2) Metate, type 2.

specimens are of quarts. Length 5.5 cm - 7.0 cm; estimated width 2.2 cm - 3.5 cm; maximum thickness, .6 cm - 1.5 cm.

Manos (19)

Type 1 (7) Circular shape usually flattened on one side; Occassionally both, circular grinding motion assumed. Two specimens show use in back and forth movement so that one side is an inverted V - profile; Diameter 6.0 cm to 14.0 cm.

Type 2 (12) Shape rectangular with rounded corners; wedge shape in profile. Some are V-shaped as the result of use of both surfaces. Material of most of these brown rhyolite which does not wear easily; remainder dark sandstone. Length 9.0 cm - 12.0 cm; width 7.0 cm - 11.5 cm; maximum thickness 2.5 cm - 8.5 cm.

Maul (1)

Egg-shaped maul with full groove around center; only part found. Length estimated, 14.0 cm; maximum diameter 5.5 cm.

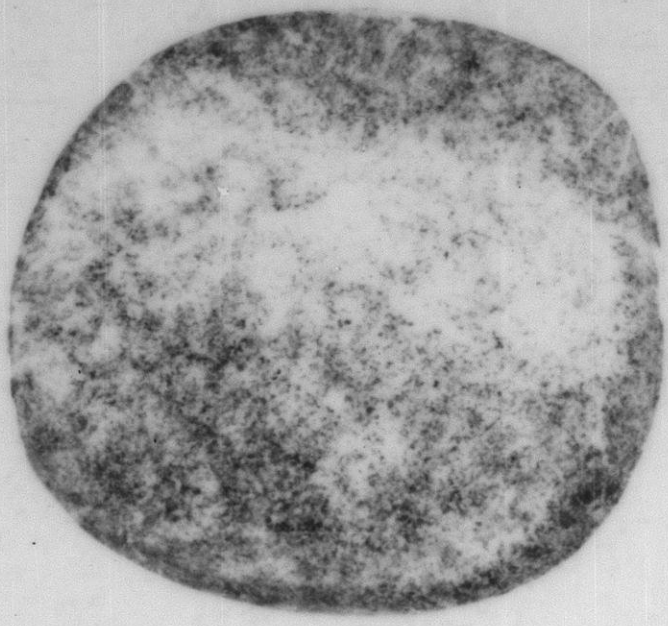
Metate (3)

Type 1 (1). Small anvil-like stones of heavy hard rhyolite. Grinding areas show some smoothing. Grinding area small. Probably used more as an anvil than a metate. Length 17.7 cm - 23.0 cm; width 14.0 cm - 7.0 cm; maximum thickness 6.5 cm - 8.0 cm.

Type 2 (2) Fragments indicate a thin slab type with a slight pecked area in center similar to late prehistoric type in southwestern Oklahoma.

Muller (8)

Type 1 (3) Circular shape; thick turtle-back handstones with flat undersurface. Latter shows pitting from crushing action;



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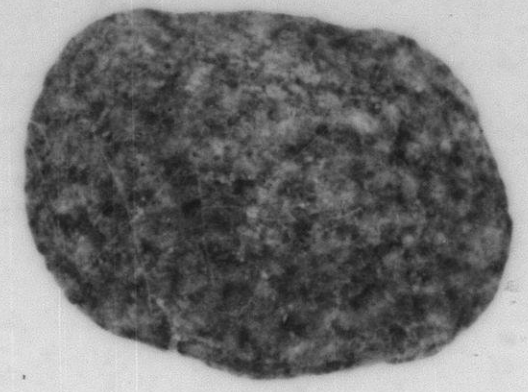

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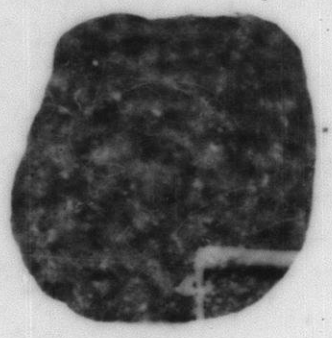

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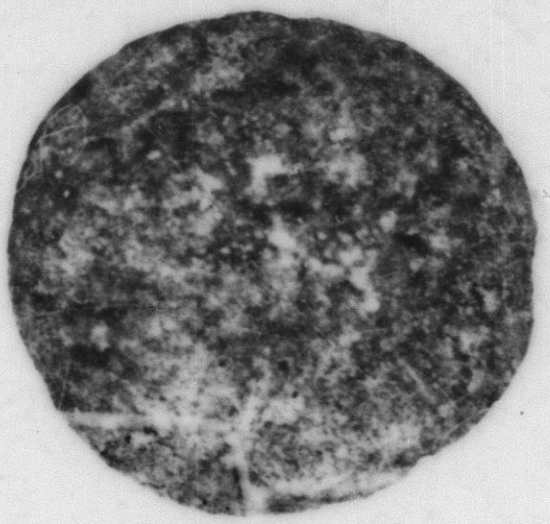

4

Fig. 13. (1) Mano, type 1. (2) Mano, type 2. (3) Muller, type 2. (4) Muller, type 1.

some specimens show incidental use as manos. Diameter, 9.7 cm - 11.0 cm.

Type 2 (5) Rectangular shape; often of hard porphoritic sandstone; some used as mano; most fragmentary. Length, 6.0 cm - ? cm; width 5.7 cm - 9.0 cm; maximum thickness 4.0 cm - 8.1 cm.

Paint

Hematite; runs through a variety of shades from brick red to dark red. In consistency from friable to stone-like to metalic.

Points (81)

Type 1 (4) Barbed expanding, convex base with diagonal side notching. Base not as wide as shoulders. Flint material appears to be intrusive at sites where found, except for one small quartz point. Length, 3.0 cm - 3.2 cm; width at shoulder 2.6 cm - 3.2 cm; stem length, .6 cm - .9 cm; maximum thickness .4 cm - .5 cm.

Type 2 (3) Harrel point; side notched, straight to concave base; one with basal notching; length 1.5 cm - 1.8 cm; width at base 1.1 cm - 1.2 cm; thickness, .2 cm - 2.5 cm.

Type 3 (14) Elongated leaf shape with shallow side notching close to base; thick body made of quartzite; base straight to convex; shoulder sometimes wider than base like Gary point. Length, 3.5 cm - 4.5 cm; thickness .6 cm.

Type 4 (16) Fresno point; flint except for one point; unnotched triangular shape; base straight to convex; better specimens flat and thin; about one third with thick bodies. Length 1.7 cm - 2.5 cm; width at base 1.0 cm - 1.6 cm; thickness .2 cm - .6 cm.

Type 5 (2) Stemmed barbed point with base missing; flint. Very small and thin; Width at base 1.3 cm - 1.5 cm; thickness .1 cm - 3 cm.

Type 6 (1) Small thin triangular flint with slight side notch close to base; slightly concave base; flaking unilateral on edges only; Length, 1.6 cm; width at base 1.0 cm; maximum thickness .1 cm.

Type 7 (10) Elongated leaf shape with long shallow side notch; sometimes barely noticeable. Differs from Type 3 in being much smaller, thinner and in being made of flint instead of quartsite. Length estimated, 2.2 cm - 3.5 cm; width at base 1.5 cm - 2.0 cm; maximum thickness .4 cm - .6 cm.

Type 8 (9) Small barbed point with stem much narrower than shoulder; base slightly expanded; material; 4 quartsite, 4 flint, 1 quartz; edges on quartsite specimens from slight to strongly serrated. Length estimated 2.2 cm - 2.4 cm; width at shoulders .1 cm - 1.7 cm; maximum thickness .4 cm - .6 cm.

Type 9 (5) Small elongated flint leaf shape. In outline a smaller version of Type 2 knife and quartz blades; contracting rounded base. Length 2.0 cm - 2.7 cm; maximum width 1.0 - 1.7 cm.

Type 10 (3) Short heavy flint point with straight to sloping shoulders; short stem with convex base narrower than shoulders. Length estimated 2.9 cm - 4.5 cm; width at shoulders 2.0 cm - 2.7 cm; maximum thickness .4 cm - .2 cm

Type 11 (1) Small flint equilateral triangle with side notches and a basal notch of same depth. Toyah type point. Well

flaked on all surfaces and edges. Length 1.5 cm; width 1.5 cm; maximum width .6 cm - .7 cm.

Type 12 (1) Unstemmed flint with diagonal notching and indented base. Length 4.0 cm; width at shoulder, 2.1 cm; maximum thickness .7 cm.

Type 13 (2) Small elongated flint lead shape; similar to Type 9 but smaller. Length .5 cm - 1.6 cm. (estimated); maximum width .6 cm - .7 cm.

Type 14 (3) Large flint bases; either unfinished points or stem missing. Appears to be separate type. Length 5.0 cm; maximum width 3.0 cm; maximum thickness .9 cm.

Type 15 (10) Narrow elongated flint leaf shape with a contracting stem one third of length; small Gary point; subtype shows shorter more parallel stem. Length 3.4 cm - 5.2 cm; width at shoulders 2.1 cm - 2.3 cm; maximum thickness .6 cm - .8 cm.

Type 16 (2) Flint, pinetree shape with straight to convex shoulders, arrow stem with an expanding base narrower than shoulders. Similar to Scallorn type. One specimen considerably shorter than usual Scallorn. Length 2.0 cm - 2.9 cm; width at shoulder 1.1 cm - 1.2 cm; maximum thickness .3 cm - .4 cm.

Pottery (14) sherds)

Type 1 (6) Tan ware with polished exterior slip; stone polishing marks visible under light. Paste shows orange oxidation on exterior; black toward interior. Temper includes occassional rock particles; thickness .5 cm.

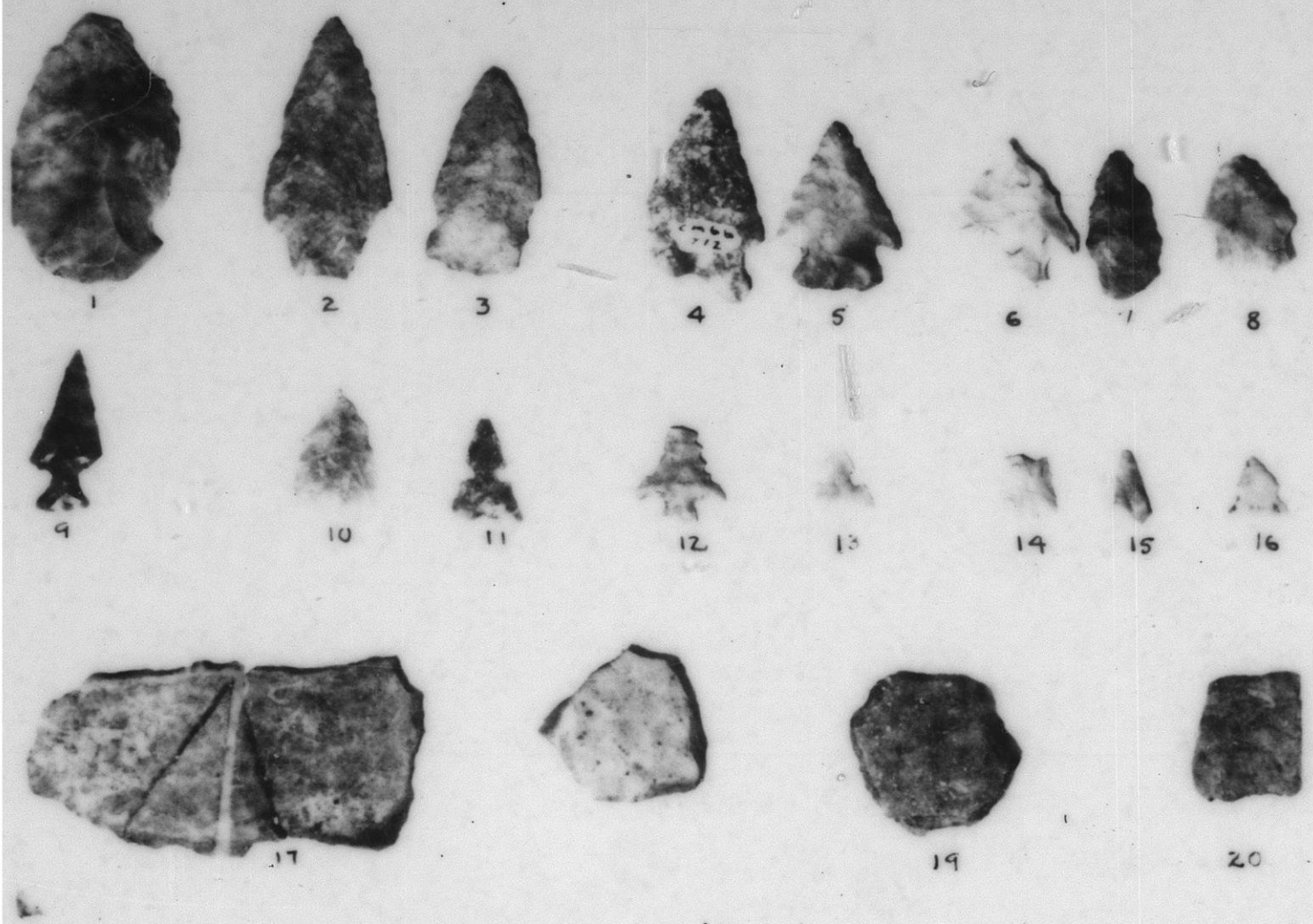

Fig. 14. **Dart Points:** (1) Type 14. (2) Type 15. (3) Type 3. (4) Type 12. (5) Type 2. (6) Type 10. (7) Type 9. (8) Type 7.
Arrow Points: (9) Type 16. (10) Type 4. (11) Type 2. (12) Type 8. (13) Type 11. (14) Type 5. (15) Type 13. (16) Type 6.
Pottery Types: (17) Type 1. (18) Type 4. (19) Type 2. (20) Type 3.

Fig. 15. Scrapers: (1) Type 7. (2) Type 1. (3) Type 2. (4) Type 3. (5) Type 5. (6) Type 4. (7) Type 6.
Knives: (8) Type 1. (9) Type 1, large. (10) Type 1, small. (11) Blade(awl ?)

Type 2 (4) Unpolished slip, interior and exterior; red with grey clouding interior. Paste very sandy; some hematite or red sandstone particles; dark paste with red slip; slip thicker exterior than interior; thickness .7 cm.

Type 3 (3) Reddish tan intermediate in color between Types 1 & 2; one sherd shows obliterated cord marking on exterior; interior unpolished. Paste dark, fine sand and small red particles of rock; intermediate in sand temper in size and amount between Types 1 & 2. Thickness, .6 cm.

Type 4 (1) Light orange; sandy surface. Like historic pottery; thick interior and exterior slip; paste dark grey flecked with dark particles which also show on surface of slip. Thickness .6 cm.

Pounders (4)

Egg-shaped rocks of varying sizes (granites and quartzes). Use not known; smooth surface rocks like these consistently found on western Oklahoma sites in late prehistoric times. Length 10.0 cm - 15.0 cm; width 7.0 cm - 10.5 cm.

Scrapers (37)

Type 1 (3) Flake end scrapers. Made of quartzite, granite or quartz in which the high side of a roughly discoidal plate is chipped roughly at a steep angle. Diameter, 5.5 cm - 6.0 cm.

Type 2 (12) Triangular shaped end scrapers in which the base of triangle is the higher part and is secondarily chipped as the scraping edge. Range from large quartzite types down to small well made flint types. Length 1.5 cm - 6.5 cm; maximum

width .2 cm - 5.5 cm; maximum thickness .7 cm - 3.0 cm.

Type 3 (6) Similar to Type 2 but not as elongated. The scraping edge is straight rather than rounded giving a more rectangular appearance; a variety of material used. Length 5.4 cm; maximum width .5 cm - 3.1; maximum thickness .6 cm - 2.1 cm.

Type 4 (5) Triangular shaped with ridged back; chipping unilateral only along edges. Possibly a late type related to Type 2 but no complete specimens. Might be a large type awl. Length not known; width 1.5 cm - 2.5 cm; maximum thickness .7 cm - 1.2 cm.

Type 5 (2) Thick triangular fragments worked at a steep angle unilaterally along one edge only. Could be an intermediate stage of Type 4 or an awl. No complete specimens. Width 4.2 cm; maximum thickness .5 cm - .6 cm.

Type 6 (3) Pieces of early types of cloudy glass which have been secondarily chipped along edges unilaterally to form end scrapers.

Type 7 (6) Large rough type of rhyolite end scraper in which a unifacial edge is roughly chipped on a rectangular piece of rock. Probably for temporary use. Length 8.0 cm - 9.0 cm; width 5.4 cm - 7.2 cm.

Scraper-Planes (2)

High turtle-back scrapers roughly semi-circular in shape. Steep sides; secondary chipping along curved front. Diameter 4.0 cm - 6.7 cm; thickness 3.2 cm - 4.0 cm.

Stone Types (1281)

Type 1 (32) Black to very dark green; flint; almost black, shades into a tan crust; fairly high lustre; small river gravel; transluscent.

Type 2 (192) White to yellowish quartz; some pink; low lustre; some pieces milky appearance; transluscent.

Type 3 (37) Medium grey flint with dark streak; lighter in color than Type 1 but may be same; good lustre; transluscent.

Type 4 (9) Yellowish quartz with white streaks; some pink streaks; dull lustre; transluscent.

Type 5 (223) Variegated colored quartz with red predominating; veined with yellow, white, purples and pinks; low lustre but often smooth surfaces. Runs from quartz to low grade flints. Colors usually swirled and intermixed in larger chunks; some pieces opaque; some transluscent.

Type 6 (139) Light tan or brown quartz, transluscent.

Type 7 (5) Light opaque grey flint; slight light colored mottling.

Type 8 (42) Tan to light yellowish flint; opaque with smooth marble-like surface.

Type 9 (65) Light white to light grey flint; same color range as Type 2 but opaque rather than transluscent; cleavage smooth with flat surfaces.

Type 10 (1) White poor quality flint; limestone appearance; grey specks, opaque with uneven cleavage.

Type 11 (19) Tan to salmon colored flint; opaque with good cleavage; smooth surfaces with slight lustre.

Type 12 (10) Light purple flint mottled with grey; similar in texture to Type 11; opaque, good cleavage, smooth surface.

Type 13 (101) Light grey flint similar to Type 3 but darker some light spotting; slight lustre; translucent.

Type 14 (51) Light brown quartz; varied to mottled grey with white; somewhat similar to Types 2 and 13 but darker; low lustre; translucent.

Type 15 (55) Whitish to light tan and yellow flint; opaque, smooth surface of alabaster appearance.

Type 16 (33) A light brown or tannish yellow quartz; translucent; dull lustre; smooth fracture; dull glass-like surface.

Type 17 (8) Reddish to chocolate brown flint; some specimens granular surface; uniform color without variation; smooth but irregular fracture; opaque.

Type 18 (4) Light grey flint with dark banding and white outer crust; small dark porous spots scattered through flint; opaque.

Type 19 (9) Light blue-grey flint flecked with small white specks; slightly translucent on edge but general appearance opaque; smooth to touch; cleavage irregular.

Type 20 (18) Medium tan flint; dull lustre; opaque; often irregular cleavage.

Type 21 (15) Light dirty cream flint; color due to interspersion of small white to light grey areas; irregular surface; limestone appearance; opaque.

Type 22 (17) Light grey flint streaked with light yellow; pink, or dark material; translucent.

Type 23 (118) Light grey flint with yellow areas; some dark streaks; good cleavage; slight lustre; opaque.

Type 24 (11) Same as Type 19 but solid grey; lacks speckling; opaque.

Type 25 (14) Dark grey quartsite slightly granular; good cleavage; opaque.

Type 26 (48) Light cream flint veined with yellow or grey; some mottling; outer crust light yellow; sometimes streaking absent; opaque.

Type 27 (2) Dark porphoritic basalt with red sandstone inclusions; very distinctive; opaque.

Type 28 (12) Light cream flint with parallel veins of light brown to yellow or reddish; slightly transluscent.

APPENDIX - D

ARCHAEOLOGICAL PHASES IN THE FT. SILL AREA

Periods: On the basis of the archaeological evidence collected by surface survey the history of the Ft. Sill area can be divided into prehistoric, protohistoric and historic periods. Each of these periods can be divided into several developmental phases or time units which are separated from each other by the introduction of new types artefacts, in changes of types of existing artefacts, or by the introduction or waning in popularity of tool materials. At the present time based only on the fortuitous scattering of surface materials evidence to support these divisions is tentative. Future excavation will possibly eliminate or consolidate some of the present current phases. It is to be hoped, for one thing, that more light will be shed on the cultural situation during the protohistoric period, which is one of the unsolved problems raised by the survey.

The Prehistoric Period

Phase 1. (? - 1000 A.D.) The earliest occupation of the Ft. Sill area begins with some very crude quartzite material which has been found only on four sites, all well back from the present drainages, on hills overlooking what are now first terraces. This material consists of large chunks of quartzite, large flakes, some of which show primary chipping and were used as scrapers and choppers. These sites might be regarded as quarry areas from which material was

obtained to fashion smaller tools but for the fact that geologists working in the area state that the locations indicate that the stone is not native but must have been brought in. The nearest center for any similar industry is the Lake Altus region where comparable material has been found. It is therefore speculated that the first occupation took place by peoples coming from that direction. Since in general there seems to have been a cultural lag in the Wichita Mountain area in the later periods it may be postulated for the early phase as well. The date of this initial occupation is an absolute guess but is thought to have occurred before the opening of the Christian era.

Also there is apparently a missing phase in our present reconstruction if the history of this area parallels that of Lake Altus. Some sites should have been found showing large dart points, scraper-planes and large knives. These still may occur in locations farther back from the drainages than were covered in this survey. At any rate their absence suggests a time gap in the chronology of perhaps hundreds of years.

Phase 2. (1100 - 1200) The next phase which does occur is one characterized by the use of small dart points and the continuing dominance of quartzite as a tool material. This time period is somewhere around the opening of the ceramic-arrow point horizon or perhaps a hundred years before it. In eastern Oklahoma the ceramic horizon is thought to open around 1000 A.D. and in central and western Oklahoma about 1200 A.D. A tentative date therefore for Phase 2 is estimated as around 1100 A.D. Sites having this material together with manos and other

evidence of gathering and agricultural activities appears concentrated in the central part of the reservation. This suggests an intrusion either from the north or more likely up the tributaries of the Red River from the south.

Phase 3. (1200 - 1300 A.D.) Allowing as a rule-of-thumb a hundred years for significant developmental changes, the next change noted is in the western part of the reservation where quartsite still continues as an important tool material but is augmented by flint. Arrow points begin to occur although some of them are large and intermediate in size with the dart points of the preceeding phase. Scrapers are more important tools than manos or other food grinding implements.

Phase 4. (1300 - 1500 A.D.) In the eastern part of the reservation along Medicine Creek and East Cache Creek and to some extent along Blue Beaver Creek, a new development began to take place. This began probably as early as Phase 2 in the east. This development was the intrusion from the east or directly from the south via the Red River drainage of a new type of culture characterised by the use of shell, small arrow points, hematite paint, numerous manos, axes and other new tools. This type of site appears to be confined to the eastern part of the reservation while the older occupation was confined to the western part with the Blue Beaver drainage forming a rough line of division and overlap. If our guess dates are approximately right then this development should be contemporary with the large villages along the Washita River to the north, and to similar villages in Beckham and Brady counties. Sites of these

areas are characterised by buffalo hunting, cordmarked pottery and small arrow points of the same type as found on the reservation. However, strangely enough, only one piece of cordmarked pottery was found on the reservation during the survey. This presents something of a problem which might be explained saying that the assumption of contemporaneity between the two areas is wrong. However, we know that the pottery using Wichitas were in the Ft. Sill area long after the disappearance of the cordmarked pottery using peoples to the north. In this case we might have expected cordmarked pottery in this area. This lack of northern pottery also substantiated the general pattern of a lack of outside contacts noticeable in the Ft. Sill material. Lacking are any other kinds of intrusive pottery, imported flints, or polished tools such as pipes or axes. This situation suggests a refuge area defended by survival groups hidden in this mountain area.

The Protohistoric Period

Phase 5. (1500 - 1870 A.D.) As the time span indicates this phase, at present, is simply a catch-all for a period which historically we know existed but for which no present archaeological evidence exists. Or at least no archaeological material can be assigned to this phase. We know from Catlin's early account that the Wichita, living at this time (1834) at Devil's Canyon to the northwest of the Wichita range, claimed to have previously had villages in the neighborhood of East Cache Creek and Medicine Creek. Subsequently when Captain Marcy passed through the present site of Ft. Sill in 1853 he found that the Wichita has just previously abandoned a village

there in a final move to Rush Springs further to the east. We also know that at the time of Colonel Dodge's earlier meeting with the Comanche in 1834 that a large body of Comanche were encamped on East Cache Creek. Catlin, accompanying this expedition, refers to their previous frequent use of this area as a summer camping grounds. However, in this area no definite evidence of either the Wichita or Comanche occupation can be found. It may be that the shell-pottery-small point evidence of Phase 3 is actually that of the Wichita and that the Comanche occupation is intermingled with it at numerous sites and cannot be separated from the former at the present time. In this problem of tribal identification we are not greatly helped by the historical accounts. These accounts fail to mention much about the non-perishable aspects of the Plains tribes culture, especially information is lacking on household implements. On the other hand judging from the general cultural level there was probably not too much to report on in any case. All accounts, however, seem to agree that their principal weapons, arrows, spears and knives were all of metal and that rather eliminates the frequent finds in this area of flint and quartzite implements.

The Historic Period

Phase 6. (1870 - 1880 A.D.) There is again little evidence for this period except towards the end of the 1870 decade. This was the period when Ft. Sill was established to control and police the new reservation assigned to the Southern Plains tribes. During the early part of this decade the tribes used the reservation as a base for raids off the reservation and presumably were not camped in any great number or for long near the fort. However after the

unsuccessful outbreak and raid against Adobe Walls, Sheridan's final campaign resulted in the surrender of all the tribes and their return to the Ft. Sill reservation (with the exception of Quanah Parker's band on the Staked Plains). It is recorded that the hostiles were put in a large concentration camp during the summer of 1874 along East Cache Creek. A later reference refers to a large Kiowa camp along East Cache Creek below the fort which was in existence until the establishment of the Agency at Anadarko in 1879. However no positive identification of any of the encampments of this period has been made. Some evidence for the white occupation of this period exists at the fort dump in the form of ale bottles, a heavy type of wine bottle and a few undated cartridges. Very few of these items are found in the Indian camps nearby. Therefore the identification of Indian camps of this decade is still a problem to be resolved.

Phase 7. (1880 - 1895 A.D.) This period roughly corresponds with the reservation period. With this phase we are on firm ground again. The large post dump below Ft. Sill along East Cache Creek revealed a considerable assortment of refuse from this period. These dates are based upon the finding of a number of military cartridge shells (from 1877 on) which were stamped with their year of manufacture, a very admirable practise fromthe archaeological point of view. Corresponding material occurs in camp sites along East Cache Creek and to some extent along Medicine Creek with a scattering of similar sites to the west. All these sites are presumed to be Indian occupied. The concentration along East Cache Creek is undoubtedly related to the establishment of the Sub-agency of the Anadarko Agency which was

done for the purpose of issuing rations. Rations were handed out along with cattle at a location somewhere in this vicinity known as Beef Corral. However the exact location of the latter has not yet been determined.

Phase 8. (1895 - 1917 A.D.) This phase roughly corresponds with the period during which the principal Indian occupants of the reservation were the Chiricahua Apache prisoners of war from Arizona, popularly known as the Geronimo Apaches. Indian occupation during this period according to the archaeological evidence was mainly on the northern bank of Medicine Creek above the bluffs and on upper East Cache Creek and lower Beef Creek. Some scattered occupancy to the west during this phase was probably Comanche. Sites of this phase contain no Indian material as such and are characterised by a variety of broken glass and crockery types which are easily distinguishable from types of the preceeding decade by their improved technical qualities.

Phase 9. (1917 to present) There is some scattered material of this phase in the western part of the reservation but elsewhere it is represented only by occasional evidence of infantry and artillery operations.

APPENDIX - E

DISTRIBUTION OF PHASE OCCURRENCE BY SITES

Drainage	Site No.	Phase Numbers 1	2	3	4	5	6	7	8	9
East Cache Creek	9A				x		x	x	x	
	9AA							x	x	
	9B				?			x	x	
	9C				?				x	x
	9D							x	x	
	10				x			x	x	x
	11				x			x	x	
	12				x					
	13				x					
	14					?				
	15								x	
	16				x			x	x	x
	17								?	x
	18				x			x	x	
	19				x					
	20			x	x			x		x
	21				x					
	22				x					x
	23				x					x
	24				?					
	25			?	?					
	26				x					
	27				x				x	x

Fig. 16.

Drainage	Site No.	Phase Numbers 1	2	3	4	5	6	7	8	9
East Cache Creek, cont.	28				?					
	29				x					
	30				x				?	
	31				x				x	x
	32								x	
	109				x	?	?	x	x	x
	110				x					
	111			?	?					
	112				x				?	
	113								?	?
Medicine Creek										
	33								x	
	34				?				x	
	35				?				x	
	36				x				x	
	37				x				x	x
	38				x					
	39				x				x	
	40			x					x	
	41				x				?	
	42			x						?
	43				?				?	

Fig. 16.

Drainage	Site No.	Phase Numbers 1	2	3	4	5	6	7	8	9
Medicine Creek, cont.	44				x					x
	45				x					?
	46				x					
	47				x				x	
	48								x	
	49			x	x				x	
	50				x				x	
	51				x					
	52				?					
	53				x					?
	54				?				x	
	98			x	?					
	99				x				x	
	100				x					
	101			?	x					
	102			x						
	103			x						
	104		?	x					x	
	105			x						
	114			x						
	115			x						
	116			x						
	117			x						

Fig. 16.

Drainage	Site No.	Phase Numbers 1	2	3	4	5	6	7	8	9
Medicine Creek, cont.	118			x	x			?	x	
	119					?				
	120			x						
	121	x								
	122	x								
Blue Beaver Creek	55			?				x	x	
	56							x	x	
	57			x						
	58		x							
	59							x	x	
	60		x	x						
	61							x	x	
	62		x	?						
	63			x					x	
	64		x	?						
	65			x					x	
	66		x	x					?	
	67				x					
	68				x					
	69		x	x	?					
	70		x							
	71		x							

Fig. 16.

Drainage	Site No.	Phase Numbers 1	2	3	4	5	6	7	8	9
Blue Beaver Creek, cont.	72		?	x						
	73			x						
	74			x					?	
Crater Creek	75		?	?					?	
	76		x					?		
	77		x							
	78		x	x						
	79			x						
Quanah Creek -	80			x						?
West Cache Creek	81			?	?				x	
	82			?	?					
	83		x	x						
	84			x						
	85			?	?					
	86			?	?			x	x	
	87			x					x	
	88		x	?				?	?	

Fig. 16

Drainage	Site No.	Phase Numbers 1	2	3	4	5	6	7	8	9
Post Oak Creek	89			x						
	89B		?	x						
	90		?	x						
	91		?	x						
	92		?	x						
	93		?	x						
	94		?	x						
	95		?	x						
	96	x								
	97	x								
	123			x						

Fig. 16.

SUMMARY OF PHASE OCCURRENCE BY SITES

	Indian					White			
PHASES	1	2	3	4	5	6	7	8	9
DRAINAGES									
East Cache Creek			3	26	2	2	9	18	11
Medicine Creek	2	1	15	24			1	17	4
Blue Beaver Creek		9	12	3			4	8	
Crater Creek		4	3				1	1	
Quanah - W. Cache Creek		2	9	4			2	4	1
Post Oak Creek	2	7	9						
TOTALS	4	23	51	57	2	2	17	48	16

Fig. 17.

APPENDIX - F

MATERIAL AND ARTIFACT DISTRIBUTION BY SITES

Fig. 18, Table 1 - East Cache Creek Area

Fig. 19, Table 2 - Medicine Creek Area

Fig. 20, Table 3 - Blue Beaver and Crater Creek Area

Fig. 21, Table 4 - Quanah - West Cache and Post Oak Creek Area

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

Materials — EUROPEAN — (Part 1) Table 1

Site No.	China, 1	China, 2	China, 3	Glass, 1	Glass, 2	Glass, 4	Glass, 5	Glass, 6	Glass, 7	Glass, 8	Glass, 9	Glass, 10	Glass, 17	Crockery, 1	Crockery, 2	Crockery, 3	Crockery, 4	Crockery, 5	Crockery, 7	Crockery, 8	Crockery, 9
9A		15	3	25		2	14	76	22	29	2	1		7	1					1	
9AA		14		2			11	39		4				2							
9B	4	4		11					4	8	160	1		71	4		1	1			
9C		2		2			1		9	3	10				4						
9D				1										3							
10		3		1	1	1		6	1	1				1		1					
11		3			2			2		2											
12	1																				
13																					
14																					
15				1				1													
16	1	1	3	1				1	5	3	1			1							
17				1					1												
18		4		1			1		3					2							
19																					
20				7						1	2										
21																					
22				2																	
23					1																
24																					
25																					
26	1																				
27	20		2	3	1			2				1									
28																					
29																					
30							1														
31	1		1		4														1	2	
32						1	3	4				1									
106																					
107																					
108													1								
109	10	16	7	1	1	7	9	4												1	2
110																					
111																					
112	1		1					1													
113																					

EAST CACHE CREEK AREA

Fig. 18.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

Artefacts — EUROPEAN — Table 1 (Part 2)

Site No.	Bead	Belt	Button, metal	Button, shell	Button, other	Cartridge, Carbine	Cartridge, cal. 45	Cartridge, cal. 30	Handle, Knife, bone	Handle, Knife, metal	Hammer, gun	Lamp, kerosene	Lead	Lense, spectacle	Lid, china	Linoleum	Lock, door
9A			2			3		2				1	1				
9AA																	
9B		1			1	6	1	2									
9C						10								1	2		
9D								3									
10																	
11			1						1								
12																	
13																	
14																	
15								1									
16				1		1											
17		1															
18						1											
19								1									
20						2										1	
22								1									
23																	
24																	
25																	
26					1												1
27							1	1		2							
28																	
29																	
30																	
31																	
32																	
106																	
107																	
108																	
109		1	1			2					1						
110																	
111																	
112																	
113																	

EAST CACHE CREEK AREA

Fig. 18.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

EUROPEAN

Artefacts — Table 1 (Part 2, cont.)

Site No.	Metal, unidentified	Military Equipment, WW II	Nails, round	Nails, square	Pistol, Percussion Cap	Rubber	Seals, ore	Shell, shotgun	Shoe, horse	Shoe, mule	Shoe, pony	Spike, helmet	Spike, tethering	Stove, part	Washer, metal	Wirecaps & Wires
9A	17			17				1	1	1	1			1	1	
9AA																1
9B				13	1						5			3		3
9C	28															
9D								2								
10	7												1			
11				2												
12																
13																
14																
15	1															
16	3															
17							1								1	
18	2															
19	1															
20				1		1		1								
21																
22																
23		1														
24																
25																
26	1															
27	2		1													
28																
29																
30																
31	1															
32	3			5						1						
106																
107																
108																
109	2	1	1	2										2		
110		2														
111		2														
112														1		
113	1															

EAST CACHE CREEK AREA

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

Materials — INDIAN — (Part 3) — Table 1

Site No.	Bone, Animal	Basalt	Flint, 1	Flint, 2	Flint, 3	Flint, 4	Flint, 5	Flint, 6	Flint, 7	Flint, 8	Flint, 9	Flint, 11	Flint, 12	Flint, 13	Flint, 14	Flint, 15	Flint, 20	Flint, 21	Flint, 22	Flint, 23	Hematite	Quartz	Quartzite	Shell
9A	6																				1			2
9AA	1																							
9B	8																							1
9C	4																							1
9D																								
10	14																							15
11	6																						4	7
12			2	1																				2
13																					1			14
14	1																							
15																								
16	15			1																	1			8
17	7																							
18	8																							9
19	3				1	2	2																3	2
20				22			13	2	2	2												1	12	1
21	3			3							3			3								1		4
22	3		1																				1	7
23	1																							1
24	3											1												
25	4						18					1												
26	84		1			1	8			7	10	1	1	43			2	1			8			2
27	4																							1
28							2																2	
29	3			1			3														1			2
30	3																							4
31	7																							2
32																								
106	6																							
107	12																							
108	4																							
109	22			5				7	2	1								1	2	2		1	7	10
110																6							2	2
111	3						3				2					1							3	
112	7	1																						1
113	5																							

EAST CACHE CREEK AREA

Fig. 18.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

Artefacts — INDIAN — (Part 4) Table 1

Site No.	Chopper	Hammerstone	Knife, 1	Mano, 1	Maul, grooved	Metate (Anvil)	Point, 1	Point, 2	Point, 3	Point, 4	Point, fragments	Pounder, cog-shape	Scraper, 1	Scraper, 6	Pottery, 1
9A		1												4	
9AA															
9B															
9C	1													1	
9D															
10															
11															
12		1											2		
13		1													
14							1								
15															
16															
17															
18															
19															
20				1			1					2	1		
21								1	1						
22															
23															
24															
25															
26			2	1	1		1		1	4	8		2		10
27															
28															
29															
30															
31															
32															
106															
107															
108															
109														1	
110														1	
111															
112															
113															

EAST CACHE CREEK AREA

Fig. 18.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

EUROPEAN

Material — Table 2 (Part 1)

Site No.	China, 1	China, 2	China, 3	China, 4	Glass, 1	Glass, 2	Glass, 3	Glass, 4	Glass, 5	Glass, 6	Glass, 7	Glass, 9	Glass, 10	Glass, 11	Glass, 13	Glass, 15	Glass, 17
33							1		4								
34					3				1								
35							1	2						1			
36					2	2		2									
37					3	2		16			7				1		
38																	
39					2	1		7	1				1	2			
40								1									
41						1											
42																	
43					2			4	1					1	1		
44																	
45						1											
46																	
47						2		3	1								
48																	
49						3	1										
50						2		27	4		2					1	
51																	
52																	
53						4											
54								1									
98																	
99								2									
100																	
101																	
102																	
103																	
104								2									
105																	
114																	
115																	
116																	
117																	
118	1							6		2		1					
119																	
120																	
121																	
122																	

MEDICINE CREEK AREA

Fig. 19.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

EUROPEAN

Material — Table 2 (Part 1, cont.)

Site No.	Crockery, 1	Crockery, 8	Crockery, 9	Crockery, 10	Crockery, 11	Crockery, 12	Crockery, 13	Crockery, 14	Crockery, 15	Crockery, 16	Crockery, 17	Crockery, 18	Crockery, 19	Crockery, 20	Crockery, 21
33															
34															
35												1			
36															
37			1	4									1		
38															
39		2			7	6	2	1							
40															
41															
42															
43															
44															
45															
46															
47									2						
48															
49										2	1		7		
50			3								1	2	2	1	1
51															
52															
53															
54															
98															
99															
100															
101															
102															
103															
104															
105															
114															
115															
116															
117															
118	?													7	
119															
120															
121															
122															

MEDICINE CREEK AREA

Fig. 19.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

MEDICINE CREEK AREA

Artefacts — EUROPEAN — Table 2 (Part 2)

Site No.	Bead	Belt	Button, metal	Button, shell	Button, other	Cartridge, Carbine	Cartridge, cal. 50	Cartridge, cal. 45	Cartridge, cal. 44	Cartridge, cal. 38	Cartridge, unidentified	Clock, alarm, parts	Coin	Feeder, Chicken	Handle, knife, metal	Handle, frying pan	Harmonica, parts	Harness, parts
33																		
34																		
35														1				
36																		
37	1	1	1															
38																		
39		1					1	1				1	1##		1		1	4
40																		
41																		
42										1								
43																		
44							?						1#					
45							1											
46																		
47			5	3	1						1	2						
48																		
49			1		1													
50		1	1	1					2									
51																		
52																		
53																		
54																		
98																		
99						1												
100																		
101																		
102																		
103																		
104																		
105																		
114																		
115																		
116																		
117																		
118																		
119																		
120																		
121																		
122																		

##1944 B .05¢ #Token

Fig. 19.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

MEDICINE CREEK AREA

Artefacts — EUROPEAN — Table 2 (Part 2, cont.)

Site No.	Lid, china	Lock, door, parts	Medal, souvenir	Military Equipment, MW	Nail, round	Nail, square	Pipe, stem	Plane, carpenter, part	Purse, frame	Rivet	Scissors, parts	Shell, shotgun	Shoe, mule	Shoe, pony	Shovel, coal	Spike, masonry	Spoon	Stopper, bottle	Stove, part
33																			
34																			
35				1															
36				2															
37				1	1				1										
38																			
39	1		1				1			1				2	1	1	1		
40																			
41																			
42																			
43																	1		
44																			
45																			
46																			
47		1				1		1											
48						22						1							3
49				1															
50											2		1						
51																			
52													1						
53																			
54																			
98																			
99						1													
100																			
101																			
102																			
103																			
104																			
105																			
114																			
115																			
116																			
117																			
118																			
119																			
120																			
121																			
122																			

Fig. 19.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

Material — INDIAN — Table 2 (Part 3)

Site No.	Basalt	Bone, animal	Bone, human	Flint, 1	Flint, 2	Flint, 3	Flint, 4	Flint, 5	Flint, 6	Flint, 7	Flint, 8	Flint, 9	Flint, 11	Flint, 12	Flint, 13	Flint, 14	Flint, 15
33		2															
34																	
35																	
36		8															
37																	
38				1		1		11	4	2		3	1				
39		8														9	
40	1			1	1												1
41			1														
42															1	1	
43																	
44																	
45				5	10			8	12			3	2	2	21		
46	4							6	1		9	2	1		5	5	
47		6				1								1			
48																	
49		5		1	2							2			1		
50							2					2					
51																	
52		5		1	1												
53																	
54																	
98	1	5		1					2							2	
99		5		2				6	9				7		13		
100		3						2	1				1		2		
101				1				8							8		
102	22	3						5	26								
103									1								
104																5	
105		4	1		9							1					1
114	5				1			2									
115								3									
116					1												
117																	
118	7	3		9	2			11	25		3	5			3	3	6
119																	
120								6								1	
121					2												
122				1	1												

MEDICINE CREEK AREA

Fig. 19.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

Material INDIAN Table 2 (Part 3, cont.)

Site No.	Flint, 16	Flint, 17	Flint, 18	Flint, 19	Flint, 20	Flint, 21	Flint, 22	Flint, 23	Flint, 24	Flint, 25	Flint, 26	Flint, 27	Flint, 28	Hematite	Quartz	Quartzite	Shell
33																	1
34																	7
35																	3
36															27		8
37																	6
38	2															14	
39		1														1	10
40										2						5	
41			1														1
42	5																1
43				1			2										2
44																	1
45					1			5	2		1				2	28	6
46	2															2	8
47																	
48																	4
49		1												3	3	16	1
50															2	1	1
51																3	
52				1													
53																	3
54																	3
98							1								2	14	1
99	1	1						20							2	1	4
100					1											1	2
101															3	12	
102											10				2	14	
103																2	
104						8	2								3	8	2
105							4									5	1
114															15	50	
115															16	52	
116															1	6	
117															6	20	
118										11		1			6	68	2
119																	
120													1		4	10	
121													1		1	17	
122													3	1	14	16	

MEDICINE CREEK AREA

Fig. 19.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

INDIAN

Artefacts — Table 2 (Part 4)

Site No.	Abrader	Axe (or adze)	Awl, flint	Blades	Choppers	Discs	Fleshers	Hammerstones	Knife, 1	Knife, 2	Knife, 3	Mano, 1	Mano, 2	Mano, 3	Metate
33															
34															
35															
36															
37															
38	1												1		
39				1					1	1	1	1			
40														1	
41															
42	1							1							
43															
44	1									2					
45										1			1		
46															
47										2					
48															
49															
50										1					
51															
52			1												
53															
54															
98										1					
99										1					
100															
101					1			1							
102												1			
103															
104															
105															
114					1										
115		1	1					1							
116															
117								3							
118								3							
119							1								1
120															
121										1					
122						1		2							

MEDICINE CREEK AREA

Fig. 19.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

INDIAN

Artefacts — Table 2 (Part 4, cont.)

Site No.	Point, 2	Point, 4	Point, 5	Point, 6	Point, fragments	Pottery, 2	Pounders, egg-shape	Scrapers, 1	Scrapers, 2	Scrapers, 3	Scrapers, 4	Scrapers, 7	Scraper-Planes
33													
34													
35													
36													
37							1						
38													
39		2			1								
40		1											
41													
42													
43													
44		1							2			1	1
45		1					1		1				
46													
47													
48													
49									1				
50													
51							1						
52			1										
53													
54													
98													
99	1		1	1	6				1				
100													
101	1					1							
102													
103													
104			1										
105													
114					2						1		
115					1								1
116													
117													
118		1			5						1		
119											1		
120					3								
121								1					
122								1					

MEDICINE CREEK AREA

Fig. 19.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

BLUE BEAVER CREEK AREA

Materials: EUROPEAN — Table 3 (Part 1)

Site No.	China, 1	China, 2	China, 3	Glass, 1	Glass, 2	Glass, 4	Glass, 5	Glass, 6	Glass, 9	Glass, 10	Glass, 11	Glass, 12	Crockery, 4	Crockery, 10	Crockery, 11	Crockery, 15	Crockery, 19	Crockery, 20	Crockery, 22	Crockery, 23	Crockery, 24
55	4	6	2	2		5	2			2	1					2	3		1	1	
56	1	1	1	5			1								1		1				
57																					
58																					
59	3	2		3	1	2	4	1		1						1					3
60																					
61		8	1	5		3		1	?				1	2	2		2	3		1	1
62																					
63						1						1									
64																					
65				2																	
66	1	1																			
67																					
68																					
69																					
70																					
71																					
72																					
73																					
74		2	1																		

CRATER CREEK AREA

75	1																				
76										1											
77																					
78																					
79																					

Fig. 20.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

BLUE BEAVER CREEK AREA

Artefacts — EUROPEAN — Table 3 (Part 2)

Site No.	Button, metal	Button, shell	Buckle, metal	Can, top	Cartridge, cal. .45	Lock, door, part	Metal, unidentified	Nail, round	Pistol, toy	Purse, frame	Spark Plug	Spoon	Sword, blade	Tile	Tomahawk shape tool
55	1				1		3				1	1			
56			1	1											
57															
58															
59										1					
60													1		
61		1					2	4							1
62															
63					1									1	
64															
65															
66															
67															
68															
69															
70															
71															
72															
73															
74															

CRATER CREEK AREA

75															
76															
77															
78															
79															

Fig. 20.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

BLUE BEAVER CREEK AREA

Material — INDIAN — Table 3 (Part 3)

Site No.	Basalt	Bone	Flint, 1	Flint, 2	Flint, 3	Flint, 4	Flint, 5	Flint, 6	Flint, 8	Flint, 9	Flint, 10	Flint, 11	Flint, 12	Flint, 13	Flint, 14
55															
56															
57			1					1	2						
58	1			2		1	1		1					4	
59															
60	1	3		29	1	1	1								
61															
62	1			8	14		1								
63		1								1					
64				3				3		3					1
65		2		7			1						1		
66	1			30	8		16						1	5	7
67		2		1	1			3							
68				4						7					
69	1			21	3		13	6	9	2					
70								2							
71		1			6		4	4				1			2
72			1	3	1		8	7		2				1	6
73	3	1		2			2		1					1	
74		1					1								1

CRATER CREEK AREA

75	1	3													
76	1	1					1	4		3			1		
77	1	9	1	12			2				1	1			3
78							1						2		1
79	1			1			4	3		2	2				

Fig. 20.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

BLUE BEAVER CREEK AREA

INDIAN

Material — Table 3 (Part 3, cont.)

Site No.	Flint, 15	Flint, 16	Flint, 17	Flint, 18	Flint, 19	Flint, 20	Flint, 21	Flint, 22	Flint, 23	Flint, 24	Flint, 25	Flint, 26	Quartz	Quartzite
55														6
56														
57													1	10
58													1	7
59														
60		4			2	7						12	36	
61														
62	1	11			1	6			2		1	22		5
63													1	1
64								2					1	23
65			2										1	12
66	21	4					6		13				15	39
67		1			1	1						1	4	
68	2								1					2
69			1					2	27				30	39
70									1					1
71		1		1					10				11	6
72	2								4				2	14
73	1									1			5	9
74	2												2	1
	CRATER CREEK AREA													
75													2	
76					1				7				4	19
77		2		1	2			1	1	1		1	29	123
78													8	13
79				1					2	1			21	61

Fig. 20.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

BLUE BEAVER CREEK AREA

Artefacts — INDIAN — Table 3 (Part 4)

Site No.	Axe	Crystal, quartz	Disc	Drill	Hammerstone	Knife, 1	Knife, 2	Knife, 3	Mano, 1	Mano, 2	Mano, 3	Mano, 4	Metate
55													
56													
57													
58													
59													
60	1	1							2				
61													
62											1		
63													
64													
65													
66				1		2		1					
67													
68													
69				1									
70													
71				1	1		1			1		1	
72													
73			1										
74													

CRATER CREEK AREA

75													
76							1		1				
77					4				1	2			1
78													
79		1			1								

Fig. 20.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

BLUE BEAVER CREEK AREA

Artefacts INDIAN Table 3 (Part 4, cont.)

Site No.	Point, 1	Point, 2	Point, 3	Point, 4	Point, 7	Point, 8	Point, 9	Point, 10	Point, 12	Point, 13	Point, 14	Point, fragments	Scraper, 1	Scraper, 3	Scraper, 4	Scraper-Plane
55																
56																
57																
58	1															
59																
60			2	2		1	1					2				
61																
62						4	1	1				3	1			
63																
64																1
65																
66	1	1				1			1			6	1	2		
67			1	1												
68															1	
69	1	1	1		2	1		1								
70					1					1						
71	1		3									1				
72																1
73				1												
74																

CRATER CREEK AREA

75				1												
76								1								
77											5	4				
78				1	1		1									
79																

Fig. 20.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

QUANAH CREEK AREA

Materials — EUROPEAN — Table 4 (Part 1)

Site No.	China, 1	China, 2	Crockery, 25	Glass, 4	Glass, 5	Glass, 6	Glass, 12	Glass, 18		Bead	Button, metal	Coin, 1851	Metal, Unidentified	Nails, round	Nails, square	Shell, shotgun	Shoe, horse	Stove, part
80	2																	
81				1														
82																		
83																		
84																		
85																		
86		7	1		1			1		1	1	1	1	1	2	1	2	1
87	1			1			1											
88						1												

POST OAK CREEK AREA

Site No.	
89	
89B	
90	
91	
92	
93	
94	
95	
96	
97	
123	

Fig. 21.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

QUANAH CREEK AREA

Materials — INDIAN — Table 4 (Part 2)

Site No.	Basalt	Bone	Flint, 2	Flint, 5	Flint, 6	Flint, 8	Flint, 9	Flint, 11	Flint, 12	Flint, 14	Flint, 15	Flint, 17	Flint, 21	Flint, 22	Flint, 23	Flint, 24	Flint, 26	Flint, 27	Flint, 28	Kaolin	Quarts	Quartzite
80				5	2									1	1						15	16
81	1		1	2							1										9	7
82			1								3		1									4
83		1		7		7	11			2					7			1			10	53
84			8	2	2			2	1				1		4	2			7		1	36
85				7	7		1														14	4
86				3	3																1	2
87			3																		3	7
88				2	2										4						4	13

POST OAK CREEK AREA

89															6					1	6	4
89B																						3
90				1											1							6
91			2	2								2									1	17
92			1	5																	2	16
93				2																	5	10
94																					1	2
95				1		1															1	3
96																						11
97																						
123				2	5						5										13	9

Fig. 21.

MATERIAL AND ARTEFACT DISTRIBUTION BY SITES

QUANAH CREEK AREA

Artefacts — INDIAN — Table 4 (Part 3)

Site No.	Awl	Crystals, Quarts	Knife, 1	Knife, 2	Mano, 1	Mano, 2	Mano, 3	Mano, 4	Point, 2	Point, 7	Point, 8	Point, Fragments	Scraper, 1	Scraper, 3	Scraper, 4	Scraper-Plane
80						1	1	1								
81						1							1			
82																
83	1									1		2		1		
84																
85															1	
86												1				
87			1		1											
88	1									1					1	
	POST OAK CREEK AREA															
89												1				
89B																
90		1			1				1							
91																
92		1											3			
93													1			
94		2														
95			1										1			1
96																
97																
123		1									1		1			

Fig. 21.

APPENDIX - G

SITE DESCRIPTIONS AND LOCATIONS
(Field Notes)

Site 9: West bank of Cache Creek beginning southeast of Hoyle Bridge Crossing running parallel to creek for 100 - 200 yards. Occupation evident along firebreak for 4/5 mile; ending approximately 367352. Ft. Sill refuse area in late 1870's to early 1890's. North end seems older. Dumped by wagon loads. Refuse only 12" - 18" deep. Thins out to the west in the field.

Site 10: Occupation exposed in firetrail paralleling loop of east bank area southeast of Camp Comanche marker. No evidence in cultivated field. Nineteenth century, glass crockery, metal. Considerable shell. Camp parallels river at edge of trees. On East Cache Creek.

Site 11: Campsite, shell, beer glass along northeast corner of gooseneck on east bank of East Cache Creek.

Site 12: (375363) Southwest of Site 3 at end of gooseneck back from East Cache Creek 100 feet at edge of trees. Material is in fire trail. None visible on plowed field to east.

Site 13: East of railroad track directly north of northeast edge of housing project about 100 yards. At extreme southeast side of large materials pit. Quartzite site on top of hill at 1100 feet elevation. Overlooks Sitting

Bear Creek about a mile west of junction with East Cache Creek. Most of site removed by machines.

Site 14: Campsite, shell, hammerstones; low area in trees along Sitting Bear Creek 30 yards back from north bank. Also some camp debris imbedded in sands by overflow of river.

Site 15: East bank of East Cache Creek. Northeast of Camp Comanche marker in area around Magazine # 19 and extending west to river. Possible site of dragoon encampment with some possibility of ditching on sides. Helmet spike (1890's?) from here. Area now in tall Johnson grass. Ground visibility poor.

Site 16: Campsite east bank of East Cache Creek. Material in firebreak trail along edge of woods. Some material in plowed field to south, includes shell, metal and glass.

Site 17: (581353) Southwest of Site 8 several hundred yards at end of a meadow. Extends from edge of trees east into a field.

Site 18: East bank East Cache Creek at head of meadow on high ground. Crockery, china, glass, shell, present.

Site 19: Northeast of Site 10 in same meadow but in center in an open spot towards river. Small flint chips and no European material.

Site 20: Nose of hill extending northwest towards East bank of East Cache Creek. Nose of hill meets junction of two small tributaries. Possibly four occupations (1) modern military, (2) contact Plains Indian, (3) precontact Plains, (4) prehistoric. Material: quartzite scrapers, small flint dart points, very small flint chips; flint scrapers, early glass, later glass. Quartzite occupation appears to be 9" - 12" under present surface.

Site 21: Top of hill from which nose protudes from Site 12. Rises back of latter about 30 feet high. Flint material only. One Harrel point. Other flints differ from Site 12.

Site 22: Between road and tributary of East Cache Creek. Southwest of Site 13 on flat. Conact site.

Site 23: Very light occupation. Scattered on west side of meadow along edge of woods.

Site 24: High ground thin campsite. Evidence on open places in woods; mostly east side near hill base.

Site 25: Area along and in east bank of East Cache Creek. Buffalo bone protruding from bank and some burned rock. At depth of six and a half feet below present surface. However seems to be same age as surface material farther down stream at Site 18.

Site 26: Pig farm crossing. Site rather extensive in wooded area from edge of east bank of East Cache Creek to 100 feet; almost to base of low hills to east. Site about 200' long. Earth's surface to 6" below; arrow points, dart points, hematite, shell, buffalo bone, pottery.

Site 27: West bank of East Cache Creek parallel to creek but 50' back from edge. Remains of early 1900 - 1920 military installations, china, metal, cement. Profile of Indian campfire noted one foxhole. Possibly slight Indian occupation below present surface. Some animal bone.

Site 28: Ridge line back of Site 19. Thin scattering of flint chipping. Some shell. Site not associated with Site 19. Possibly Comanche. Crude chipping.

Site 29: Area of firebreak road to edge of river. Main site bladed away. Shell, flint.

Site 30: On small tributary drainage of East Cache Creek in eroded hills; shell, one flint drill, different flint. White crust on flint like Texas types. Very thin occupation, working out of eroded hillocks.

Site 31: Thin conact occupation, china, bone, glass. Some material along west bank of Running Bear Creek. Mostly shows in firebreak trail.

Site 32: Contact site, metal china, 1881 coin, crockery. Occupation shows along firebreak trail; extends to east on west bank of East Cache Creek.

Site 33: Southwest side of Punchbowl north of Medicine Creek. Site along east bank of small drainage running southwest out of Punchbowl. Glass, china metal. Probably site of Chiracahua Apache prisoners.

Site 34: West bank of small drainage in Punchbowl northwest of Site 26. Also Chiracahua Apache.

Site 35: West bank of small tributary in Punchbowl back from Medicine Creek. China, doll arm, chicken feeder. Chiracahua Apache site.

Site 36: Second terrace of Medicine Creek in southwest corner of Punchbowl Site runs from below bank to across flat to rising ground camp area. Contact site; shell, china, but no flint.

Site 37: Side and top of hill overlooking Medicine Creek to south; east side of hill above flat. Late contact site.

Site 38: East side of Punchbowl close to Medicine Creek. Small hillock in slight bow of north bank; Soil gravelly. Probably three or four occupations, flint points and scrapers, mano, quartzite material. Also contact pottery, glass military hardware. Hearths working out of fire trail several places.

Site 39: Apache Mission site. Southeast of Punchbowl 1/4 mile. Directly south of Skeet Range in slight bow of north bank of Medicine Creek along a tributary. Apache houses several hundred yards to northeast along

same tributary. Occupation known from 1895 - 1912 or 1913. Dutch Reformed Church, Frank Wright, Missionary. Naiche's band. Consider the surface rubbish especially metal, china and glass.

Site 39B: Piles of round river rock against side of canyon slope leading to river from Apache Mission site, to east of site. Next to trail along stream drainage leading southwest out of Punchbowl. Maybe erosian control, or military activity but could be burial locations.

Site 40: Quartzite and flint area to west of Apache Mission site. Located on firetrail. Possibly an extension east of Site 30.

Site 41: Wichita (?);possibly Plains occupation east side of small drainage 4 - 500 yards west of hill opposite Medicine Bluff 3. Shell possibly house base in road. Arm bone of small child at three foot depth in tank pit southeast of site.

Site 42: Opposite Site 33 but larger area on hill. Hearth material, flint chips.

Site 43: Contact campsite in center of Punchbowl, china, glass, stone. Very thin occupation.

Site 44: Precontact site of Plains Indian (?) antler, hammerstone, flint chips. Very thin occupation. Slight drainage to east at head of tributary running into Medicine Creek.

Site 45: Contact campsite. Rather extensive on slight slope in woods. Site badly eroded and disturbed by military maneuver activities, such as foxholes, latrines, etc. Flint and quartzite chips rather crude. Possibly Plains Indians site on north slope at west end of Medicine Creek on south bank.

Site 46: Southwest of Site 37 a hundred yards or so. Possibly part of same site; hearths, quartzite chips more than flint. Almost no shell.

Site 47: Edge of woods on north bank of Medicine Creek and south end of Jones Ridge Rifle Range. Scattered evidence extends into woods.

Site 48: Road at east end of Jones Ridge Rifle Range on northwest bank of Medicine Creek.

Site 49: Northeast end of Jones Ridge Rifle Range at edge of wood. Northside of Medicine Creek. Indian Spring to north over small drainage. One pottery sherd found.

Site 50: South of Indian Hill, northeast of Jones Ridge Rifle Range. Northbank of Medicine Creek at edge of woods. Top of ridge overlooks Site 40 on other side of slight drainage between sites.

Site 51: East and slightly north of Indian hill on west bank of Medicine Creek in woods just south of trail crossing with dirt road.

Site 52: Northwest of Fourmile crossing of Medicine Creek. Long shallow materials pit. Occupational material working out from top 6" along north side of pit. Paint, flint chips, hearths.

Site 53: Southwest of Jones Ridge Rifle Range and west of target drainage ditch just north or road paralleling Medicine Creek. Scattered china and rock concentrations. Latter work of white soldiers probably though might be Indian graves.

Site 54: Area on north bank of Medicine Creek opposite Medicine Bluff 3 on first terrace. Sloping ground under trees. Some hearths but probably late as overflow here. Very thin evidence; mostly shell. Only campsite area noted near Medicine Bluffs.

Site 55: Area center of field on high point at south end of field. Very scattered small flint and quartzite chips. Precontact.

Site 56: Contact site, crockery, china, glass, also some quartzite chips in road. Located north of junction of East - West firebreak on east side of road along west bank of Blue Beaver Creek.

Site 57: Historic site of 20 - 40 years. Trash working out of cut 4" below surface to east of road along west bank of Blue Beaver Creek at bend in creek below ford just south of Moving Target Range Road.

Site 58: Hillock just to north of ford south of junction with Moving Target Range Road on east bank of Blue Beaver Creek. Quartzite and flintchips. Precontact.

Site 59: West side of Blue Beaver Creek road between road and creek. White occupation 20th century probably though could be Indian family. Glass; remains of cement foundation. Mixed with earlier Indian occupation. Probably overlaps with site 52.

Site 60: Field to northwest of Site 51. Parallel between Blue Beaver Creek and Road. Extends from 2 - 400 feet. Hearths, points, chips, manos. Some exposed in roadway. Part of site removed by road construction.

Site 61: Twentieth century Indian or white occupation. Trash heaps besides Blue Beaver Creek Road of east side on bend. Horseshoes, metal, china, glass, sword (?).

Site 62: Prehistoric campsite; eight to ten points of various types; flint some quartzite in gravel. No scrapers or other artefacts. East bank of Blue Beaver Creek. Mostly in firebreak road.

Site 63: To northwest of Site 62 2 - 300 feet parallel with river in firebreak. European contact, crockery, china.

Site 64: To northwest of Site 63 2 - 300 feet parallel with firebreak trail. Mostly quartzite chips.

Site 65: Quartzite chips in road along west bank of Blue Beaver Creek south of Ketch Ranch and south of Signal Mountain Road. Material working out of bank 3 - 4 feet below surface. No artefacts. Spread over wide area on top of hill.

Site 66: East bank of upper Blue Beaver Creek just north of Ketch Ranch House on firebreak road 400 feet north of road just across stream south of Ketch house. Many small chips in area 2 - 300 feet long 50 feet wide; hearths near river 3 - 4 feet under soil.

Site 67: At junction of two trails just east of Blue Beaver Road north of Ketch Ranch on first bend of the road to east. Small area of light occupation on slope; both sides of a small east branch of Blue Beaver Creek.

Site 68: At junction of road northwest of Ketch Ranch on north side of Blue Beaver Creek. Slight occupation.

Site 69: East side of Blue Beaver Creek southeast of Girl Scout Camp about half a mile; at south end of a long sloping field. Scattered hearth material and chips, points over large area 200 feet long, 50 feet wide. Possibly prehistoric; might be Plains. Worth trenching in woods.

Site 70: Northwest of Site 62 several hundred yards towards center of field paralleling small drainage to west.

Few artifacts; some chips.

Site 71: In woods on nose of a hill 100 feet south of Blue Beaver Road. South bank of creek. Early quartzite site; burned hearth material. Chips few and hard to locate in woods. Light colored native soil 2 - 4 feet below dark topsoil. Might be able to pick up pole pattern.

Site 72: West side of upper Blue Beaver Creek. Last open area prior to Ketch Lake. Occupation area spread along north side of north tributary of Blue Beaver Creek. Prehistoric quartzite in woods. Some charcoal uncertain whether from burned stumps or occupation. Occupation in oak woods; cedar begins to west 1/4 mile.

Site 73: East bank of Blue Beaver Creek in field and in firebreak road; small occupation and scattered. Typically in wide bend of creek with large field to rear; west of road.

Site 74: East bank of lower Blue Beaver Creek north of junction of Blue Beaver Road and Boundary road. Scattered chips along road; occupation slight and scattered to edge of trees along west of road.

Site 75: On east slope of hill paralleling Crater Creek north of McKensie Hill Road. White or late Indian occupation of early 20th Century. No flint.

Site 76: East of Crater Creek 500 yards; along small low drainage paralleling creek in open cultivated field.

Different flint and larger pieces than Blue Beaver area. Some quartzite. Little surface indications.

Site 77: East bank of Crater Creek at swimming pool parking area in Craterville Park. Just southeast of lower dam. Parking area is over site. Quite a few manos, points and chips. Largest site on Crater Creek.

Site 78: West bank of Crater Creek across from Site 69. Camp area in large boulder strewn hilltop paralleling junction of a small tributary with Crater Creek.

Site 79: East bank of Crater Creek back from stream 300 yards on nose of a rock strewn hill. Few trees. Area of slope. Very thin scattered occupancy; no top soil.

Site 80: On hill back from tributary of Quanah Creek 200 feet. Just north of Quanah and West Cache Creek junction. On highest point in field; flat to north and east. Between two small drainages. Very thin occupation, some hearth material; flint. Best site lower Quanah for trenching.

Site 81: Two hundred and fifty yards north of Site 72 on north of small rise. Very thin occupation. Probably part of same settlement though flint chips slightly different.

Site 82: East bank of tributary of Quanah Creek. Slight rise next to and back from site 50 feet. Small scattered occupation.

Site 83: West bank of West Cache Creek but to north along road where Creek bends. Site 75 and 76 at opposite ends of bend. Possibly continuous occupation along stream. Quartzite material.

Site 84: West Cache Creek, west bank at crossing of Boundary road. Considerable quartzite. Field extending northwest.

Site 85: East bank of west Cache Creek on second terrace is a large campsite 1/4 to 1/2 mile long; 200 feet wide paralleling bank. However site now plowed and partly in tall weeds. Testing might show up some part of site beneath present surface.

Site 86: East bank of Cache Creek near junction with Quanah Creek. In field at edge of first and second terrace. 1881 coin, uniform button; historic Indian pottery also quartzite and flint chips. Late house with cement base 4 - 500 feet north.

Site 87: 3 - 400 yards west of house at Site 78. Dump from house also intermixed older Indian material. At edge of West Cache Creek which swings in a deep bend.

Site 88: West bank of West Cache Creek on road over Danger Zone. Scattered thin campsite.

Site 89: East bank of Post Oak Creek on slight rise in small field on bend of a small tributary parallel with creek which is 50 feet away. Field slopes up to small

high ground. Late flint campsite.

Site 90: On bluff west side of Post Oak Creek overlooking field on east side. Some cleared land mostly in woods.

Site 91: One side on east bank of Post Oak Creek in woods. Thin occupation but extends parallel with creek several hundred yards.

Site 92: Along high ridge on east bank of Post Oak Creek. Grassland to east overlooking low wooded drainage basin of scrub oak. Scattered transistory occupation of late quartzite.

Site 93: On top of hill at edge of hills (second terrace) overlooking Post Oak Creek on east bank. Very rocky material scattered over area 100 x 150 feet; located in trees and along edge of trees. Many quartz crystals. Perhaps for trade.

Site 94: On rise looking north overlooking terrace in Post Oak Creek on west bank in and around road-open grassland-no trees-rocky.

Site 95: On hill to northeast of Site 86,400 yards. High hill in open; very rocky, quartzite. Back about 1/4 mile from Post Oak Creek on east bank.

Site 96: West bank of Post Oak Creek on second terrace of hill almost 1/4 mile to creek bed. Quarts material at base of rocky hills and up noses which thrust into valley.

Site 97: West bank of Post Oak Creek south of Site 88. Probably quartzite material such as occurs on this hill occurs on all hills in this area facing Post Oak Creek. No flint or flint almost absent.

Site 98: Small campsite with material scattered in dirt road at bend in north bank of Medicine Creek.

Site 99: North bank of Medicine Creek on second terrace on slope in woods, mostly flint; some china. Possibly double occupation with precontact small point at west end of area.

Site 100: North of road slightly east of Site 91. Might be part of same site. North bank of Medicine Creek on second terrace against rock hills.

Site 101: West of Site 92,400 feet along a tributary of Medicine Creek to north bank of creek. Much quartzite in large pieces; some small flint, 1 piece of cordmarked pottery at north end of site. High rocky terrain.

Site 102: Junction of Medicine and Deer Creek at start of Obstacle Course. South side of Medicine Creek just below junction with Deer Creek on small sharp rise. Mostly quartzite; some flint; small campsite.

Site 103: North side of Deer Creek at east end 1/2 mile east of Elmer Thomas Lake. Along south side of road in borrow pit. Very thin occupation.

Site 104: In woods on hillside. North side of road on north side of Deer Creek; 1/4 mile west of junction with

Medicine Creek. Quartzite and glass, china.

Site 105: In woods at junction of Deer Creek with Medicine Creek. Along north bank of Medicine Creek. Small campsite.

Site 106: Bone only, 100 yards north of Hoyle Bridge. East side of road in side of a low ditch. Buffalo or cow. Isolated find along East Cache Creek.

Site 107: Bone only. Isolated find 200 yards north of Hoyle Bridge on west side of cut on road going west to junction of Beef and Cache Creek under trees. Not refuse.

Site 108: West side of road north of Hoyle Bridge and just south of bridge going west over Beef Creek in borrow ditch. Bone and some crockery. Area of Beef Corral.

Site 109: Geronimo winter camp site by repute. High ridge between Cache and Beef creek. Landing strip to south. Geronimo wintered there 1896 (?). Flint and white material.

Site 110: Peach Tree Crossing. West side of road going north on high ridge. Open country. No trees. Above materials pit. Contact, shell, flint, or prehistoric.

Site 111: Located at Control Tower north of Peach Tree Crossing on west side of road. Site destroyed by materials pit. Probably a large occupation here once.

Site 112: All along lower edge of slope. West of Site 103 and 102; lower down on bank. Nearer Cache Creek. Scattered along edge of trees. Bone and iron.

Site 113: South of Site 101 just north of Landing Strip. Could be part of Site 101 but could be later.

Site 114: Hill top and extension to northeast. Back from north bank of Medicine Creek 1/4 mile. Quartzite earlier than most. Crude chopper and larger than most sites as regards flakes. Mixed with very poor grade flint.

Site 115: South of Site 106 farther down slope towards north bank of Medicine Creek. Possibly continuation of Site 106 though there is a flat sterile area between. Site at edge of woods in open. Quite rocky.

Site 116: In woods south and west of Site 107 back from Medicine Creek 50 yards. Scattering of flint-quartzite debris.

Site 117: On tributary or dry drainage at east end of landing strip. Back 1/4 mile from Medicine Creek on open grass slope in gravelly soil. Seems contemporary with Site 106.

Site 118: Longest campsite in area. Extends 1/2 mile or more along second terrace back from Medicine Creek. Appears all contemporary with heavy occupation at west end. Hearths 3 - 4" below surface but show in road.

Site 119: Top of Barbed Wire Hill north of flat where Site 110 located 1/4 mile to south. Some very crude choppers of red granite.

Site 120: Tributary of north bank of Medicine Creek and east end of Jones Ridge Rifle Range. Most of area removed by road construction and erosion. Sandy, points, also quartzite.

Site 121: On south side of west tributary leading from Punchbowl east to East Cache Creek. On hill ridge looking east Cache Creek on third terrace. Noses extending from ridge show quartizite workings. Could be quarry area or sites. Early phase.

Site 122: Across drainage from Site 113 to the north 6 - 800 feet. Smaller chips; more secondary chipping. Both sites in open grass with rocky gravelly soil.

Site 123: East side of a west branch of Post Oak Creek. Astride Wildlife Refuge - Ft. Sill boundary fence. Quartz in area. Campsite fairly large ; extends east, north and south to creeks. Possibly hearths.

APPENDIX - E

INDIAN HISTORY OF FT. SILL - OUTLINE

1867 MEDICINE BLUFF COUNCIL

Congress authorizes a Commission to treat with the Southern Plains Indians. Commissioners meet at Medicine Bluffs, Kansas and conclude treaty and area for Indian occupation between Washita and Red River and between Chickasha and Ft. Cobb (roughly). Main reason so that an east-west railroad connection could be made.

1869 ESTABLISHMENT OF FT. SILL

No arrangements made to remove Indians to reservation. No preparations to receive them. Ft. Sill established to police reservation and enforce treaty. Plains tribes procrastinate. General Sheridan orders Custer to round up Plains tribes. Meets consolidated tribes on Washita and destroys Cheyenne group in Battle of Little Washita. Rest of tribes thereupon return to reservation.

1874 ADOBE WALLS RAID

The period 1869 - 1874 dominated by Quaker "peace policy" of the Indian Bureau. Indians used Ft. Sill as base for raids into Texas and surrounding country. Sioux Sun Dance diffused to reservation and under medicine-man Coyote Droppings(abortive) war of extermination against whites planned. Began with attack on buffalo hunter center at Adobe Walls, Texas. This failed. In reprisal Sheridan

ordered all commands on surrounding area to converge to drive Indians back to reservation or kill them. Few Indians killed; none captured but so harrassed that mounts and supplies depleted. Surrender and return to reservation.

1878 LAST BUFFALO HUNT

As a military and settlement policy the government has been encouraging the slaughter of the buffalo by hunters. Indians often in semi-starved condition on reservation and reduced to eating own horses. Given permission for a buffalo hunt under military escort. No buffalo found. This discovery completed demoralization of the Plains tribes. Thereafter bowed to superior white force. Peyote cult in.

1879 FIRST INDIAN RAID

This year marked the last abortive raid against the whites from the reservation. Kiowa-Comanche Agency moved to Anadarko.

1886 ESTABLISHMENT OF RATIONS STATION AT FT. SILL.

Sub-Agency opened at Ft. Sill to alleviate constant travel of Plains tribes to Anadarko from Wichita Mountain area where most continued to live.

1895 ARRIVAL OF CHIRICAHUA APACHE

Arizona Apache prisoners of war returned from southern prisons and allotted land and houses on reservation. Also period of unauthorized cattle grazing and leasing by large Texas companies.

1901 FIRST INDIAN ALLOTMENT

Indians allotted lands individually; whites registered for reservation land at Ft. Sill.

1906 END OF INDIAN TERRITORY

Last allotments; end of rations; Oklahoma statehood; end of Indian Territory.

THE CRAIG SITE [1]

Background

During June, 1959, Mr. L. E. Craig of Pryor, Oklahoma, a member of the Oklahoma Anthropological Society notified Dr. Robert E. Bell of the Anthropology Department of the University of Oklahoma that archaeological material was being removed from a large borrow pit north of the town of Nowata on the Verdigris River. He had received this information thru third persons and had then visited the site, which he found worthy of professional investigation. Dr. Bell contacted the writer as it was thought at the time that the borrow pit was part of a state highway construction project.

A hurried trip was undertaken the following day and four hours were spent investigating the site during which contact was made with Mr. Jack Smith, General Superintendent of the Carl Lea Construction Company of Broken Bow, Oklahoma, the latter being the contractor of the U. S. Army Corps of Engineers who were engaged in rerouting State Highway 28 for the Oklahoma Highway Department. This construction work was in connection with the impending construction of the Oolagah Dam on the Verdigris River. Contact was also made with Mr. R. J. De Charles, a heavy machine operator, who had collected a considerable number of artifacts during the previous three weeks when material was being removed from the borrow pit. On examination, the borrow area proved to be a long trench, about 2,000 yards long, 200 feet wide, and 10 to 12 feet deep. Indications were that the entire area from side to side and top to bottom formerly had contained

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1. Acknowledgement for permission to salvage this site is made to the following persons: Col. John Bristow, Commanding Officer, and Lt. Col. Thomas Quaid, Executive Officer, of the Tulsa District, U. S. Army Corps of Engineers, Mr. John D. Soderberg, Resident Engineer of the Oolagah Dam Project, Mr. Carl Lea and Mr. Jack Smith, and Mr. R. J. DeCharles of the Carl Lea Construction Company. Mr. L. E. Craig of Pryor, for whom the site is named, deserves special mention for bringing this important site to the attention of the University. Appreciation is also extended to the staff of the Nowata News, and especially the new editor, Mr. Mike Steiner, for the accurate and fine coverage given the excavation and for personal favors extended the writer.

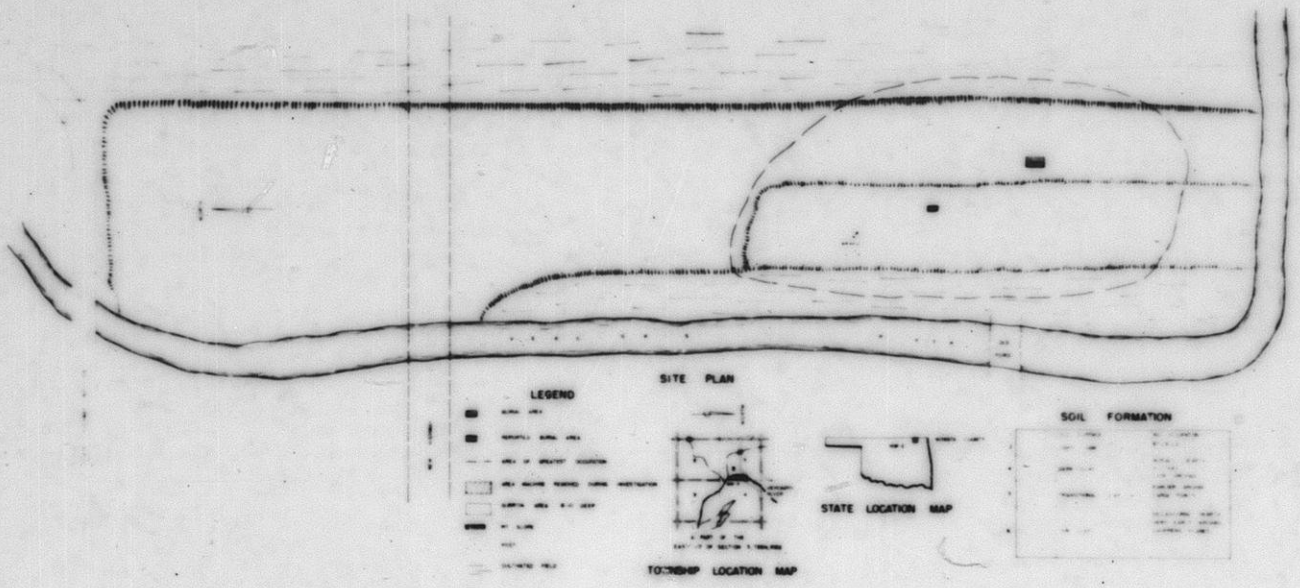
occupational material. Since there appeared to be a remaining salvageable area in the northwest corner of the pit a recommendation was made that exploratory excavation be conducted.

Since the site was on federal lands, Bell contacted Charlie R. Steen, Regional Archaeologist for the National Park Service, with whom arrangements were made for funds to conduct limited salvage under the provisions of the Historic Sites Act. These funds were transferred to the Research Institute of the University of Oklahoma, under whose auspices the following excavation was undertaken.

The Site

The site was located across the end of a large bend in the Verdigris River, five miles north of Nowata in northeastern Oklahoma, some 17 miles south of the Kansas border. The Verdigris River, at this point, follows a very deep bed 50-70 feet below the present ground surface. It is heavily bordered by timber and undergrowth which, except for areas cleared for cultivation, extends back from the river often several miles. To the east about fifty miles is the drainage of the Grand River which has proved to be one of the early densely populated areas of Archaic Indian population. To the west about ten or fifteen miles, the timber ends and the low Plains begin. This flat, often treeless, landscape extends westward across the state.

The site itself was located across the entire nose of a bend in the Verdigris River. In length, the site extended at least half a mile and in width, a minimum of 300 feet from the bank to the present construction slope. Hearths were visible at the south end of this slope, indicating that the site must have extended at least another 100 yards to the east. State Highway 28 formerly passed thru the north end of the site. Current excavations of the Corps of Engineers on the south of the highway along the river were in the process of removing most of the remainder of the site.



THE CRAIG SITE NW-2

Fig. 22.

Stratigraphy

The most interesting aspect of the site was, of course, the depth of the deposit. This site and undoubtedly many others along the Verdigris were apparently gradually buried by intermittent flooding during most of the history of the river. In fact this site represented the first occupation found in the floodplain of the Verdigris. The previous year a survey of the area five to seven miles below Nowata had been made by the writer with entirely negative results. Likewise farmers along the river reported an absence of Indian artefacts and materials. L. E. Craig of Pryor had however previously reported parts of a hearth and other debris washing out of a bank along the river at a depth of 30 feet. The reason for this strange absence of sites along a major watercourse was therefore explained by the finding of this large site.

At the Craig site about twelve feet of stratified material was exposed indicating a gradual accumulation over a period of time. It is assumed, since hearths were found in the bottom of the pit, that the occupational fill extended at least two or three feet deeper. On the basis of soil coloration and associated changes in artifact typology the site stratigraphy was divided into three zones. This was done as a rule-of-thumb method of sorting material which was uncovered by the construction machinery during the period of the investigation.

Zone 1 (Upper, sterile)

The upper two feet was black loam which was culturally sterile of Indian occupation. The surface contained evidence of white culture which was attributed locally to use of the area by removed Indians, presumably either the Delaware or Cherokee. It was quite evident that this historic material was a superficial feature within a few inches of the surface. The sterile layer

beneath evidently represented a period between abandonment of the area by prehistoric bands and the arrival of the historic eastern tribes and subsequent white culture.

Zone 2 (Upper, occupational)

A layer about four feet thick of dark soil lay beneath Zone 1. In color Zone 2 was lighter than Zone 1 and darker than Zone 3. There was no sharp or horizontal line of demarcation or disconformity between any of the layers suggesting continual despoition with changes only in types of soil.

Zone 3 (Transitional)

A layer about two feet thick characterized this zone. It was in color and artifacts transitional between the dark soil and content of Zones 1 and 2. This horizontal demarcation is essential to the cultural interpretation rather than the geologic record since the cultural content of Zone 4 was so markedly different from Zone 3.

Zone 4 (Lower)

This zone was composed of a light tan to yellow clay which was exceedingly difficult to dig even when wet. This was the oldest cultural zone. It might be remarked that all the soils were extremely compact silts and when dry almost impossible to excavate by hand except with a pick.

Excavation Proceedure

Excavation proceedure followed two different methods, one of reconnaisance and recovery of artifacts behind the construction machinery; the other conventional archaeological excavation in bypassed areas of burials. These methods were dictated by the operations of the contractor's equipment and the stage of the dirt removal at the time archaeological excavation began.

The excavation situation in the borrow pit at the commencement of archaeological exploration was this. Most of the higher area designated in the

Fig. 23. Salvage during construction operations. Initial location of Burial No. 1 in borrow pit during operation of earthmoving machines. Old State Highway 28 and bridge over Verdigris River in background to the north. Craig Site, Nw-2.

Site Plan as the borrow pit had been removed by earth-movers except for a portion in the northeast corner. Originally, in order to keep clear of the contractor's operations, it was decided to dig a test trench in the slope along the east side of the pit at the south end near some exposed hearths. A stratigraphic sampling of the cultural superposition could thus be obtained. However, the contractor objected to this excavation on the grounds that it would destroy his finished slope. Operations were therefore changed and a similar exploration begun across the cut. Unfortunately, this presented a number of problems because of the disturbed conditions resulting from previous machine operations during wet weather. Meanwhile, suitable fill had played out at the east end of the cut and operations were moved to southwest corner of the cut. Earth began to be removed from this area on a long slope which cut thru all the zones previously described. Taking into consideration available funds, which it was anticipated would allow but four or five days excavation, the difficulties of hand excavation in the resistant clays, the depth and extent of the site, and the fact that the center of the area of heaviest occupation was in the process of removal, it was decided to salvage whatever material could be obtained by following the machines on foot. Therefore, the work crew of three was divided. One man was sent to the dump to recover whatever materials might show up as the large clay lumps were cut by discing. The others were to follow behind the machines on the slope. When materials of any sort, artifacts, flints, charcoal or soil discolorations were noted, the archaeologist was to be called to the spot. A hasty evaluation as to depth and zone was made; the materials then sacked numerically. When structures such as hearths, post holes, or burials were encountered, arrangements were made with the bulldozer operator who controlled the movement of the earthmovers to temporarily bypass the area under

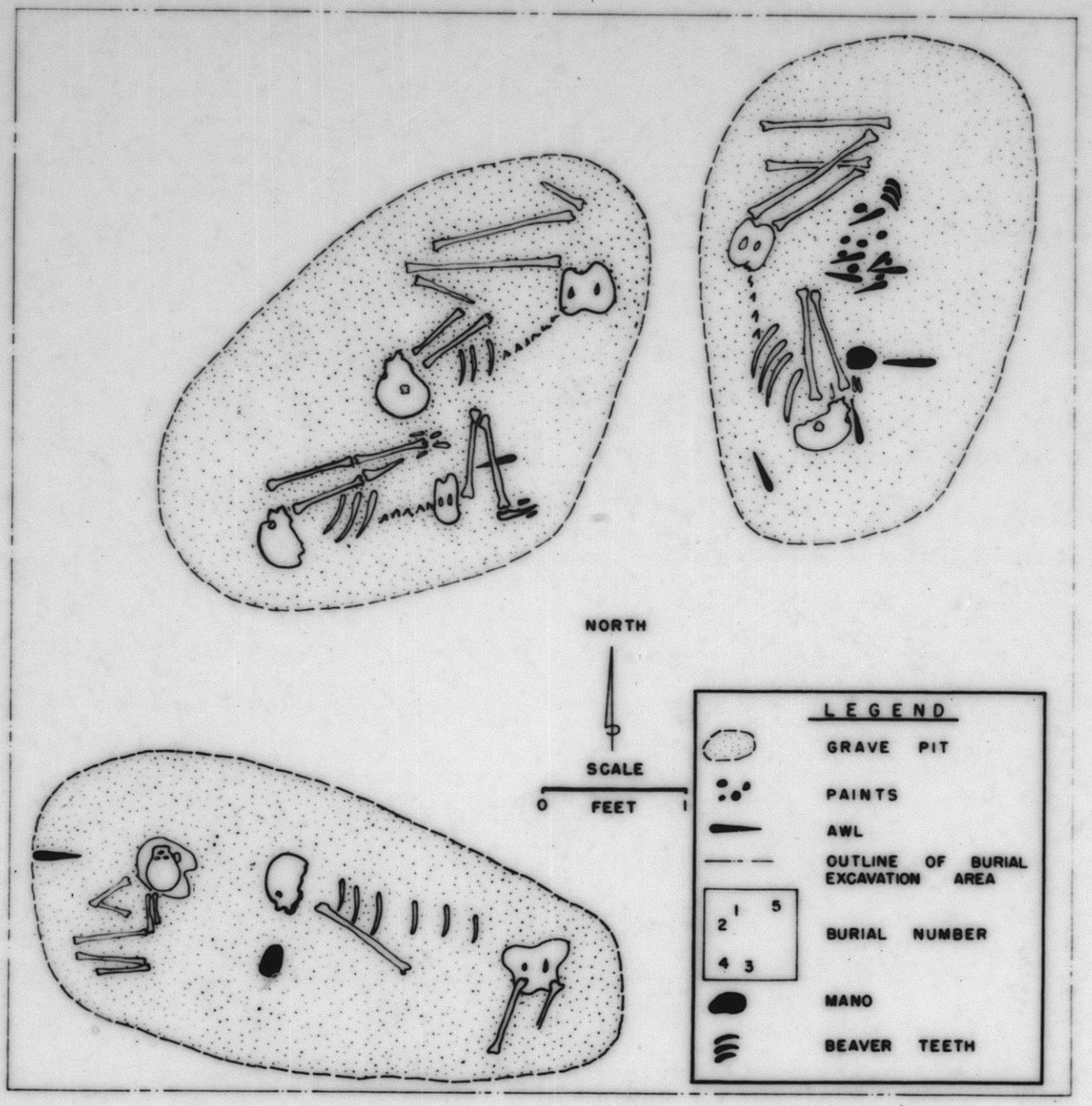
consideration. In most cases several minutes sufficed for examination. On the other hand when burials were encountered they were bypassed until excavated, photographed and removed. The contractor's personnel were very cooperative and by working rapidly no appreciable slowdown of dirt removal resulted even though three or four earthmovers were in constant movement around the excavations sometimes within a few feet of the archaeological crew.

Burials

Prior to the arrival of the Salvage Project the contractor reported that a "mass burial", or at any rate a large burial area, was removed during the first stages of the dirt removal. The approximate location of this area is indicated on the Site Plan. No evidence of this removal was available for examination since the skeletal materials was deeply buried somewhere in the new road fill. Undoubtedly other burials in other locations were also removed unnoticed. The small burial concentration excavated by the salvage crew resulted from the recognition of human bone in the tracks of one of the earth movers by the writer. On the possibility that the machines might have missed other burials, a small area nearby was tested. This revealed part of another badly crushed skull just beneath the surface. Subsequent excavation over the week-end uncovered a total of five burials as indicated in the Burial Plan. These burials were found at a depth of approximately 4-4½ feet below the present surface level.

Burial 1

This appears to be the skeleton of an adult male in a conventional flexed position with head toward the west, facing north and lying on the left side. The condition of the bones after having been traversed by the machines in the soft wet clay was deplorable. Age for this individual might have been in the twenties. No associated artifacts were found but they could have been removed by the machines if placed much above the body.



BURIAL AREA NW - 2
CRAIG SITE

Fig. 24.

Fig. 25. Burials. In foreground, Burial No. 1 with skull removed; middleground, Burial No. 2. background, Burial No. 3. Burial No. 4 was on higher ground to right (west) of Burial No. 3. Burial No. 5 was to left (east) of No. 2. Craig Site, Nw-2.

Burial 2

This adult male, possibly of middle age, was placed in close proximity to Burial 1. The individual appeared to have been thrown into the grave or placed there after the body was cold since it was extended ventrally facing north with the head to the west. One arm lay along side the body and appeared to have been placed there parallel to it. The legs were slightly bent at the knees and fully bent below them. The general impression was that of a carelessly placed burial. However this might not have been the case since a long well-made bone awl was found propped against the left femur.

Burial 3

This burial was in extremely poor condition due to deterioration more than to machine breakage. The skeleton was that of a young adolescent, probably female. Parts of the skull, rib cage, vertebrae, pelvis, and femurs were all that remained. The body might have been flexed originally. In its present condition it was bent at right angles in the middle. A poorly fashioned turtle-back mano was found opposite the face. The head was to the west facing south.

Burial 4

That of a child of perhaps 7-9 years of age. Being close to the exposed surface the bones were badly crushed. The head was to the north and facing west. A polished, thin, well-made awl was found opposite the face.

Burial 5

This skeleton was of a fairly well preserved middle aged adult male. The bones were crushed by the machines. The head was to the south facing east; the back was slightly bowed; knees were at right angle to the body; the lower legs were crossed underneath so as to give the impression in profile of a person sitting cross-legged with his hands under his chin.

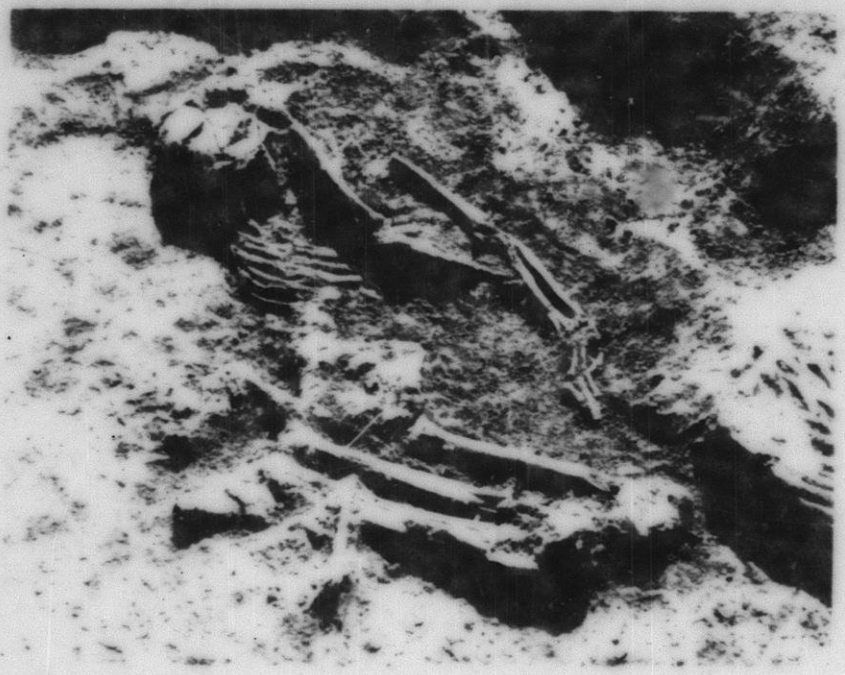


Fig. 26. Burials. Burial No. 2, head toward west, facing north. Craig Site, Nw-2.

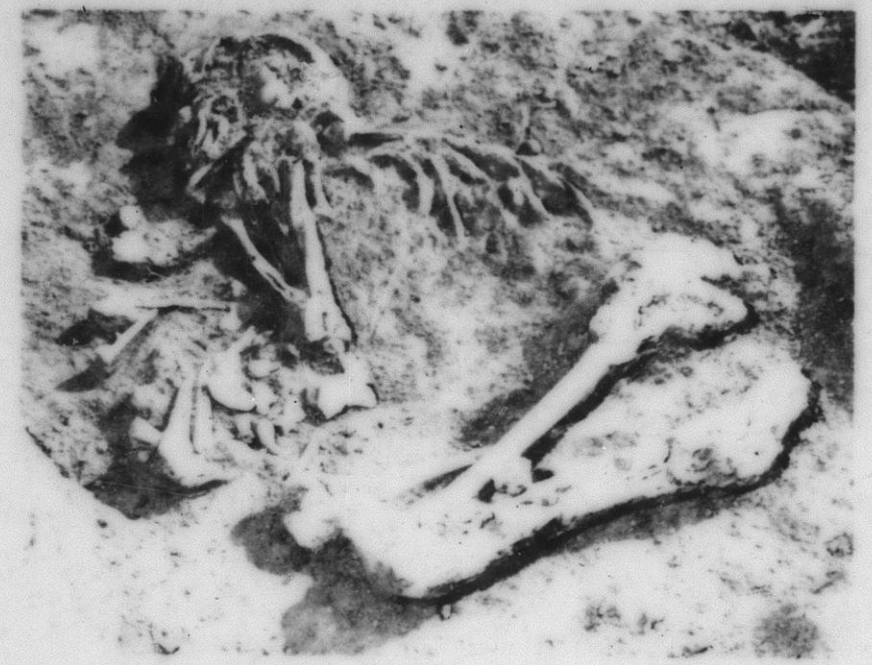


Fig. 27. Burial. Burial No. 5 , head toward south facing east;tool kit below elbows opposite midsection. Note terrapin shell opposite lower jaw. Craig Site, Nw-2.

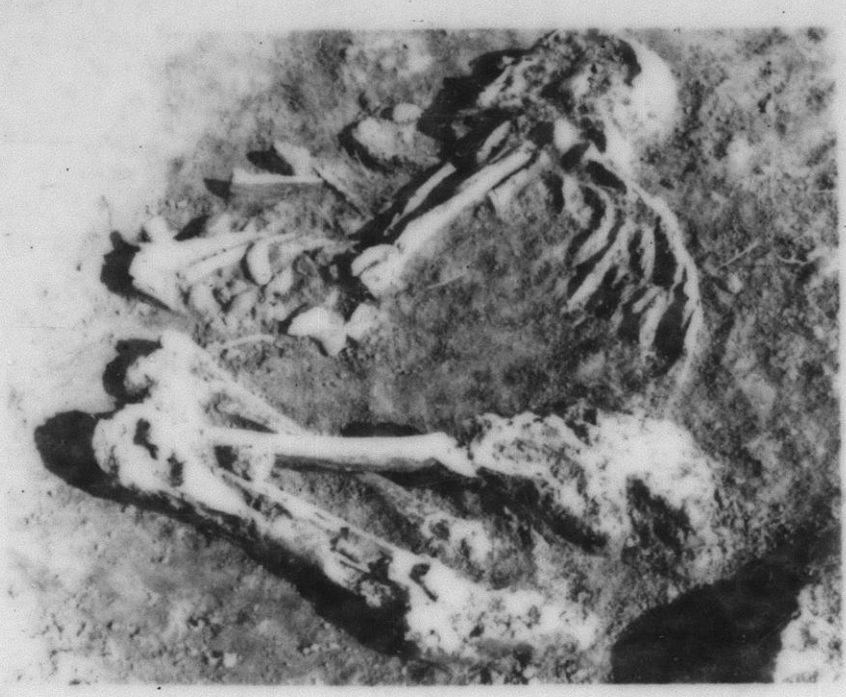


Fig. 28. Burial. Burial No. 5, from the northeast looking southwest. Craig Site, Nw-2.

The most remarkable aspect of this burial was the amount of non-perishable material associated in the grave. In number of grave offerings (81 items) this was one of the richest burials found in northeastern Oklahoma. Opposite the back of the head was a bone awl. Underneath the skull and slightly protruding was a small bone spatulate instrument with a flattened rounded end and an unfinished joint at the other. Opposite the man's middle was a large mass of red paint (hematite) of perhaps 50 or more individual pieces. Intermixed in this mass were 4 pieces of yellow ochre paint. Around and in the mass were seven bone tools; one was a bone flaker, the rest were awls of varying degrees of flatness, length and thickness. Further down nearer the feet were four beaver teeth. Mixed in with the paint were two small, flat, finely chipped flint scrapers. A small leaf-shaped drill or knife and a small sandstone abrader completed the inventory of artifacts. An inverted tortoise shell was located opposite the elbow. It had possibly contained some food product. In addition 4 flint flakes, 4 small painted sandstone fragments and a block of sandstone were found around the head. It was obvious the individual was a man of some importance and judging by the range of tools, possibly an artisan specialist of some sort.

House Plan

While the machines were working at a depth of about 10 feet from the surface several burned areas were noticed in the tan soil. Subsequent clearing showed a post outline as indicated on the Site Plan. The pattern would seem that of a structure. The corner posts had burned sufficiently to be charred but had possibly been removed by the earthmovers as the charcoal had no depth. Grey silt in the yellow clay marked the spot of what were possibly the holes of rotted posts which had subsequently filled with darker material from above.

The outline measured approximately 23 x 26 feet; the posts averaged about 6 feet apart. Major posts measured 13-15 inches in diameter. A search was made for a central hearth area but unfortunately one of the machines had scooped up the center leaving a long trough in its place. However imbedded in the clay within the northwest part of the pattern near the west wall were found three crude limestone-like tools, a hammer, a scraper-plane and a chopper.

Since a house pattern occurred at this depth it is likely that the culture continued some distance further down. The culture was so scattered at this depth that this could not be absolutely determined by random test-pitting.

Hearths

Hearths of two types were encountered in Zone 2. One was about 15-18" in diameter and consisted of small sandstone and limestone blocks 4-5 inches in size. These were usually only one or two layers thick and were intermixed with mussel shell fragments. The shells were quite thick walled. Since the shell was usually concentrated in the vicinity of hearths, it is surmised that these were outside cooking areas.

The other type of hearth was a shallow pit 3-4 inches deep and about the same diameter of the stone hearths or slightly smaller. When periodically encountered in Zone 2 they were filled with charcoal. These could have been the remains of structural posts but it seems more likely, in view of their irregular occurrence, that they were either inside camp fires which had subsequently become surrounded by fill or that they were possibly interior hearth depressions. Neither possibility could be established due to the dark color and generally uniform texture of the surrounding soils in this zone.

At the upper part of Zone 2 a large mass of burned house material, probably house wattle, was noted in an area where construction machinery had manoeuvered

during previous work. This bright orange and blue-black mass had evidently dropped off a machine. Though its origin could not be located, the thickness and degree of oxidation of the wattle and daub construction suggested the remains of similar burned material from structures of the Gibson Aspect.

ARTIFACT DISTRIBUTION BY ZONES AND BURIAL ASSOCIATION

TYPOLOGY	NUMBER	ZONES				BURIALS					LENGTH or Diam cm.	WIDTH cm.	THICKNESS cm.
		2	3	4	?	H	1	2	3	4	5			
GROUND STONE														
Abrader, sandstone	15	11			1				1		2	5.0-8.5	4.5-6.0	1.2-4.2
Abrader, white	2		1		1							6.5-11.0	3.6-5.2	1.5-3.3
Disc	1	1										19.9d		2.0-2.2
Painted Stones	5										5	2.0-2.2	1.5-2.0	.2-.4
Founder	1		1									24.0	13.0	10.5
Mano, Type 1	6	4							2			12.2-15.	8.4-9.0	4.0-4.5
Mano, Type 2	2	2										13.0	4.0-6.2	4.4-6.0
Slab	1	1										frag.		3.5
CHIPPED STONE Awl	2										2	4.4-4.7	2.2-2.4	.4-.8
Axe	1			1									6.2-7.2	3.0-3.7
Balls, Type 1	1	1										2.5d		
Balls, Type 2	2	2										2.1d		
Chopper, Type 1	4		1	2		1						8.6-11.8	6.0-6.5	3.0-4.3
Chopper, Type 2	1								1			8.3	4.1	2.7
Celt, Frag (?)	1	1										3.4	--	1.5
Core	1	1										7.0d		
Hammerstone, Type 1	1							1				6.0d		
Hammerstone, Type 2	2				1	1						8.0-8.5	6.0-8.3	4.3-6.5
Knives	3			1	1			1				8.3	3.3	1.0-1.4
Scrapers, Type 1	4			2	1	1						7.0-9.1	4.9-5.3	2.2-3.0
Scrapers, Type 2	1				1							9.0	8.0	11.1
Scrapers, Type 3	3	2		1								5.0-6.2	3.8-4.7	14-1.2
Scrapers, Type 4	6	1	1	3	1							5.2-7.7	3.4-7.3	.8-3.2
Points, Type 1	5	3	1		2							5.5-?	2.4-3.1	.8-1.2
Points, Type 2	1		?									9.1	3.7	1.2
Points, Type 3	1	1										frag.	4.1	.7-.6
Points, Type 4	1		1									4.4	2.7	1.1
Points, Type 5	1	1										frag.	3.0	.6
Points, Type 6	1				1							frag.	1.2	.7
Point, Frag.	1	1			1									
Flakes, Type1	97	82	10								5			
Flakes, Type 2	35	24			21									
BONE														
Awl, Type 1	1	1										19.7	1.9	1.6
Awl, Type 2	5										5	10.1-16.1	1.3-1.8	1.1-1.2
Awl, Type 3	1										1	17.1	12.0	.4
Awl, Frag	1	1												
Punch, Antler	1										1	15.5	2.4	1.6
Spatula	1										1	10.3	2.3	.4
MISCELLANEOUS														
Berries, burned mass	1		1											
Paint, Hemetite	48	48												
Paint, Limonite	3	3												
Pottery, sherd	1	1												1.4
Shell, mussel	5	3							2					
Teeth, beaver	5										5			
Terrapin	1	1												

Fig. 29.

ARTIFACT TYPOLOGY

GROUND STONE

Abraders (14)

In the upper levels quite a few fine grained sandstone pebbles were found which show abrasive wear on a number of surfaces. They have no particular shape, varying from round to squarish shapes. They were evidently small tools for working wood and bone.

Abraders, white (2)

Several pieces of very white friable stone were found. The surfaces were pitted and coral-like in appearance. This material appears too sandy for use as paint. Its use is unknown. In addition to the specimens collected a number of others were noted in the road fill.

Disc (1)

Parts of a large thin, disc-like object were found. The material appears to be part of a natural formation which was roughly chipped to shape. Mr. DeCharles had a similar, more complete and much larger specimen of this type in his collection. Such discs are occasionally found in Archaic material in Eastern Oklahoma. Similar objects found in Arizona and New Mexico are regarded as receptacle covers. This might be its possible use in connection with basketry if not pottery.

Mano (8)

Type 1 found in the upper levels consisted of the usual oblong form with pecked, rounded ends. Most specimens were of uniform thickness with the back showing little wear. The specimen with Burial No. 3, on the other hand, was quite turtle-backed. Type 2 was wedge shaped and showed pecking over most of its surfaces except where abrasion had worn smooth spots probably for gripping. The purpose of this griding implement was obviously somewhat different from Type 1.

Fig. 30. Upper and middle level. (1) Mano, type 1. (2) Slab metate, fragment. (3) Mano, type 2. (4) Mussel shell. Craig Site, Nw-2.

Metate, Slab (1)

A single slab metate fragment was found in the upper occupational level, the remainder having been scraped up by the earthmovers. However Mr. DeCharles had an excellent specimen which he said came from the tan soil of Zone 4, perhaps its upper part. This metate was of even thickness but thicker than the specimen listed. It measured about 18 inches by 24 inches and had two basins, one on either side. One was oval shaped and the other an elongated trough indicating the employment of both rotary and back-and-forth grinding motions for different preparations or for different food products.

Pounder (1)

A fragment of a large rounded sandstone boulder which shows a smooth surface with some pecking. It appears to have been used as a combination pounder-abrader and crushing tool with the first function dominant.

Painted Stones (1)

This was a very unusual find. As a matter of fact it was so unexpected that painting on the small thin sandstone fragments recovered with the grave goods of Burial 5 was not noted until after cleaning in the laboratory. Thin clear red lines were then seen on three of the four fragments. One design appeared to be part of a circle with a dot in the middle. Splotches of paint were noted on two of the other pieces. Two of the fragments could be fitted together but no pattern could be obtained and the purpose of these fragile fragments remains unknown.

CHIPPED STONE

Awl (1)

Two crude specimens of flint awls were found with the grave goods accompanying Burial 5. One specimen was triangular in shape, possibly a reused knife fragment; the other was leaf-shape. Both were round pointed and had a

pronounced knob which rose just behind the end of the point; both were flaked along the edges on one side.

Axe (1)

The central haft of a crude double bitted axe was found in the lower occupational zone. As usual with material of this zone it was of a very poor grade of flint, almost limestone in texture. The axe was probably of medium size not more than 12-15 cm long. There was some crude secondary chipping in the haft grove but not enough of the blade remained to judge the blade form.

Balls (3)

Balls of two types were found. One was a small pecked sphere, polished by use; the other type was a natural unpolished hemispherical shape. There was a depression in most specimens in the center of the flat side. One specimen clearly shows this as being the mold of a fossil sea organism of some kind. Quite a number of these boatstone-like artifacts were picked up by workmen and others on the site.

Celt (1)

The fragment of what may possibly be a very small celt blade was found. It is the only one of the specimens recovered (except for the small stone ball) which shows definite and intentional polishing.

Choppers (5)

These were of two types; a large type of crude workmanship and poor flint found in lower Zone 4 and a small type of somewhat better material found in lower Zone 2. The type from the lower zone was a simple semicircular block of flint with a thick straight back which was unretouched. The semicircular blade of the upper zone appeared to have been made from a core rather than a large flake as were those from the lower zone.

Fig. 31. Lower and middle level. (1) Scraper, type 2, House 1. (2) Flint core. (3) Axe haft. (4) Scraper, type 1. (5) Scraper, type 2, House 1. (6) Blade. Craig Site, Nw-2.

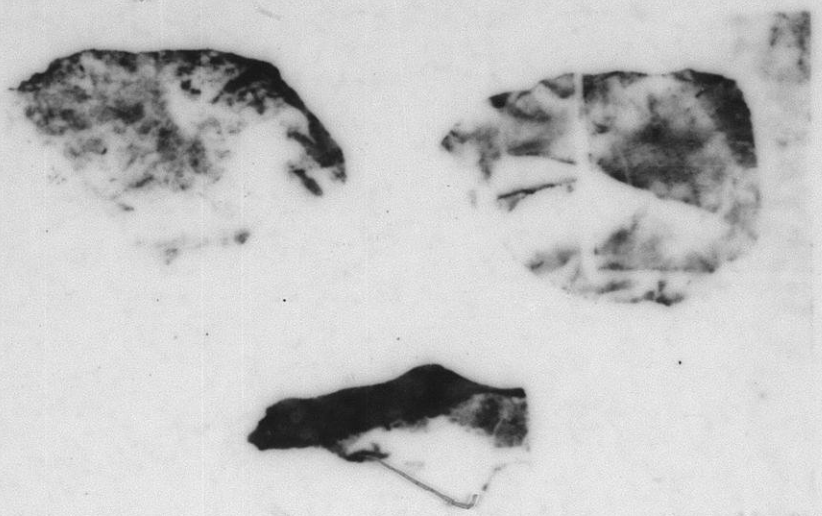


Fig. 32. Lower and middle level. (1) Chopper, late phase. (2) Scraper blade, middle phase(?). (3) Heavy chopper, early phase, House 1. Craig Site, Nw-2.

Core (1)

The single specimen found was cone-shaped resulting from blows on the upper flat surface which knocked off suitable flakes at a steep angle. There was no secondary or use chipping along the edge as is sometimes found on cores when converted to use as scrapers.

Hammerstones (3)

Hammerstones in the upper level consisted of quartzite river boulders showing battered areas, while the lower level type was simply a large elongated chunk of dense rock tapering to a flat striking surface.

Knives (3)

There were probably two types though only a fragment of the older types was obtained from the lower zone. In both types the bases were similar in shape, i.e. a more or less straight back with a slightly curved cutting edge. In the lower level the blades were rather thick and sides tended to be more parallel.

The specimens found on the road bed were undoubtedly from the upper zone since they were better chipped and showed some secondary chipping along the back as well as the blade. The material was also a good grade flint. Chipping on both bases was confined to one surface the other being flat due to the selection of this type of blank.

Scrapers (14)

Type 1. This is typologically a gouge shape similar to the "Abilene gouge" (Ray 1941). It is generally triangular in outline with a broad rounded front. In profile the front slopes back at a 45 degree angle to a high point over the wide point of the scraper. The under surface is flat. Secondary chippint occurs unilaterally only along the front scraping edge. Most specimens are not this well shaped and tend to lack the well-developed "tail" or rear grip. This general type is found in some specimens from the Altus Lake area of southwest Oklahoma.

Type 2. This type, a scraper-plane, is related to Type 1. More correctly the latter is probably related to Type 2 which is probably the prototype. The difference between the two types is that Type 2 lacks any rear grip or "tail" being almost hemishperical in outline. The sides also tend to be steeper and are lacking in secondary chipping. This type tool is also typical of the early quartzite tools found in central and western Oklahoma.

Type 3

This type is distinguished from Type 4 only by a somewhat disc-like due to its being fashioned around a pronounced bulb of percussion. While the shape is circular, this type is not well enough made to be considered a true Woodland scraper of the disc type.

Type 4. These specimens are fortuitous flakes having secondary chipping along one or more edges. Flakes in the lower zone tend to be larger than those above. One such scraper, trapazoidal in shape associated with Burial 5 and attached to a large piece of hematite paint, was evidently a combination tool, having paint scraper, knife, and possibly awl functions.

Points (10)

Type 1. The most numerous point type in the upper levels, extending at least into the Transitional zone was a small contracting base of Gary type point (Types A1 and A2, Baerreis, 1951). Specimens at the Craig site in the upper levels were considerably smaller than finds described by Baerreis along the Grand River in Delaware county. Those in the Transitional Zone 3 were only slightly larger and were single rather than double shouldered.

Type 2. This was a long leaf-shaped blade with a rounded base. While such blades are commonly thought of as dart points this specimen with its secondary chipping on the base and a rounded point would have served equally as well as a

scraper if hafted. Mr. DeCharles has in his collection another large complete triangular point of a fine grained reddish flint. This has parallel sides for 3/4 of its length and has a flat base.

Type 3. This was the only definitely barbed point. Its diagnostic feature is a very broad short stem in proportion to its probably length. It corresponds to Type E at the Evans site in Delaware County (Baerreis, 1951).

Type 4. This is a thick heavy type point of flint with a weak shoulder and slight side-notching. The base is slightly convex. Except for the material it closely resembles in size, shape and thickness, a quartzite point type found in central and southwestern Oklahoma.

Type 5. This fragmentary base is of a side notched type with a distinctive convex base, basally notched. This corresponds to Evans site Type B (Baerreis, 1951).

Type 6. This base is the only one which would approximate the size of an arrow point but because of its thickness may be part of an awl. However, Mr. DeCharles reported that some small points had been found by workers but specimens were unavailable for observation. The fine flint material suggests that it must be associated with Zone 2.

BONE

Awls (8)

All awls were made of deer bone. They were of varying lengths and thicknesses. They differ only in the degree to which the head of the joint was removed. In Type 1 the cannon bone was split and the head untouched. In Type 2 a metapoidal bone was split and the head partially obliterated by rubbing. In Type 3 a sliver of bone was fashioned by rubbing and polishing.

Fig. 33. Upper and middle level. (1) Point, type 2. (2) Knife, late type. (3) Knife, fragment, early type. (4) Scraper, type 3. (5) Celt, bit. (6) Point, type 1. (7) Point, type 4. (8) Point, type 1. (9) Point, type 1. (10) Point, type 6. (11) Ball, type 2. (12) Point, type 5. (13) Point, type 1. (14) Point, type 3. (15) Point, type 1. (16) Sherd, late phase. Craig Site, Nw-2.

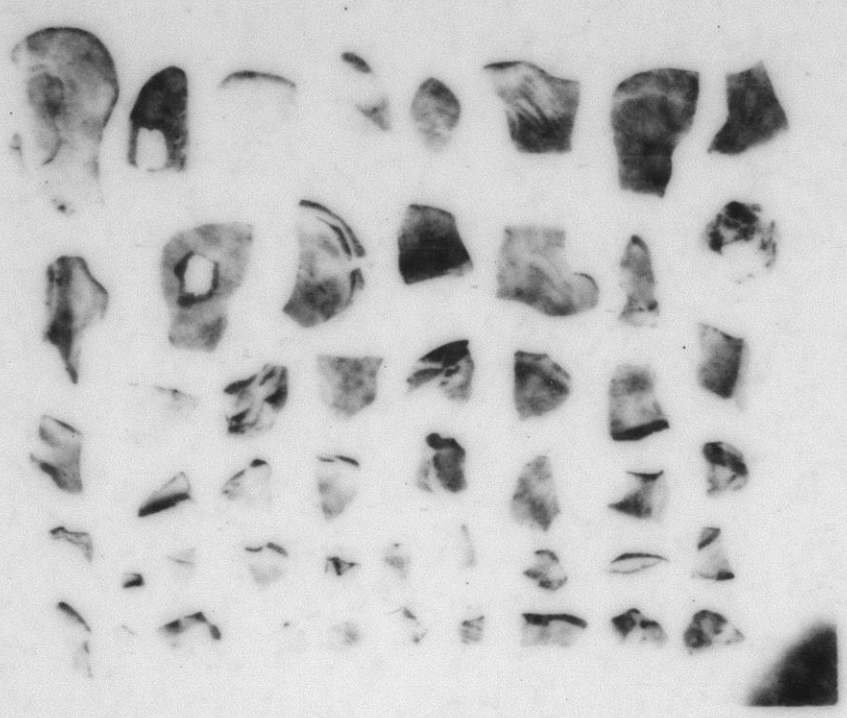


Fig. 35. Artefacts associated with Burial No. 5. (1,2,5) Hematite paint showing rubbing marks. (3-4) Limonite showing rubbing marks. (6-8) Hematite showing cutting marks. (9) Smaller hematite fragments. Craig Site, Nw-2.

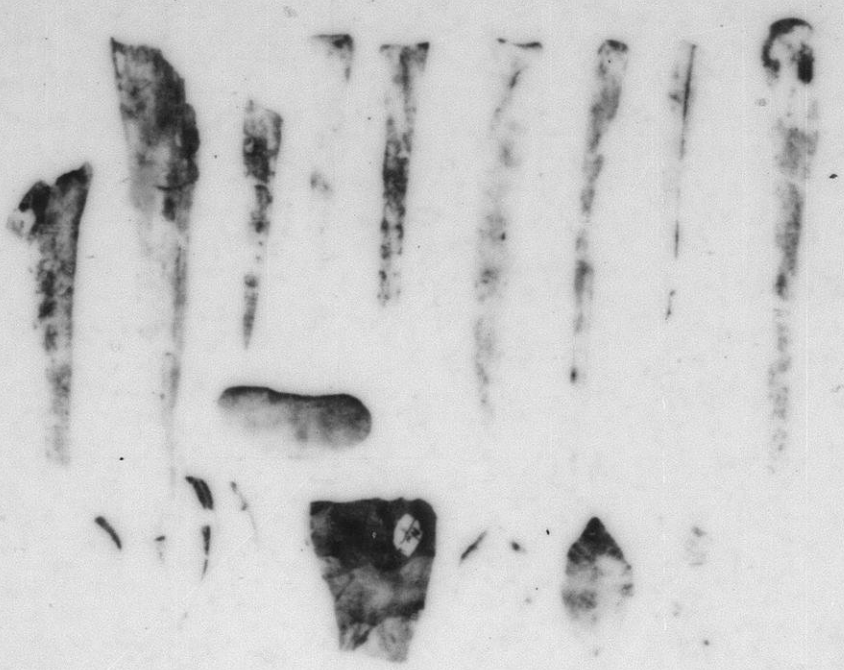


Fig. 34. Artefacts associated with Burial No. 5. (1) Paint (?) spatulate. (2) Antler flaker. (3-9) Bone awls. (10) Sandstone pebble abrader. (11) Upper and lower beaver incisors. (12) Scraper, type 4. (13) Scraper, type 4. (14) Awl-knife. (15) Flake scraper-knife. Craig Site, Nw-2.

Punch or Flaker (1)

One fairly good sized piece of deer antler tine accompanied Burial 5. It shows double use. The polish at the small end indicates use as a punch. Slight parallel scars and a flattened portion at the small end also indicates minor use as a flint flaker.

Spatula (1)

This small implement was found under the head of Burial 5. It consists of the joint end of bone, possibly the proximal end of a rib which had been worked smooth. The other end was carefully rounded, slightly beveled and the whole polished. What appear to be yellow stains occur near the tip. It may be that this tool functioned as a paint applicator of some sort.

MISCELLANEOUS MATERIALS

Berries

A charred mass of some nuts or berries was found south of Burial 2 and west of Burial 1, at the same level. They appear to be the remains of some sort of food offering and have not yet been identified.

Paint

A considerable amount of hematite and a few pieces of limonite were found associated with Burial 5. These pieces of paint show scraping marks indicating the paint was reduced to powder and mixed with liquid. Other instances show planes resulting from the paint being directly rubbed on surfaces. The markings, shapes and individual separation of the pieces (54) show that it was placed in the grave in this raw form and was not a consolidation of powders.

Pottery

A single sherd represents the fact that the ceramic horizon was involved at this site. The sherd is of slightly over medium thickness for eastern Oklahoma wares. The surface shows irregularities difficult to evaluate. It

may be that rather than a roughened surface the irregularities are due to partially obliterated fine cordmarking. In color the exterior is orange; the interior a smudged black showing light wiping marks. The paste is soft and characterised by many air holes. Temper is almost absent except for occasional specks of sand. When fractured small deposits of sand are found in the interior of the holes suggesting decomposition of gramular limestone or sandstone temper. The edges of the sherd have a rounded melted appearance. Except for the possible cordmarking of the surface, this piece is similar to late types of Williams Plain and other Gibson types of the Spiro area. The aeriated appearance of the sherd with its small bubble holes is paralleled in a late pottery type from the Spiro area during the Ft. Coffee phase.

Shell

A considerable amount of mussel shell occurred near hearths in the upper zones. No worked shell was found though this is not surprising as most specimens were badly damaged by machine operations. No shell was found in the lowest zone.

Teeth, Beaver

Five beaver incisors consisting of both uppers and lowers were found with Burial 5. Some of the teeth look as if they might have been hafted and used as some sort of tool, possibly for point making.

Tortoise Shell

Terrapin shell occurred sporadically in the upper level. A complete carapace, probably a container, was found with Burial 5.

OCCUPATION ZONES

Zone 1. This zone was, of course, sterile of Indian artifacts. Two explanations are possible depending on the actual age of Zone 2. One explanation is that deposition continued at a steady rate from the beginning until the close

of the stratigraphic records. The top sterile layer in this case would represent the period when prehistoric occupation ceased but deposition continued at a normal annual or periodic interval. If this date was late the sudden cessation might have coincided with the exterminating raids of the Osage into this area in the early 19th century. This would, of course, make the top cultural material much later than has been thought. Another explanation might be the cessation of occupancy due to changed ecological conditions. The humus on the top was certainly darker, indicating possibly increased forestation. But the general character of the river must have remained the same to the extent that the same overflow and deposition continued. The present very deep river bed must have been a later phenomena. Even so, local residents recall floods thirty to forty years ago that covered the entire area. The heavy infestation of mosquitoes characteristic of the drainage (but lacking to the east and west) may also have been a feature of this late development along with increased vegetation. Mosquitoes would hardly seem an inducement for prolonged occupation especially when surrounding areas were relatively free from these insects. Therefore it is thought that the upper zone represents modern conditions. The cessation of occupation on this drainage was more likely connected more with general ecological changes than with the effects of depopulation through tribal warfare. Just what the causes of these changed conditions were is unknown but it would appear that they included heavier forestation or at least heavier secondary growth, a deeper stream bed with possibly less frequent flooding, muddier water, swarms of mosquitoes... and in general, less favorable ecological conditions than prevailed prehistorically.

Zone 2. The characteristic contents of this level, small to medium size dart points, manos and numerous deer bone tools, would suggest a time period for most of this zone toward the close of the Archaic, or if cultural lag is involved,

even somewhat later. There is some suggestion of a later period in the report of finds of small arrow points of unknown type, burned house wattle and the single sherd from Burial 3. This sherd is rather curious because in temper, paste, and coloration it looks like a Williams Plain type of the Gibson Aspect but in the feature of the air bubbles throughout the paste it is similar to those resulting from shell-leaching in a later Ft. Coffee type of the Fulton Aspect in east central Oklahoma. However when fractured the holes in the interior are found to contain disintegrated sandstone pulverized to sand, possibly the result of the firing heat. While the surface is irregular and gives the initial impression of cordmarking the present interpretation is that the sherd is grit or rock tempered, in the Gibson tradition. This fits in somewhat better with the relatively limited number of small points which must have evidently occurred at the site.

Zone 3. This zone, referred to geologically as transitional because of an inability to draw a line of demarcation between it adjacent lighter and darker zones, is also culturally transitional. While our information as to the locus of particular artifacts is scanty for this zone, certain assumptions can be made. For instance, several large points which might be called scrapers, turned up on a road bed. Several others were found unassociated by Mr. DeCharles. Such points were never found directly associated with the upper level of Zone 2. Since no points were found in Zone 4 by elimination the large points were assignable to Zone 3. This latter zone also seems to be the earliest one in which appears the better grade flint with the slight lustre and better cleavage. There is also some of the earlier white limestone-like flint in this zone. Lacking a clear line of disconformity and the time to establish exact depths of artifacts as they were found, it is difficult to say exactly what took place in the zone-level either culturally or geologically. There is, however,

a marked fall-off in artifact occurrence at this level. Occurrence is much stronger in Zone 2, less in Zone 4, and still less in Zone 3. It might be, of course, that the occupation of this period was concentrated elsewhere on the site since it covers such a large area.

Zone 4. The material here appears to be concentrated at a depth of about 10 to 12 feet from the surface and to continue downward. This zone is of particular interest as it can be readily distinguished from the upper zones not only typologically but in material as well. The artifact material is a very light grey in color, flecked with small particles of chalky white, occasional yellow iron streaks and is pitted with quite large holes 1-2 cm in diameter. Surface lustre is entirely lacking. The material is more nearly a limestone than a flint. If dart points occur with this material they are rare. Heavy scrapers of the gouge and plane type are the popular tools. Choppers are less frequent and are of medium size. Hammerstones are simply battered angular chunks of the limestone material.

Interestingly, the only discernible post pattern comes from this level. The dark burns and light fill in the rotted post hole stood out clearly in the yellowish tan clay. The pattern suggested a rather large rectangular house in the Gibson Aspect tradition, the same general type that has been reported previously for the Archaic period (Bell and Baereis, 1951, p. 60; Shaeffer, 1957, p. 248-252.)

Age of the Site

From the above it would seem evident that an extremely long period is involved at this site. A seasonal occupation and abandonment may be hypothesized during which the area was flooded and then reoccupied. While the modern history of the river is one of an irregular flood pattern, or rather one of intermittent floods, these latter may have been more frequent earlier when the bed was

shallower. In this case the sequence would not be as long as is suggested by the depth. Undoubtedly variable factors are involved. On the other hand the pottery is perhaps 1000 A. D. and no later than 1200 A. D. If the pottery origin is from the south then probably a time lag of at least a hundred years should be interpolated. This would run the terminal date of the site about 1100-1300 A. D. Thus 600 to 900 years would have to be allowed for the accumulation of the two feet of sterile overburden. This would mean an age of 4-5000 years plus or minus 500 years as a date for the material which is 12' deep at the bottom of Zone 4. Certainly on the basis of typology, thousands of years should be involved.

Comparison with the Evans Site (DIEvIII)

The only site comparable in depth and culture in northeastern Oklahoma is the Evans site excavated around 1938 by David A. Baerreis (Baerreis, 1951). The site was located approximately 50 miles southeast of the Craig site on the Grand River just below the town of Grove. There a small valley opening onto the Grand River exposed a profile of the site. A sloping hillside above the site suggested that its detrius might have contributed to the formation of the occupational deposit. Therefore the depth of the site, which was unusual, qualified the implication of antiquity. Such a situation did not exist at the Craig site.

In regard to the depth of the two deposits, they can be thought of as identical. Though the bottom of the Craig site was not precisely established a post hole pattern was found at the 12 foot level. It is assumed that the depth in this case is an indication of antiquity as higher ground was lacking and typological change gradual but definite. In all likelihood the factors at work in the formation of one deposit applied to the other. The soil characteristics at both sites were similar in that marked soil changes and distinct strata

were absent. The only major soil difference was in color. At the Evans site the upper 4 feet were stained by black humus below this point gradually changing to a chocolate colored loam. At the Craig site the dark humus of the upper two feet changed gradually to a yellowish tan clay.

The cultures of the two middens while generally similar were sufficiently different to indicate regional variation due to differing historical antecedents and influences. This is not an unexpected situation in prehistoric sites 50 miles apart. Some of the measurable differences between the two sites were these. Fig. 36.

Comparative Typology, Craig and Evans Sites

STRUCTURES

Cache Pits	Craig :	None found, suspected in upper levels where areas in black humus show mixtures of animal bone and shell; might have been cooking pits.
	Evans:	None
Hearths	Craig :	stone hearths and charcoal concentrations
	Evans :	none
Houses	Craig :	rectangular structure, features unknown.
	Evans :	none

GROUND STONE

Axe	Craig:	chipped, double bitted, unground, flint type
	Evans :	ground, single bitted, full grooved flint type
Abraders	Craig :	present
	Evans :	present
Boatstones	Craig :	split hemisphere; shape natural; central depression some
	Evans :	seems similar (Baerreis, 1951, Pl. IIIk)
Manos	Craig :	well shaped by grinding and pecking some pecked holes in grinding face
	Evans :	lack definite outline; no central depressions in grinding face.
Metates	Craig :	basin and slab type metate
	Evans :	none
Mortars	Craig :	some reported found by construction workers
	Evans :	present

CHIPPED STONE		
Axe	Craig:	present, see above
	Evans:	absent
Choppers	Craig:	absent upper occupational level; present lowest levels
	Evans:	present upper levels; absent lowest level.
Drills	Craig:	rare but comparable to upper level types at Evans
	Evans:	limited numbers
Knives	Craig:	parallel side type present; ovate type stronger than at Evans
	Evans:	parallel side type present; ovate form less frequent than at Craig.
Scrapers	Craig:	heavy scraper-planes, scraper-gouges lower level; other types probably similar distribution.
	Evans:	heavy scraper-planes, scraper-gouges absent (or occurrence rare)
Points	Craig:	Gary point, Type 1 dominant upper and transitional levels only
	Evans:	Gary only 6-12% any zone. Early point types 2 and 4 of Craig Zone 3 absent
BONE	Craig:	awls and punches common
	Evans:	absent; differing conditions of preservation likely.
PAINT	Craig:	small scratched pieces of hematite; some yellow limonite
	Evans:	same; no limonite reported
POTTERY	Craig:	rare; 1 sherd grit tempered Williams plain paste type; southern affiliations probable.
	Evans:	shell tempered wares and grit tempered Hopwellian wares. fairly frequent upper two feet.
SHELL	Craig:	abundant upper levels
	Evans:	absent; differing conditions of preservations probable.
STONE	Craig:	upper levels local flints; some Boone chert; less Ottawa chert lower level Verdigris limestones
	Evans:	Boone and Ottawa white and pink chert dominant; local varities minor.
BURIALS	Craig:	upper levels burials associated with Zone 2; possibly ceramic horizon on basis of single sherd in grave fill; no established preceramic burials; none lower Zone 4
	Evans:	upper levels burials associated ceramic horizon; no pre-ceramic burials.

Conclusions and Conjectures

The Craig site seems comparable geologically and culturally with the Evans site on the Grand River 50 miles to the southeast. This site appears to represent a continuous cultural sequence without geological break and to result from (1) more or less continuous use interrupted by sporadic flooding or (2) to represent seasonal occupancy over a prolonged period with periodic flooding. By rule-of-thumb measurement allowing 600-900 years for each foot of deposition the site might run back to the second or third millennium B.C.

The oldest material represented at the Craig site in Zone 4 equates roughly but not exactly with Evans site Zones A and B. Scraper-planes, scraper-gouges, choppers and hammerstones are more abundant at the Craig site while occurrence of arrow points, drills, small grinding stones, and abraders found at the Evans site are absent. The plane and gouge type scrapers are quite typical of the early lithic culture found in central and western Oklahoma. This suggests an early diffusion from the west which failed to spread across the state before dying out. The types involved at the Craig would be late in, say, the Lake Altus region. This suggests, then, that this late phase of the early lithic quartzite industry overlaps with Phase A of the Grove Focus. This correlation is the first cross-cultural tie between that complex and the established Archaic sequence of Eastern Oklahoma. This would support the original contention of some antiquity for the former sequence between the terminal phase of the Paleo-Indian and the eastern traditions (Shaeffer, 1957, 1959). The use of lime-stone-like flint on the Verdigris and quartzite to the southwest at this period reveal an early widespread non-flint using tool tradition in Oklahoma characterized by a varied and distinct assemblage of scraping tools. The difference between the content of the lowest levels at the Evans and the Craig sites may be interpreted in one of

two ways, neither of which can be established by this single instance. The early Craig site material may be regarded as either (1) a regional variation of the Grove Focus influenced by a contemporary but separate lithic complex to the west or (2) an eastern regional variation of the quartzite complex influenced by an adjoining Grove Focus along the Grand River.

The location of the Craig site, on the edge of the woodland-Prairie seems to have had another result at a later period. woodland influence is more discernible in this material than that from the Evans site. Examples of this tradition are; large slab-basin metates, large point-like scrapers (Type 2), disc scrapers (Type 3), awl types, small hemispherical boatstones, chipped stone ax Type 5 projectile point and the fairly high frequency of grinding stones which occurred in Zones 3 and 6. This material from the Craig site is not representative of a true Woodland typology but is rather an incipient outpost imitation. It is much cruder, more an example of the indirect diffusion of filtered ideas than a close parallel in form resulting from trade or other direct contact. Since this Woodland material antedates the ceramic zone at this site it would appear that on this drainage the substance of Woodland lithic technology preceeded the acceptance or occurrence of Woodland type pottery. This slightly modified the earlier reconstruction that the Woodland tradition entirely postdated the Grove Focus (Bell and Baerreis, 1951, Fig. 1). While this situation would apply along the Grand River, Woodland influence would appear to overlap the middle or Phase B of the Grove Focus along the Verdigris.

This is a point, however, on which information is somewhat deductive rather than established by controlled stratigraphic excavation. The amount of material recovered, its haphazard exposure and the improvised field methods necessitated by construction activities precludes final evaluation at this

time. The Craig site was an important key to our understanding of the prehistoric chronology of northeastern Oklahoma. Controlled excavation, had it been possible, would have deepened this understanding beyond the present interpretation. Unfortunately the finding of a similar stratified deposit of equal thickness will possibly not come again because of the impending flooding of the major river drainages of Eastern Oklahoma.

THE HUBBARD SITE, Bk-4

Location

The Hubbard site is located five miles southeast of Elk City, in west central Oklahoma on the property of Cecil Hubbard.

Area

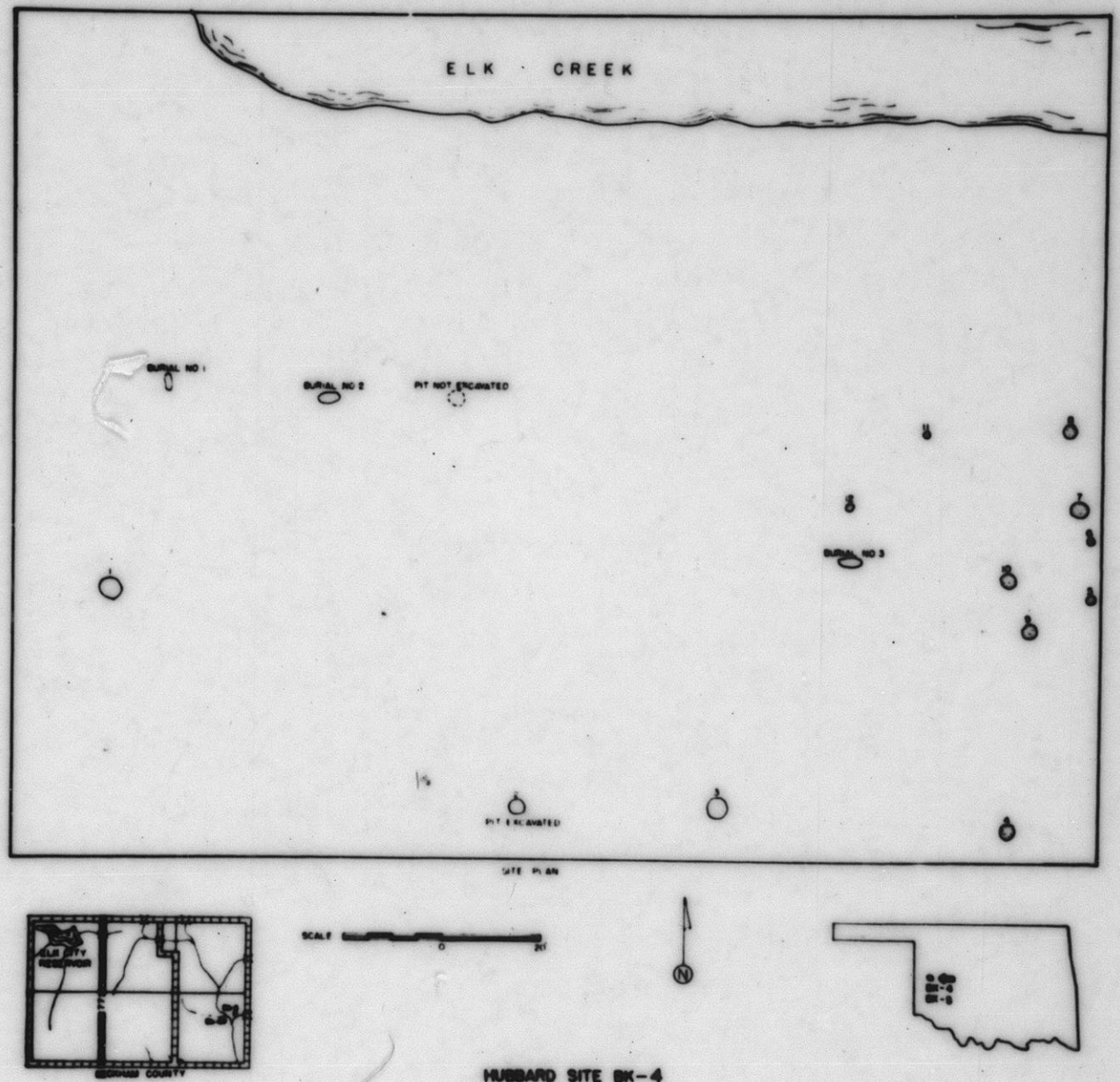
The area is now flat farming country with long low rises and is at present devoid of vegetation except immediately adjacent to parts of certain streams. An occasional sandstone ridge is exposed as an isolated high point in the terrain. It may be surmised that the wooded areas adjacent to the streams were prehistorically wider and that they extended the length of the larger watercourses.

Site

The site is located along the south bank of a branch of Elk Creek on a low flat which is periodically subject to erosion during the overflow of the creek during spring floods. Prehistorically the creek must have been located further to the north or the banks must have been higher than they are at present to have avoided frequent flooding which would made the site unfavorable for occupation.

Discovery

The area of the site has long been unfavorable for plowing and has been avoided due to the compactness of the soil. During the heavy spring floods of 1957, Elk Creek and its tributaries overflowed their banks at a number of points. One of these points of overflow occurred at a bend



HUBBARD SITE BK-4

Fig. 37.

in the river on the property of Cecil Hubbard. After the creek had subsided it was found that the swift current had uncovered a skeleton. Mr. Hubbard notified the Beckham County Sheriff's Office, which investigated the remains. Several other skeletons were uncovered with a shovel and the remains sent to the State Crime Bureau at Oklahoma City, which forwarded them to Dr. Alice Brues of the University of Oklahoma Medical Center. Dr. Brues identified the remains as prehistoric Indian, and notified the Salvage Project, which conducted further investigation.

Excavation

The writer was assisted in these excavations by L. D. Hubbard, the son of the landowner. Excavation was conducted over a period of two days. Because of the fact that the top soil had been removed by the flood waters it was possible to pick up the pits as dark discolorations in the reddish soil. In this manner, and by testing between them, the pits designated in the site plan were located. Excavation was terminated by the fact that Mr. Hubbard was in the process of plowing and wished to complete his plowing by working in the area under investigation while the ground was still soft.

Pits

The storage pits were for the most part well-shaped. They varied in depth from one to four feet. Of the twelve pits excavated three were found to be sterile and there was a rather meagre

representation in the remaining pits. In parts this might be attributed to the fact that the ground level had been reduced by approximately one foot and previously flooded. The excavations therefore dealt with the bottoms and lower portions of the pits. The fact that the original occupation surface was missing also accounts for the failure to find post molds or other signs of dwellings.

Dog Burial

One of the interesting finds was that of a dog skeleton in Pit 11. This skeleton had been carefully placed in the pit on its side with the top of the head and back oriented to the west and the muzzle facing south. The pit was filled with a very dark colored soil, considerably darker than the fill of the other pits. No actual charcoal was found, but the very dark fill and careful placement could as well suggest an animal prepared for roasting as a pet carefully interred. The pit was well-shaped and of a size just large enough to contain the body. The identity of the canine as dog was established by Dr. David Kitts, Associate Professor of Paleontology at the University of Oklahoma.

Human Burials

Three burials had been located by the Beckham County Sheriff's Office by protrusion of bone through the soil. These had been badly disturbed by careless shoveling. However, it is probable that the burials were not accompanied by grave goods. Orientation could not be determined definitely but from hearsay and some fragmentary evidence

Fig. 38 Dog Skull from Pit 11, Hubbard Site, Bk-4.

that remained it appeared that Burial 1 might have been flexed and on its back with the head to the north while the body of Burial 2 was oriented on an east-west axis with the head to the east face down and the arms extended above the head. No orientation could be established for Burial 3.

These burial positions are unusual. It might be noted that similar un-orthodox burial situations prevails at the Heerwald Site (Cu-27) and the Hedding Site (Wd-2)[1] At the former site, the body of a young woman in flexed position, shot ventrally by an arrow, was accompanied in the grave by a fetus, and by the extended skeleton of an adolescent. At the latter site, the partially cremated remains of several individuals were found intermixed in pits with house debris and other trash. This suggests the possibility that the occasional burial found in the villages of western Oklahoma represents the interment of an individual who had met a violent or otherwise un-orthodox end requiring hasty and immediate burial rather than ritual burial under conventional circumstances.

1. Shaeffer, 1960, pp. 106-111; 199-200.

ARTEFACT INVENTORY, Bk-4

Typology	Pit Numbers 1	2	3	4	5	6	7	8	9	10	11	12	Surface	Totals
Ground Stone														
Abrader								1	1					2
Hammerstone								1	2				1	4
Metate			1					1					1	3
Mano										1				1
Polishing stone									1					1
Pounder									1					1
Chipped Stone														
Scraper, flake			1		1								2	4
Bone														
Awl, ulna						1			1					2
Digging tool														
Shell														
Mussel shell												1		1
Pottery (sherds)														
Type 1								1						1
Type 2			1											1
Type 3	2													2
Type 4						1								1
Miscellaneous														
Red Paint									1					1
Faunal Remains														
Buffalo			1					1					1	3
Deer						1	1						1	3
Dog											1			1
Tortoise							1	1						2

Fig. 39.

Stone Sources

Stone chips of any kind were extremely rare at this site. Only nine chips were recovered; six of these were of Amarillo flint, two were western quartzites, and one was from an unknown source. These identifications were made by Dr. Oren F. Evans, Professor Emeritus of Geology at the University of Oklahoma.

TYPOLOGY

Abrader

Several pieces of very sandy friable sandstone showing planes and rounded surfaces resulting from abrasion were found. Pieces were less uniform in material than similar specimens from Woodward and Custer counties. Same general type of material. Average dimensions: 3.5 cm.- 6.3 cm length, 3-4.2 cm. width, 1.9 cm. thickness.

Hammerstones

Small roundish quartz and quartzite stones with battered edges. Average diameter 5.3-6.5 cm.

Metate

Two forms found. (1) a rectangular form with rounded ends; very deep basin, almost a trough, with straight sides and rising floor at both ends; very short platform. Material very striking, consisting of a sandstone conglomerate of cemented colored river gravels 1-2 cm. in size. Uncertain whether hole in bottom was worn through or "killed" by

knocking through. (2) is an irregular slab of soft sandstone with a shallow milling area slightly pecked into the surface. Average dimensions for Type (1), 54.3 cm. length; 28.2 cm. width; 9.1 cm. thickness; concavity of 9.0cm.; platform 6.0 cm. long. Average dimensions for Type (2), 24-29 cm. length; 18-20 cm. width; 4.7-7.0 cm. thickness.

Mano

Short rectangular mano with rounded ends; back rounded by all over pecking; milling face slightly concave; material a medium soft sandstone. Dimensions: length, 13.3 cm.; width 9.2 cm.; thickness 3.4-3.7 cm.

Polishing Stones

Quartz river pebbles with highly polished surfaces. Probably used in pottery or other finishing process. Average dimensions: 6.1 cm. long; 4.8 cm. wide.

Pounder

An egg-shaped quartz rock with a reddish weathered exterior. Surface smooth; numerous fragments. One almost complete. Very characteristic of the late Panhandle culture of Oklahoma.

CHIPPED STONE

Scraper, flake

Irregular pieces of flint with some secondary shipping along one

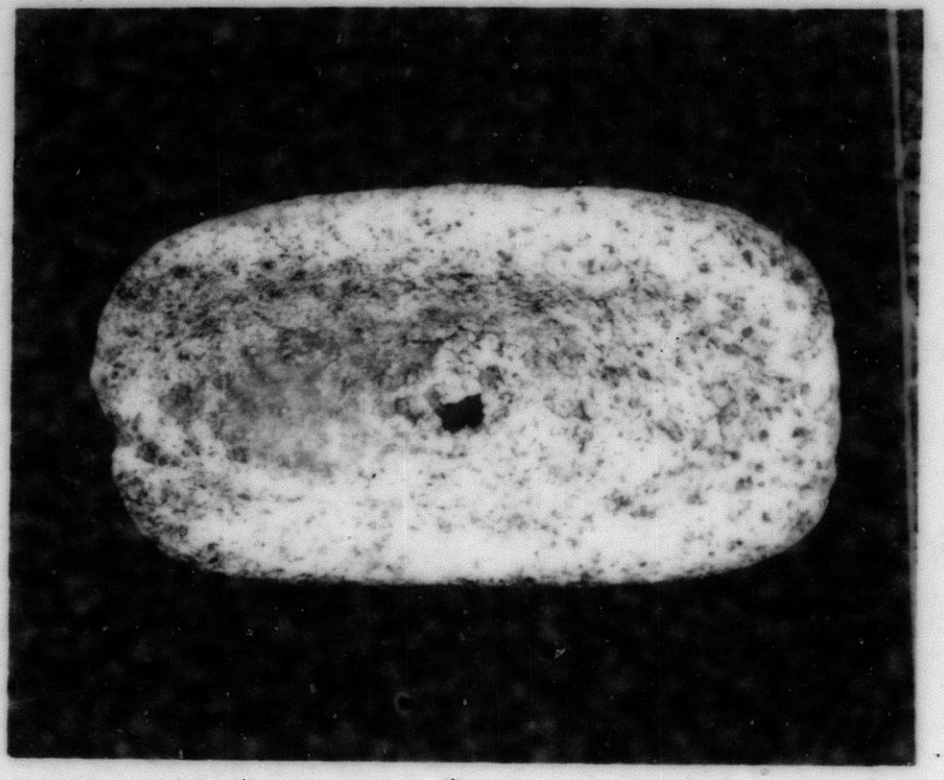


Fig. 40. Basin Metate, Hubbard Site, Bk-4.

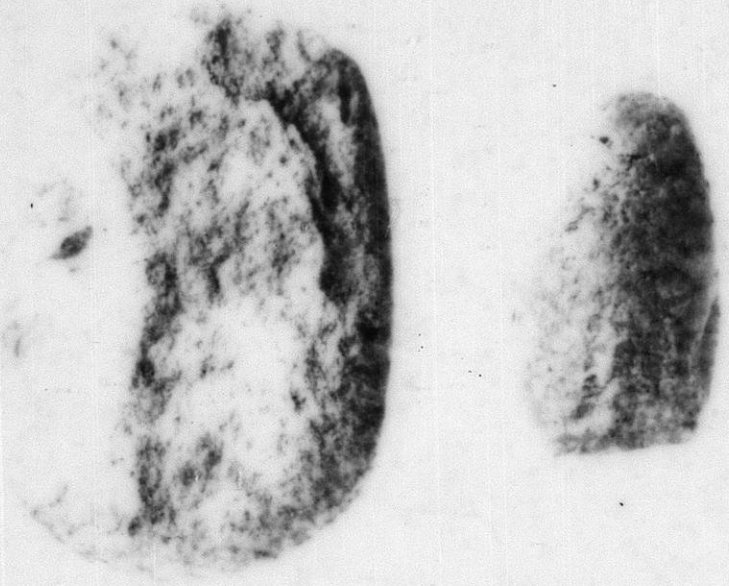


Fig. 41. (1.) Mano. (2.) Pounder, Hubbard Site, Bk-4.

edge. Miscellaneous flint material of unknown source.

BONE

Awl, ulna

A split deer ulna showing use polish; width of head 1.8 cm.; length unknown.

Digging tool

Split section of a bison femur with exterior surface smoothed. One end unfinished, other rounded, blade set at an angle. This may possibly have been the remains of a broken digging stick blade after the socket had broken. Length 17.1 cm.; width 4.2 cm.; thickness 1.9cm.

SHELL

Mussel Shell

The remains of shell fish used as food. Fragments too small for specie identification.

MISCELLANEOUS

Red Paint

A block of fine red sandstone which rubs off to the touch.

POTTERY SHERDS

Type 1

A caliche tempered plainware with inclusions of sandstone, quartz,

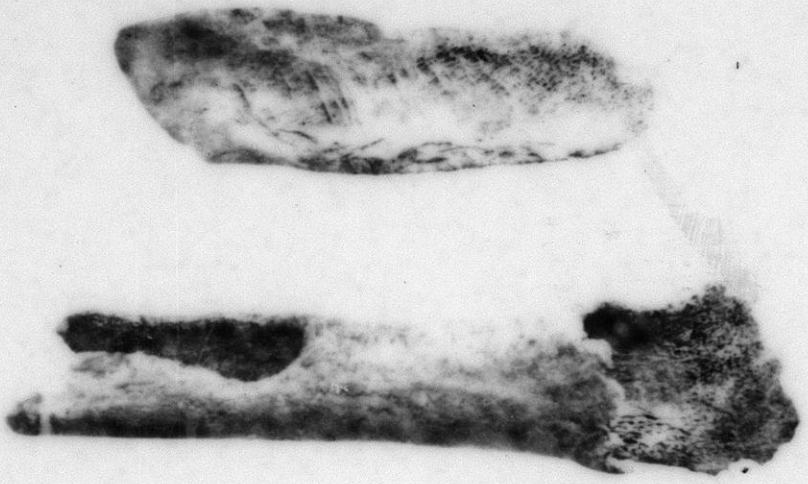


Fig. 42. Bone Tools: (1) Possible Digging Tool. (2) Animal Gnawed Bison Bone. Hubbard Site, Bk-4.

and limestone. Actually a very fine marked cordmarked ware in which the markings are almost totally obliterated by polishing marks. The surface has an uneven molded appearance. Thickness 6.0 cm.; Hardness. Same as a variety of Stafford Plain.

Type 2

A fairly thick soft plainware; sand tempered with some inclusions of red sandstone and quartz grains; also some bone temper. Thickness 9.0 cm.; hardness

Type 3

Paste probably the same as type 2 (though the specimen was over-fired) but surface cordmarked. Pattern cords dominate the net which is visible, however. Cordmarking distinct and not obliterated by polish. Thickness 8.0 cm.; Hardness

Type 4

A thin hard cordmarked ware tempered with quartz sand temper. In the cordmark pattern the net appears more prominent than the vertical cording. Similar to Stamper Cordmarked, but thinner, harder, netting more prominent.

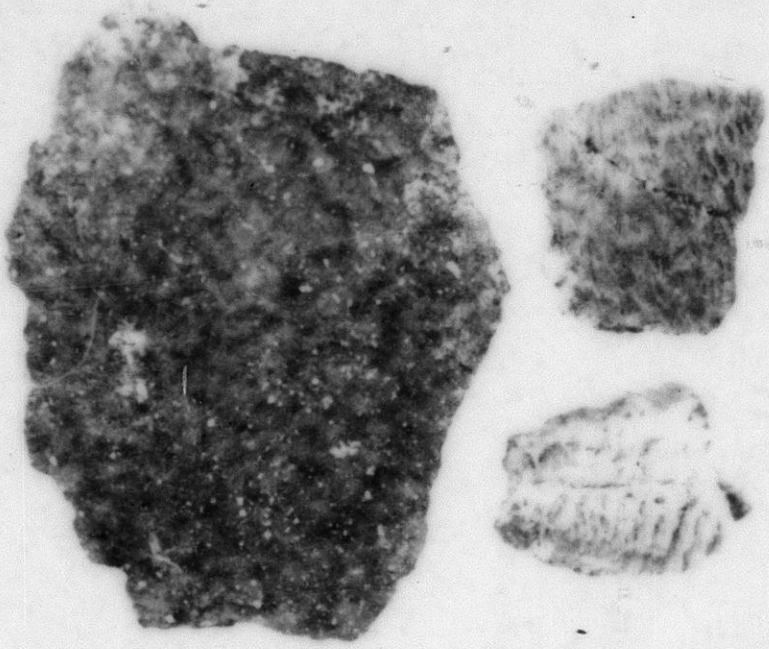


Fig. 43. Pottery: (1) Type 1 (2) Type 4 (3) Type 3. Hubbard Site, Bk-4.

Conclusions

There is so little material from the Hubbard site that comparisons are difficult. However, the strongest relationship seems to be with the Panhandle sequence to the north and west, rather than the Custer-Washita River Focii to the east.

Connections with the Panhandle area are seen in the abundant fragments of the egg-shaped quartz pounder which is so characteristic of the late Panhandle cultures and in the cordmarked pottery. The Hubbard pottery follows the Panhandle tradition of distinct non-polished cordmarking and sand tempered paste, as opposed to the caliche tempered, obliterated cordmarking of the Stafford wares of the Custer Focus. Moreover, the Hubbard sherds are thinner walled, harder, and better fired than the Stafford wares. An additional link with the west is seen in the distinctive deep basin metate which shows in its almost troughed form influences from the Puebloid Panhandle region. Except for the dearth of mussel shells, which might possibly indicate a late placement, other traits, such as burial position, dog skeleton, fauna remains, cache pits, bone and stone tools, are such generalized traits in the Southern Plains as not to be temporarily diagnostic.

On the ceramic evidence, which is really all there is as far as cultural affiliations are concerned, the site might be placed in the Panhandle sequence in an intermediate position between the Optima (Watson, 1950) and Hedding sites (Fig. 66). While contemporaneity with the Custer Focus is also indicated by the single large intrusive sherd of Stafford Plain, the phase within the Custer sequence cannot be estimated on this meager evidence. Considering the presence of the Stamper-like Type 4 sherd and the general lack of obliterated cordmarking, the typological placement of the Hubbard site would seem nearer Optima than the later Hedding site (Wd-2).

SKELETAL MATERIAL FROM SITE BK-4

By

Alice M. Brues

Burial #1

This burial consists of a few skull and long bone fragments of a 14 year old child, probably from the size of the palate, a female. There is moderate wear on the 1st molar teeth.

Root etching is very marked on these bones.

Also included with the burial are the clavicle and incomplete left humerus and ulna of a child about 6.

Burial #2

A very fragmentary skeleton. A portion of ilium with a wide sciatic notch and marked preauricular aulcus indicates female sex.

Burial #3

Cranial and skeletal fragments and teeth of an 8-year old child. A quite remarkable degree of wear is shown on deciduous molars.

THE LAWTON ASPECT OF THE SOUTHERN PLAINS ARCHAIC

INTRODUCTION

Recognition

For a number of years, probably since 1946 material had been showing up in survey collections from central Oklahoma, which was unidentifiable in terms of tool forms from either the Eastern Archaic or the Gibson-Fulton aspect of eastern Oklahoma, the Washita River-Custer County focii of the low Plains, or high Plains focii, such as Optima. This material had been collected, for the most part, by Sherman Lawton, President of the Oklahoma Anthropological Society, who had been in the habit of turning over the majority of his finds to collections of the Department of Anthropology of the University of Oklahoma. Over a period of time, a considerable amount of this material had been accumulated.

Despite the fact that most of the material consisted of quartzite chips and flakes of a very rough sort, Lawton had been convinced that it represented a rather old manifestation. He based his hypothesis on the locations of the finds which were often quite far back from present drainages, and from the crude workmanship of the few complete specimens found. In one such lot, Robert E. Bell, of the Department of Anthropology, identified the base of a Plainview point from a site near Norman. Investigation by him turned up an additional base at this location. To Lawton, this was additional evidence for antiquity, and he continued to look for and to collect material of this sort.

In 1956, the writer joined the staff and while on a field trip near Chickasha, about 70 miles southwest of Oklahoma City, noted some crude quartzite material on a slope of a major tributary of the Washita River in an area otherwise devoid of this rock. No identifiable tools were found, but the distribution suggested a campsite. Some of the quartzite was definitely flaked.

Mention was made of this find to Bell, who stated that material of this type had been previously found by Lawton. The writer, having recently come from the Southwest, noted general parallels between this material and that of the early lithic culture, the Cochise, of southeastern Arizona. The generic, rather than specific resemblances, were sufficient for the writer to suggest that the pattern of the material was of a cultural rather than fortuitous nature.

Subsequently, the writer, during the course of surveying around the state, noted the characteristic quartzite forms in the southeastern and southwestern parts of the state, in sites as far west as the central Oklahoma Panhandle, and as far south as the Texas border. A preliminary statement of this manifestation was presented at the Fourth Caddoan Conference at Shreveport, in April, 1957. At this time, Edward B. Jelks, of the University of Texas, noted some resemblances to similar Texas materials, but suggested that it might be either quarry debris or the result of local substitution of quartzite for the more usual flint forms. Following this in the same month, Lawton also made a preliminary report of this complex at the annual meeting of the Oklahoma Anthropological Society (Lawton, 1957). Subsequently, in excavating in several non-pottery sites in east, central and western Oklahoma (Shaeffer, 1957b, p. 259, 1960a, p. 68), the writer found it necessary in describing tool forms to refer to this quartzite material as a source of possible prototypes. Since there was no previous reference to this culture in the literature, it became increasingly apparent, as more material kept turning up from a wider area, that a formal statement or preliminary assessment of this complex was necessary for clarification and for future reference. The following description is in this category of a preliminary rather than a definitive statement of a new complex, since, as will become apparent, the boundaries of this manifestation extend beyond the Oklahoma borders.

Nomenclature

In previous statements and in talking about this material, and pending determination of its relationship validity, both Lawton and the writer have referred to the complex in Oklahoma as a "quartzite industry." However, it has been realized that this designation has not been too satisfactory. Lawton, in his 1957 presentation, suggested a term meaning "old people" in the Pottawatomie language, since the complex is quite strong in the Oklahoma county of that name. He felt that the term quartzite referred solely to the material, whereas it was the techniques of manufacture that were distinctive.

In this regard, the writer feels that the distinctive features of the complex are the combination of tool forms and the quartzite material.[1] The dominance of these two factors separates this technology from those of the earlier and later horizons in Oklahoma. Granted that, for practical purposes, when found alone, quartzite tools are not distinctive, their presence, even when found in later horizons, almost without exception, indicates some form of linkage or continuity with the technological tradition of this middle prehistoric horizon. In the main, there is also a fairly close correspondence between the quartzite material and the tool forms which are distinctive for the complex.

The quartzite material is, then, a convenient tracer element of the complex, but is a descriptive nomenclature only within the confines of the Oklahoma culture area. It is not a distinctive or apt application when one enlarges the area of consideration, since somewhat similar tool forms occur in other complexes utilizing other local non-flint and flint rocks. Since the center of this manifestation is not yet clear, a geographical designation is not altogether satisfactory either. At the same time, it is clear that the complex has regional variations, has a wide geographical distribution, probably a

1. This quartzite, it might be added, is characteristically reddish in central Oklahoma, where it lies on the "Permian Redbeds;" is grey to the west in Caddo, Grady, Greer, and Texas counties; and is tan streaked with red along the southern peripheries of its influences, 100 miles east of the Arkansas River valley.

considerable time depth, and is distinctive from horizons above and below it. Therefore, in view of the fact that the initial knowledge of this manifestation was based almost wholly upon the collections made by Lawton, it would seem not inappropriate to designate this complex as the Lawton Aspect. This term would include all the dominantly quartzite regional variations in Oklahoma which follow in time the Paleo-Indian horizon and which preceed the Eastern Archaic and the pottery horizons. When this aspect is better known, it can undoubtedly be divided on a better sequential development than can be presented now. However, for the present, on the basis of material, tool form, and tool size, the Lawton Aspect can be divided into three developmental phases, early, middle, and late, and into two main regional focii, designated as Little River and Lake Altus.

Site Location

Sites of the Lawton Aspect are characterized by locations which are now on high ground, well back from the beds of the present drainages. Typical locations are on sloping ground below the crest of hills and on noses of hills which over-look first terrace valley floors.[2] In the area west of the Cross-Timber country (i.e., west of Oklahoma City), material is often found weathering out on top of the Permian "redbeds" which underlie all of central Oklahoma. It is quite possible that the material is coming out or has settled out from the bottom of the darker soils which overlie this formation, though as yet no context for the material in the region has been established.[3] The impression of the site locations, in all areas, is that they were in extant when the rivers were much wider and shallower than at present. This is especially true in the low Plains to the west of Cross-Timbers, where sites are often on low sloping ridges along now shallow dry drainages.

Since the redbed locations in central Oklahoma have supplied, to now, most of the larger and presumably earlier type of artifacts, it may be that this is

an exposure by weathering of the deeper buried materials. In this case, the somewhat later and smaller material to the west, which rests on darker soils, may represent a later occupation and that at some points, earlier material may eventually be found beneath them. In this case, erosion would have exposed the older areas on the tops of hills whereas corresponding levels to the west are too deeply buried for exposure by the generally shallow drainages of that area. Considering the general southeast geological tilt of Oklahoma it would not be surprising to find older material near the surface in central Oklahoma while it might be more deeply buried to the west and north.

Early, Phase I

This phase encompasses the following characteristic tools: large heavy implements, such as hammerstones, scraper-planes, choppers, curved knives, and flint Paleo-Indian points of the Plainview and Milnesand types.[4] These will be described later under a section of typology. The origin of this complex is, the writer believes, affiliated with two sources. The central core of this technology is most closely allied with the north central Texas complex, the Clear Fork Focus of the Abiline area, or at least, is in part contemporary with it. The projectile points, on the other hand, which are occasionally found on these sites, are apparently intrusive and derived from the High Plains.[5] This especially applies to the Plainview points which are intrusive in form by their fine workmanship, and contrast strongly with the crude associated quartzite tools.[6] The flint material of the points is likewise of a good grade, and is the only example of use of this material in an otherwise quartzite industry. These sites of this phase, like most of the sites of the complex are cluttered with a considerable amount of trash and broken tools in proportion to finished products. It is therefore often difficult to classify such sites on the basis of tool form alone.

Intermediate, Phase II

The intermediate phase sites are characterized by a continuation of the dominance of quartzite as a tool material, and by the continuation of the major quartzite tool forms of the earlier phase. The major phase distinction is in the smaller size of the tool form, and in general, the variety in tool forms, especially scrapers. Accompanying this change is a gradual overlap with later horizons, at both the eastern and western ends of the geographical distribution. In the east, there is an overlap with the Eastern Archaic. The quartzite Wells type point, for instance, occurs at a site which otherwise contains quartzite planes and choppers. In the western periphery, the scraper-plane-chopper-heavy knife snydrome continues, but is accompanied in the Lake Altus region of southwestern Oklahoma, with a point technology which is more Eastern Archaic (or Edwards Plateau?) than Paleo-Indian, and includes such items as adzes and boatstones. This phase, it is believed, represents a time of intrusion of new hunting elements into the area, principally from the east and south. Either that or it represents the replacement of a southwestern tradition of wooden points by northeastern stone, one of projectile points. Many of the new point forms though, are of an old quartzite tradition or use or other non-flint materials,rather than being in the flint-using tradition of the later Eastern Archaic.

Late, Phase III

This phase represents the vestigial remnant of the southern technological tradition at the late Archaic or early pottery horizon. This continuation of the older indigenous technological tradition takes two forms. One is the continuation of the quartzite tool forms in flint, especially the scraper-plane and to a lesser extent the chopper and heavy knife. This situation is apparent in a number of sites in eastern Oklahoma. The other continuity is the occasional use

of quartzite in an otherwise predominately flint-using technology. This is seen in the quartzite arrow points found at some sites which emulate the flint arrow point of the pottery horizon. This phase represents a technical phase-out of the Lawton Aspect tradition in tool manufacture, both in typical forms and in typical materials. The chopper, the scraper-plane and the heavy knife do not continue into the technical traditions of the later pottery horizon in the southern Plains. The only distinctive tool form which appears to connect these two horizons is the occurrence in the pottery horizon of the thumb-nail scraper, both in the Oklahoma Panhandle, western low Plains, and, to a lesser extent, in the late pottery horizons along the Arkansas River. This scraper is often a minute, carefully made type of end-scraper. It would appear in this area to be a refinement and reduction of the earlier large quartzite scraper-planes and scraper-gouges of the Lawton Aspect.

Regional Variation

Diagnostic Elements of the Lawton Aspect by Focii

The following elements of this lithic complex are described in the section on typology and will therefore not be discussed further except to summarize their geographical distribution as follows:

Little River Focus	Common Elements	Altus Focus
		Adze, small
		Boatstone
	Chopper, heavy	
Flint, intrusive		Flint, local
Knife, heavy, Type 2		Knife, biface oval, Type 2
Mano, wedge, thin, Type 2		Mano, thick, Type 1
Points, Paleo-Ind, few	Points, Plainview	Points, Paleo, some
Points, quartzite, misc. small		Points, flint, E. Archaic or Edwards Plateau
	Quartzite material	
	Quartzite cores	
Scraper-gouge, Type 2		Scraper-gouge Type 1
Scraper-plane, Type 1		

From the above it is apparent that the Altus Focus material shows contact with both the Clear Fork and the late components of the Archaic either from the Edwards Plateau area of Central Texas or from an Eastern Archaic diffusion across Okalhoma at a later date. The Little River Focus, on the other hand, represents larger, cruder materials and is a more simplified culture. Taking into consideration this typological factor plus its possibly earlier geological position, the Little River Focus would seem the older of the two regional manifestations with the scraper-plane its single most distinctive tool. The latter ultimately develops into a gouge form and then degenerates into the smaller flint end scrapers of the pottery horizon.

The Little River Focus

The traits are those assigned above. The areal distribution of these traits

include a region which can be geographically subdivided into an eastern and western division. The first subarea centers in Cleveland County (see Figure 0) along the Little River, which is the main county drainage, and extends just west of the Caddo County lines; east from there about 40 miles to Seminole County; south forty miles into Garvin County and north slightly above Oklahoma City. In general this comprises sites along the tributaries and dranages of the central Canadian River bounded roughly by its northern and southern branches. The second sub-area extends west from the Caddo County line and includes parts of Grady and McLain Counties. This region comprises sites which are on the drainage of the Washita River. At this point the Washita runs roughly parallel (within 10 - 20 miles) of the South Canadian River. All these drainages flow southeasterly with the Little River draining into the South Canadian and the Washita into the Red River at a point midway along the Texas border. These terminal drainages are also a cultural transitional area where there is some carry-over of Lawton Aspect traits and techniques but where later Eastern Archaic traits become dominant.

Geographically the two sub-regions are much the same except that the hills become less prouncounced as one proceeds from the Cross-Timber Country west into the low plains along the Washita River. Sites along branches of the Canadian River tend to be on hill noses overlooking the drainages while along the Washita they are more often on low sloping ridges along now dry, filled-in drainages. The material from both these areas is for practical purposes identical except that the larger cruder tools seem confined to the higher hills of the Canadian drainages. There is also a recognizable difference in coloring of the local quartzites with the Canadian quartzites being redder while those along the Washita are greyer.

<u>The Altus Focus</u>

The first material for this regional manifestation was collected in the

spring of 1957 by the writer and Elmer Craft of Eldorado, Oklahoma, while excavating on the shores of the Lake Altus reservoir (Shaeffer, 1959). Wave action in the course of years had exposed a great deal of cultural material along the western slopes of the hills which border the reservoir. The area had consequently become a favorite collecting place for local amateurs. This material, in some places, formed a carpet of hearthstones intermingled with cultural debris such as hammerstones, manos, scrapers and a wide assortment of stone and flint points. This situation obviously represented a considerable range of historical materials which had subsided under wave action to a common level. It was therefore difficult to interpret chronologically. However the tool material and some of the tool forms were recognizably similar to the quartzite industry of central Oklahoma. Therefore a considerable collection was made leading to the recognisation by R. E. Bell that the local heavy scraper form was related to the Clear Fork type gouge-scraper (Bell, 1958). This was the first recognition of its occurrence in Oklahoma.

The characteristic traits have been listed anddescribed in other sections. From them and from the geographical distribution it would appear that the material from this focus was possibly either a northern peripheral extension of the Clear Fork Focus of central Texas or more likely that it was contemporaneous and influenced by it. This Altus Focus material extends northwards and overlaps in Custer County and along the Washita River with Little River Focus material. South it extends at least a hundred miles into Texas. To the west it is probable that the Oklahoma Panhandle quartzite material is also related. Altus type material has been found to the east as far as Lawton at the eastern end of the Wichita Mountains. There it appears early, continues late fading into the ceramic horizon. (pp 61-62).

PERIPHERAL MANIFESTATIONS

Since the origins and center of the Lawton Aspect are not clear an attempt has been made to define the extent of the complex temporally and spatially in terms of fade-out of its key traits, and material, namely scraper-planes, scraper-gouges, choppers, heavy curved knife and quartzite stone. While this approach has not revealed definitive results in terms of boundaries it has yielded some distributional data.

Early Phase I. The farthest eastern distribution of the heavy crude material is approximately the western edge of the Cross-timber area east of Norman. None of the forementioned traits have been found for instance farther east in the early Grove Focus materials of northeastern Oklahoma but some suggestion of this material has been found in southeastern Oklahoma.

North of Oklahoma City the boundary of the Aspect is ill-defined probably due to a general lack of information from these northern counties. The same may hold true for the western boundary. In the Lake Altus region and to the southeast of there along the Texas border south of Hollister in Tillman county, several sites have been located where handstones and numerous egg-shaped quartz pounders or heavy rough quartzite core material occurs associated with a large heavy flake flint industry. No points have been found so far on these sites but end and side scrapers are abundant. The flint is heavily patinated. Both the site and character of the tools differ from those of the later ceramic horizon in the area. The assumption at the present time is that this flint flake represents an early contact with one of the Paleo-Indian complex of the high plains either to the south or west.

The pattern which emerges therefore for the early phase is spotty: a central exposure on the redbeds in Cleveland and adjacent counties south of Oklahoma City

and another possible exposure 100 miles to the southwest just above the Texas border. In other words a diagonal area about 50-75 miles wide from the southwestern part of the state to its central area 100 miles northeast.

Intermediate Phase II. This phase appears to have been the most widespread of the three phases described and is the most typical. The easternmost occurrence of this influence is seen at the Craig site on the Verdigris River in northeastern Oklahoma (pp. 120-159). There the lowest level in a 12 foot stratigraphy contained tools, choppers, scraper-plains and scraper-gouges made of local limestones but which in form showed greater resemblances to those of the intermediate phase of the Lawton Aspect than the adjacent Phase A of the Grove Focus along the Grand River, the next major drainage 50 miles to the east. From this evidence it was concluded, tenatively, that Phase A of the Grove Focus postdated this material since no typological similarities shows in the Grove material of this age. As this site is on the edge of the Woodland-Low Plains boundary (in northeastern Oklahoma this begins further east) it suggests that other early intermediate phase sites should occur in the gap which remains to be filled between northeastern and central Oklahoma.

To the west above Oklahoma City to the Kansas border, again there is a blank but since the redbeds extend at least 50 miles north it is probable that sites will eventually be found in this region.* However, further west several sites of this phase have been found in Cimmaron County, the westernmost county of the Oklahoma Panhandle. These sites are located in the playa country around Keyes. Flint material is absent on these sites.

To the south there is considerable evidence of this phase around the Lake Altus shores. This is the only area where there also appear to be numerous grinding implements associated with the scraping and pounding tools. Also

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*Supporting this earlier hypothesis a Lawton Aspect site was located in 1960 next to a highway right-of-way northwest of Perry, Oklahoma. This location is north of Oklahoma City and about 40 miles south of the Kansas border.

associated are a number of points of eastern Archaic appearance. However this material has all worked out of the shores of the lake and undoubtedly represents a considerable time period. It is assumed for the present that this grinding complex is associated with the Archaic Aspect rather than the Lawton Aspect. Further south about 75 - 100 miles below the Oklahoma border E. B. Sayles reports (personal conversation) similar material. Sayles feels this culture extends farther west into the Texas Panhandle but probably not as far as the New Mexico border. Somewhat farther east and slightly north several sites of this phase have been located at the eastern end of the Wichita Mountains.[7] Further north sites have been found by Sherman Lawton in Grady, Garvin and Cleveland counties extending the boundaries of this phase somewhat east of Norman.[8] It is possible that the distribution of this phase extends farther east into southcentral Oklahoma but this area is not too well known at present.

The pattern of the intermediate phase, so far as surface finds, is concerned, is somewhat similar to the early phase but considerably enlarged extending further northeast and southwest and includes the Oklahoma Panhandle and part of the Texas Panhandle and east-west distribution of 200 - 400 miles and a north-south distribution of about the same distance.

Late Phase III. This phase includes sites which show some vestigial influence of the Lawton Aspect technological traditions in materials or tool forms (especially scraper-planes and scraper-gouges) which carry over into the late Archaic and ceramic horizons. In the east continuity of form has been noted in the late Archaic horizon at the Sparks site (Shaeffer 1960, p. 68) and in southeastern Oklahoma and the McCarter site in east central Oklahoma (Shaeffer, 1956). To the west of these sites in the area between the Arkansas and Oklahoma City, Sherman Lawton has located a number of sites which give indications of such contact and continuity. The principal indications on these sites are the use of quartzite for small points and abundant occurrence of quartzite chips. The type of quartzite found on these late

sites is more fine grained than earlier material and of a darker color.

The quartzite material of the ceramic horizon in this region appears to be quite distinct in material and tool form from that of the Lawton Aspect. This is especially so in southeastern Oklahoma in the Kiamichi Mountain area and that of the Fourche Maline Focus along the Poteau River, south of Spiro. For the present, at least, these similarities are thought to be an extension of influence moving out from the Ouachita Mountains area of Arkansas, a diffusion moving westward rather than a continuation and extenuation of a quartzite using tradition from the west. This is a point which needs further clarification.

As usual the area north of Oklahoma is negative.* To the west in central Oklahoma and in the Panhandle there appears to be little carry-over of Lawton Aspect tradition in the ceramic horizon. However as evidenced in the Ft. Sill survey (pp. 18 - 20) the continuity in southwestern Oklahoma is quite strong with the use of quartzite diminshing but continuing throughout the ceramic horizon. The situation farther to the east in southcentral Oklahoma is not known at this time.[2]

2 As Sherman Lawton, in his Comments, indicates quartzite materials have now been found sporadically considerably farther east in the counties along the Red River. In the vicinity of Lake Texhoma, i.e. the area of conluence of the Washita and Red Rivers, they are especially strong. However since fade-out of Lawton Aspect characteristics is more marked from east to west than from north to south and because a more recent chronological position is probably assignable to these materials, focii definitions have been formulated on an east-west basis rather than as they could have been on a north-south axis. If the latter approach had been adopted some regional differences could no doubt have been established between materials along the major river systems, the Red, Washita, and Canadian. But I believe the differences would have been more difficult to define and thereby less taxonomically useful.

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* See previous footnote for recent modification of this view.

TYPOLOGY

Choppers

Description:

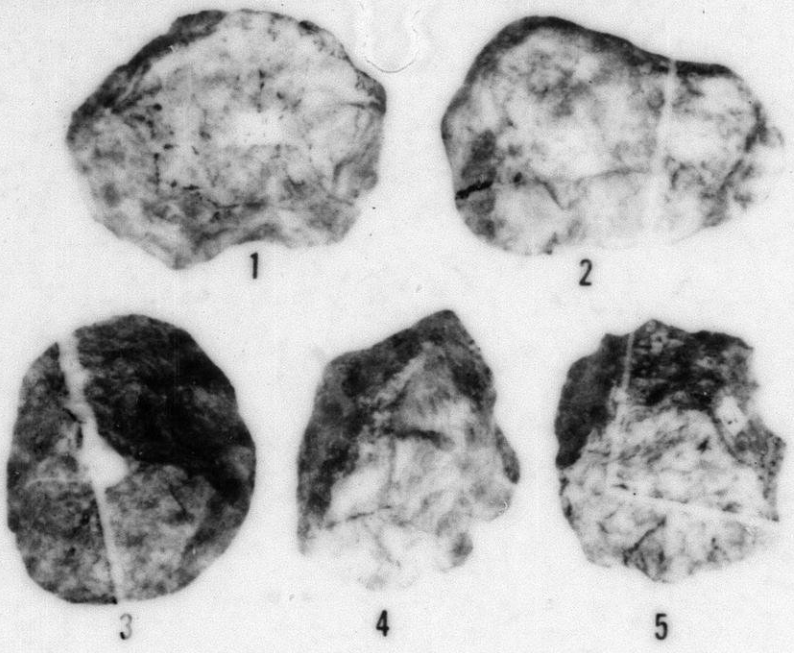
Type 1. (Fig. 44) Quartzite river boulders worked by percussion flaking along long axis of stone. Usually this is done by roughly trimming one edge unifacially, leaving the crust on most of the implement. Secondary use - chipping is evident on the edge of most of these choppers. Occasionally, some show percussion flaking on both sides of the cutting edge, but this appears to have been the fortuitous result of the chopping activity rather than a manufacturing technique. Quartzite is the tool material though a few specimens are of a dense homogeneous sandstone.

Dimensions:

	Large Size	Small Size
Length	10.9-12-3 cm.	7.4-11.1 cm.
Width	9.9-11.1 cm.	6.2- 7.4 cm.
Thickness	2.6- 5.4 cm.	3.7- 4.3 cm.

Type 2. (Fig. 45A) Remarks for Type 1 applicable except that the blade is across the short rather than the long axis of the quartzite river stones, giving a triangular shape to the tool. The natural shape of the rock thus results in a triangular shape. As in Type 1, the cutting edge is worked on one side only. Minute secondary use-chipping is visible on the cutting edge and the crust over the contracting or grasping area is left untouched. The cutting edge in most specimens tends to be slightly circular. It is possible that one form developed from the other. In the case of a basic scraping function, unifacial chipping would result even though not intentional in the manufacture. Therefore, the distinction between Type 2 chopper and the Type 2 scraper-gouge is that bifacial chipping for the one and unifacial

A. Choppers. Type 1. Lawton Aspect.



B. Choppers, Type 1, Lawton Aspect.

Fig. 44

chipping on the other. In this case, a tool having an initial dual function could have in time separated on this basis and developed separate specialized forms.

Dimensions:

Length 7.0-8.3 cm. Width 6.2-7.6 cm. Thickness 3.1-4.4 cm.

Grinding Slabs (Fig. 45B)

Description:

Only fragments found, but they appear to be rather small flat slabs of fairly dense natural-shaped sandstone, probably river-bed material. Only one side shows use and the surface is not uniformly flat. It might be that these slabs were large handstones rather than true milling stones.

Dimensions:

(Fragments) Length, estimated 25.0-30.0 cm. Width 11.0-14.0 cm. Thickness 4.3-4.5 cm.

Hammerstones

Description:

Ovoid to squarish quartzite nodules having ends and edges battered by use. Fairly common occurrence.

Dimensions:

Length 7.0-8.9 cm. Width 5.6-6.3 cm. Thickness 4.3-5.2 cm.

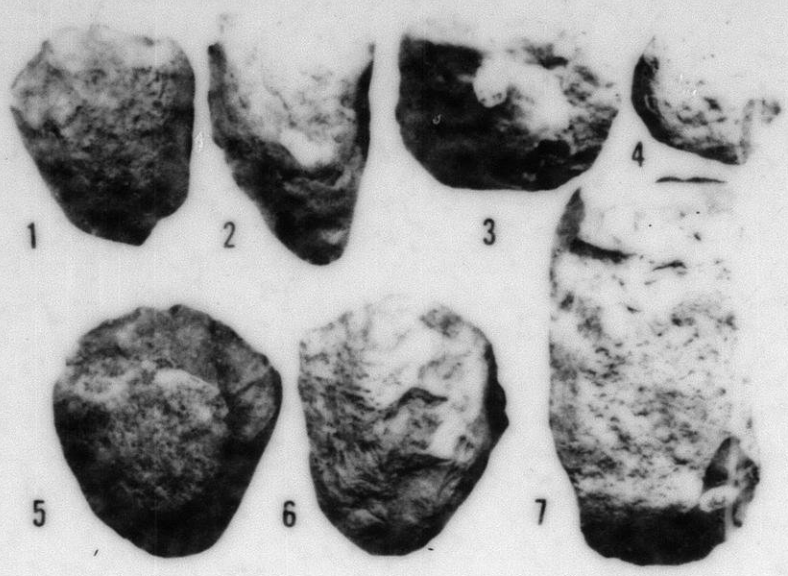
Handstones

Description:

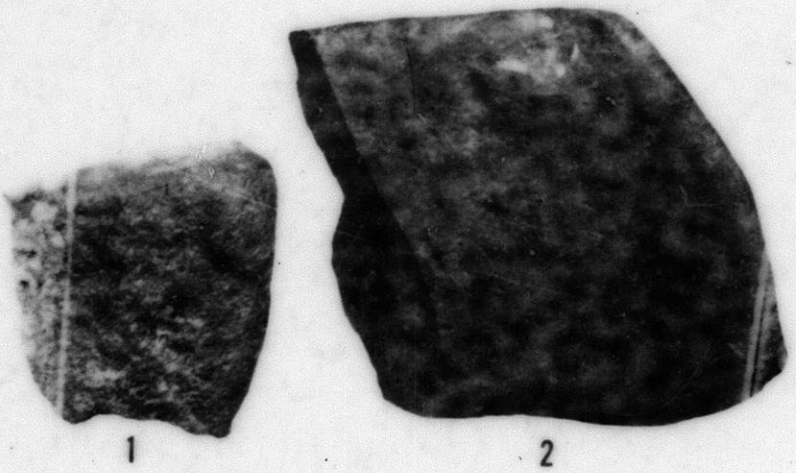
One specimen only found. This was a small natural shaped, turtle backed quartz river stone showing grinding planes on sides and ends battered from use as a hammer.

Dimensions:

Length 7.3 cm. Width 5.2 cm. Thickness 4.4 cm.



A. Choppers, Type 2, Lawton Aspect.



B. Grinding Slab Fragments, Lawton Aspect.

Fig. 45

Knives (Fig. 46 A, Fig. 47 A)

Description:

From the number of specimens of incomplete fragments, this was a fairly common implement. The form was roughly ovate with one end tending to be smaller than the other. One complete specimen. One edge is slightly curved. Thickness is variable but generally it is medium. There are few thin well-made blades. Thicker flakes probably had a secondary chopping function. Large specimens tend to merge with Type 1 choppers, except that the choppers have only one side worked and there is an attempt for all-over percussion finish on the surface of the knives. Some of the thinner blades have secondary chipping along the edges, but generally, the latter are rough and sinuous. Material is predominantly quartzite. Occassionally specimens are of a quartz-like flint of the same reddish or gray color.

Type 1. Leaf shape; occasionally ovate form; slightly assymetrical; bifacially chipped; center ridges one or both sides with crust often remaining. Illustration 47 A, 1, 2, 3.

Dimensions:

Length 6.0-6.7 cm. Max. Width 4.4-4.9 cm. Thickness 1.2-2.2 cm.

Type 2. Same form as Type 1 but unifacially chipped; often thick blades; smaller in size. Illustration 46 A, 1 - 4.

Dimensions:

Length 5.1-6.1 cm. Max. Width 3.4-3.9 cm. Thickness 1.3-2.1 cm.

Type 3. Elongated or bent, leaf shape with definite curve to cutting blade and back almost straight; flattened semi-circular form with bifacial percussion chipping; minute retouching along edge; tends to be thinner and longer than Type 1. Illustration 46 A, 2-9.

Dimensions:

Length 8.5-10.0 cm. Max. Width 3.3-4.8 cm. Max Thickness .8-1.2 cm.

Manos (Fig. 46B)

Description:

Several thin ovoid sandstone manos have been found on these sites. They show additional use as choppers. One is of a very friable sandstone and shows grooving as though additionally used as a hone. Therefore, despite mano-like shape, such implements may have served primarily as abraders. Specimens show use as hammerstones and on their flat sides show planes were used for some sort of grinding or rubbing implement. These tools are quite rare.

Dimensions:

Length 12.0-12.4 cm. Width 7.4-9.1 cm. Thickness 2.4-3.2 cm.

Points (Fig. 47B)

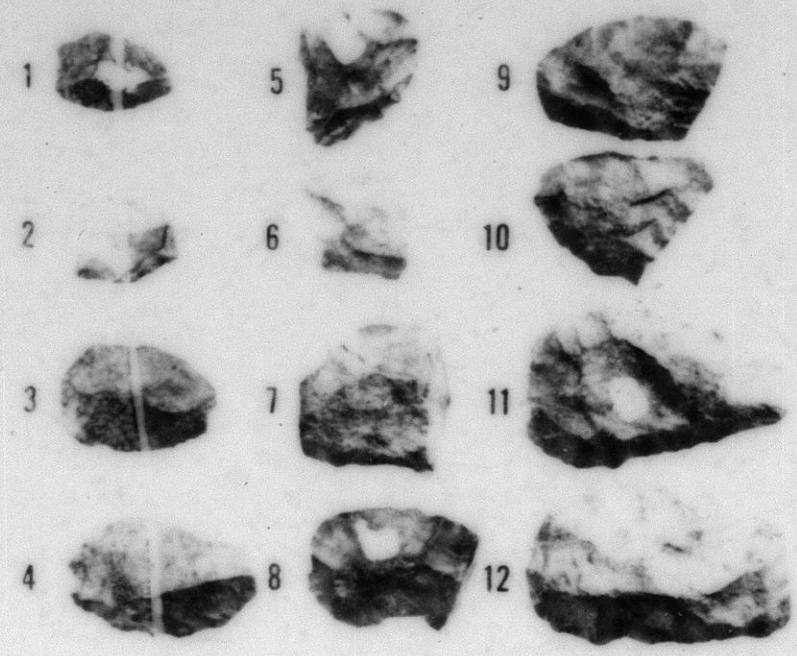
Description:

When the rest of the tools are considered, they are quite homogeneous in use and in kinds of quartzite material. On the other hand, the points, except for Type 1, 5, and 6, are of non-native quartzite or of flint. It would therefore seem that stone arrow points were not part of the early technology. If hunting was practiced, it was possibly not with stone tipped arrows. The latter would appear to represent something which was borrowed later. For this reason, they lacked a local tradition which gave them uniformity of outline and size and material.

Type 1. Typical Plainview bases have been found at several sites. These are obviously on the basis of workmanship and material intrusive. They are of flint while the remaining points are quartzite. They also show uniform working of the surface and are quite uniform in size, features lacking in the quartzite points. Illustration 47B, 1, 2, 3.

Dimensions:

Width 2.3-2.4 cm. Thickness .5-.7 cm.



A. Knives. (1-4) Type 2. (5-12) Type 3. Lawton Aspect.

B. Manos. Lawton Aspect.

Type 2. A common type. Parallel sides with straight base. Might be a knife rather than point. Only bases found. These suggest similarities to Milnesand and Pandora points, minor types of the Edwards Plateau Aspect and Carrolton Focii. One reddish specimen from Custer County not of the usual grey local quartzites. Similar to specimen, Plate 2, p., q, Baker, Campbell and Evans, 1957. Illustration 47B, 4, 5.

Dimensions:

Length (estimated) 9.0-10.0 cm. Width 2.6 cm. Thickness 1.7-8.0 cm.

Type 3. Base fragment of barbed point with convex base; probably diagonally notched with all-over percussion flaking with some retouching on blade edges and on base. Red quartzite material. Falls within the range of Williams point, a major type of the Edwards Plateau Aspect of Central Texas; Also resembles minor type of Nall site, Baker, Campbell and Evans, 1957, Plate 3, J. Illustration 47B, 6.

Dimensions:

Length, unknown Shoulder width 3.3 cm. Base width 1.4 cm.

Max. Thickness 1.4 cm.

Type 4. Small, thick, assymetrical point with a single shoulder and contracting base. Found so far mainly along eastern border of the Lawton Aspect where overlaps Eastern Archaic. Similar to Wells point of East Texas Archaic. Possibly intrusive though appears to be made of local quartzites. Illustration 47 B, 7, 8.

Dimensions:

Length 4.5-5.0 cm. Width 2.0-2.1 cm. Thickness .8-1.2 cm.

Type 5. Base of a small quartzite dart point lacking shoulders and with a concave expanding base. Base beveled by grinding (?) on one side. Similar to Darl-Yarbough point common in late Archaic of Texas. Also Plate 3, F, Baker, Campbell, and Evans, 1957. Illustration 47B, 10.

Dimensions:

Base width 1.8 cm. Thickness .4-.7 cm.

Type 6. Triangular quartzite point, diagonally notched with a short flared item and a slightly convex base. Retouching on edges and one side only. Similar to minor Texas Archaic types like Edgewood, though more slender than these types. Illustration 47B, 11.

Dimensions:

Length 3.5 cm. Shoulder width 1.7 cm. Stem length .6 cm.

Type 7. Single example. Base only, quartzite, all-over percussion flaking with secondary retouching on edges. Possibly Trinity or Ellis of Texas Archaic. This is the only suggestion of a Carrolton type of point. Illustration 47B, 12.

Dimensions:

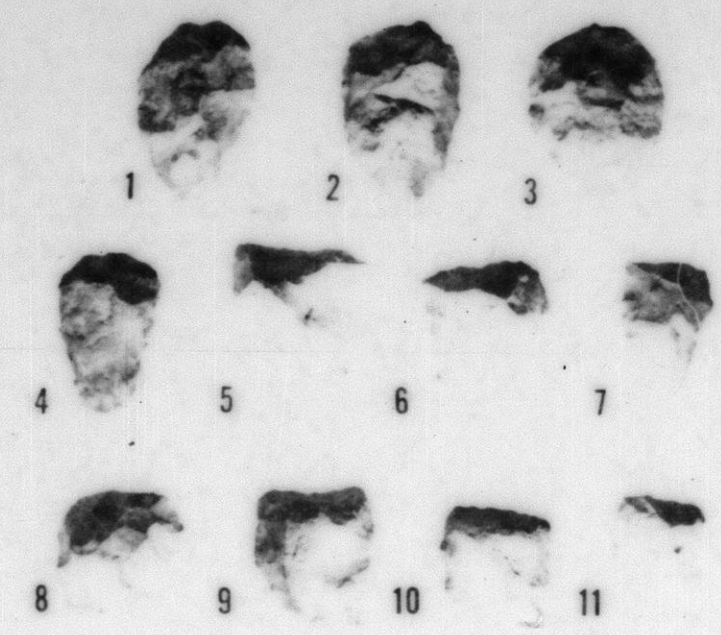
Width .7 cm. Max. thickness .6 cm.

Type 8. Small triangular dart point of reddish-tan quartzite. All-over percussion with retouched beveled edges. May not be point of Lawton Aspect as overlaps in Caddo County with pottery horizon at some locations. Like Young point; vestigial beveling connects it with late Archaic Texas types like Matamoros. Optima Focus similarity Plate 39, Watson, 1950, and Baker, Campbell, and Evans, 1957, Plate 3, A-C. Illustration 47B, 13.

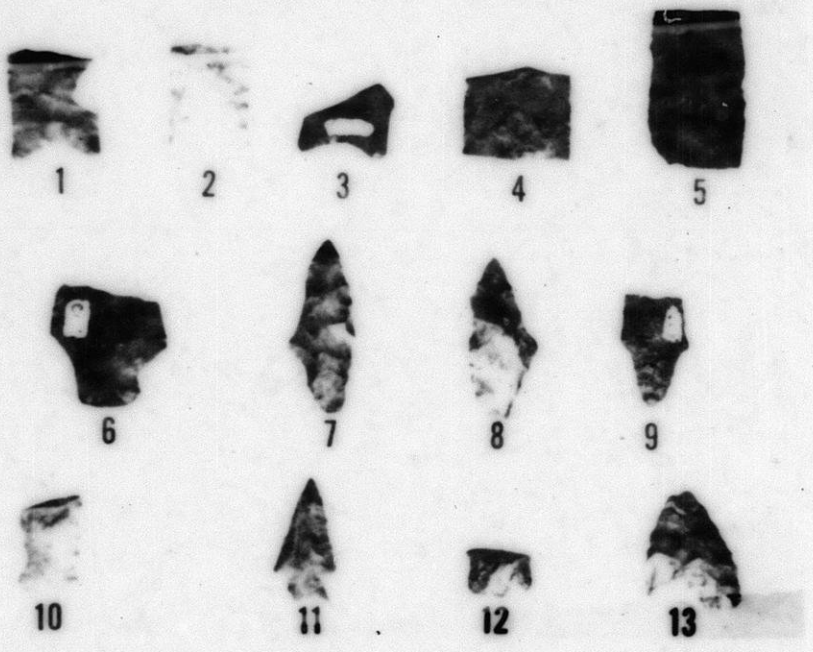
Scraper-Gouge (Fig. 47A)

Description:

Type 1. Triangular shaped form with blade across the wide end. The blade end is the thickest part of the tool and is chipped at a steep slope. Corners of the blade are rounded. Chipping is unifacial with the underside left untouched. The contracting and sloping handle is generally left untouched except for some shaping along the sides. This form of scraper continues in the marginal areas (the Panhandle and eastern areas) into the



A. (1-3) Knives. (4-7) Gouges, Type 1.
(8-12) Gouges, Type 2. Lawton Aspect.



B. Projectile Points. (1-3) Type 1. (4-5) Type 2. (6) Type 3. (7-8) Type 4.
(9) Untyped. (10) Type 5. (11) Type 6. (12) Type 7. Lawton Aspect.

Fig. 47

pottery horizon. It first appears in this elongated form which continues to decrease in size and to change from quartzite to flints. Illustration 47 A, 4-7.

Dimensions:

Length 4.5-6.0 cm. Width 3.2-4.9 cm. Max. thickness 1.2-2.7 cm.

Type 2. Similar in form but often lack elongated grip. Some forms show the triangular outline but are made from a small pebble and so are bifacially chipped to obtain the flattened undersurface. Others which are bifacially chipped appear to be made from the lower section of a heavy knife fragment. These are percussion chipped across the wide or broken face. Some specimens lacking elongated form show that the handle was broken and the broken area reworked. Illustration 47 A, 8, 9, 10, 11.

Dimensions:

Length 4.2-4.7 cm. Width 3.6-5.2 cm. Thickness 1.8-2.6 cm.

Scraper-Planes (Fig. 48A)

Description:

Type 1. Fairly large, steep, turtle-backed planes or scrapers of varying size. Typically they are thick quartzite river boulders which have been split and trimmed into a semi-circular shape at an almost perpendicular plane. The cutting edge has been given some small secondary percussion trimming. The underside is flat and retains the natural crust if from a selected boulder rather than one obtained by splitting. Considerable crust usually remains on the top side as well. These tools appear to be related to the scraper-gouge and differ mainly in lacking the elongated gripping handle. They also tend to be larger. Illustration 48 A, 5, 6, 7.

Dimensions:

Length 7.0-12.0 cm. Width 6.5-7.5 cm. Thickness 4.5-9.5 cm.

Type 2. Smaller in size than Type 1 and percussion chipping is all-over. These types appear on what are regarded as later sites. They probably represent utilization in some cases of core material left over from point making. Undersides often retain the outer crust, however, small secondary percussion indicates the utilitarian function of this residual material. Illustration 48 A, 1, 2, 3, 4.

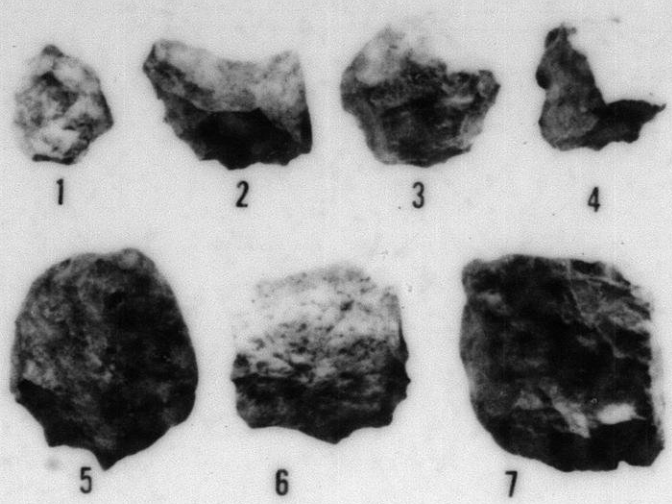
Dimensions:

Length 4.2-4.7 cm. Width 3.6-5.2 cm. Thickness 1.8-2.6 cm.

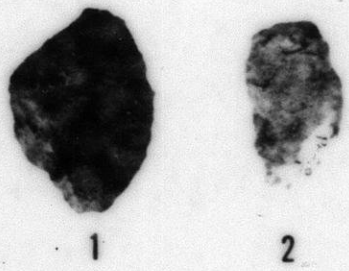
Scraper, Flakes (Fig. 48B)

Description:

Utilization of small (3 x 4 cm.) thin quartzite flakes as scrapers. Such flakes show secondary use-chipping and occasionally secondary percussion chipping. However, even such crude random scrapers appear to be rare.



A. (1-4) Scraper-Planes, Type 1. (5-8) Scraper-Planes, Type 2. Lawton Aspect.



B. Flake Scrapers. Lawton Aspect.

Fig. 48

THE SHIFTING PHASE AREAS

From the preceeding discussion of peripheral boundaries, it is apparent that the areal distribution of the Lawton Aspect not only varied from phase to phase, but that it shifted from an initial restricted central position towards the west, and finally in the late phase towards the east. While the significance of these shifts is obviously speculative at this time, some discussion of them might be of benefit to future investigation.

In the first place, there is the basic question of chronology. The assumption has been made that the Lawton Aspect postdates the Folsom, Clovis, and other high Plains Paleo-Indian flint flake-using hunting cultures. This assumption has been based mainly on any definite lack of association with extinct fauna. However, some contemporaniety with a late phase of the Paleo-Indian horizon has been assumed because of several intrusive finds of Plainview bases. The finding of Folsom, Meserve, and other Paleo-Indian materials in the Oklahoma Panhandle (Baker, Campbell, Evans, 1958), the occurrence of similar material in south central Oklahoma in Caddo County (Bell, 1954), and the finding of similar materials by the writer around Kingfisher, northwest of Oklahoma City, suggests that the western part of the state was initially characterized by a scattering of Paleo-Indian occupation to the west of Oklahoma City. The distribution of the early phase of the Lawton Aspect seems, at present, to lie on a southwest-northeast axis along this boundary, but possibly farther to the east of the Paleo-Indian occupation. Since this distribution appears to connect with the Texas border, the implication is of affiliation with the Clear Fork Focus. There are, as will be discussed, other features, such as material, tool form, and site locations, which indicate connections in that direction. If this hypothesis is approximately correct, then it is the preceeding Paleo-Indian occupation or the residual and eastern border of it which initially

effected the distribution of the early phase.

In the intermediate phase there is a general enlargement of the Aspect in all directions, but mainly to the west and northeast. The explanation of this might be that ecological changes were sufficient to cause a critical reduction in population which was sufficient to disrupt the Paleo-Indian economy, permitting penetration of the region by the Lawton Aspect culture as one more adaptable to the changed conditions. At any rate, the Lawton Aspect, during the intermediate phase, covered western Oklahoma and the Oklahoma Panhandle. The other line of least resistance was to the northeast where, as has been stated, it appears to have contacted the westward moving traditions of the Eastern Archaic.

There does not appear to have been much extension into southeast Oklahoma at this period as the main southwest-northeast axis of distribution continued. Now whether this is simply due to the fact that sites of this phase are deeply buried in this area, or whether the habitat was entirely unsuited to the economic and cultural needs of the groups, or whether peoples of Woodland culture had already occupied the region is unresolved at this time. But some explanation is in order. At the present time, Archaic material from the southeast does not appear to be as old as that from the northwest, so that the last explanation of a prior occupancy is difficult to hypothesize.

In the late phase, as has been previously indicated, the Lawton Aspect disappeared entirely from the western half of the state, except in the southwest. It is possible this might have been due to an influx of immigrants from the central Plains at the ceramic horizon, but there is no continuity involved between these two occupations and no intrusive evidence of contact, except in the southwest and southeast areas of the state. Moreover, in the northwestern, central, and southwestern parts of the state, are sites of flint flake-using peoples which probably pre-date the ceramic horizon. It is conjectural at this point whether the basic affiliation of these sites are Eastern Archaic or are

survivals and a modified continuum of the Paleo-Indian tradition. Again, one may suspect changes of habitat rather than new migrants as the major factor in the disappearance of the Lawton Aspect from western Oklahoma.

However, in southwestern Oklahoma, the quartzite tradition did survive. There, in the Wichita Mountain area, a modified continuum of the Lawton Aspect technology continued into the ceramic horizon. Similarly, in southeastern Oklahoma, around McAlester, the quartzite tools and material continued into the Archaic horizon (Shaeffer, 1960, pp. 68-69). In central and southeastern Oklahoma, in the late phase, the shift to the east probably heralds contact and acculturation with an influx of Eastern Archaic peoples and ideas, but at a late date. This would support the present archaeological evidence that the region was not occupied at an early date by either people of the Archaic or Lawton Aspect. It is also possibly significant from the standpoint of basic affiliations and origins that the latest survivals of the Lawton Aspect Materials are all along the southern Oklahoma border.

Comparisons with the Clear Fork Complex

Clear Fork	Lawton
Sites	
Great depth of geological deposits	Surface or shallow mostly
High terraces of Brazos & Colorado Rivers	Usually 2nd terraces; early sites highest
Narrow valleys far from water, or dry springs	Wide valleys usually back from present water
Locations on or in red clay	Same
Local and spotty location	Same
High points and forward slopes of hills	Same
Absence of burned rock or hearth material	Same
Possible extinct animal association	None
Possible human association (Abiline man)	None as yet
Artifact Typology	
Material; flint earliest sites	Material; quartzite earliest sites
Abraders	None
Axe; flint; small axe-large gouge overlap	All quartzite; rare; shapes overlap planes
Choppers; plentiful	Rare
Discs; many; like Woodland scraper	Some middle phase; also late in south
Gravers; many; flint	None, north; rare, south
Grinding complex; absent	Absent; except late sites north & east, rare
Hammerstone; occasional	Plentiful, especially middle phase
Knife, curved blade-straight back, 40%	Altus common, late; rare, north
Knife, oval-pear shape, 50%	Late phase with early E. Archaic assoc.
Knife, parallel sides; rare	Common, especially north
Points, C.F. type 1 & 2 dominant, flint	C.F.-2, quartzite; minor type in south, middle Ph.
Point, C.F.; early in Texas	C.F.-1, late in north & east
Points, C.F.-3, patinated flint	C.F.-3, quartzite; middle phase; none north
Points, C.F.-4	C.F.-4, rare, quartzite; south only
Points, heavily patinated flint	Patinated flint only in south; rare
Points, intrusive, Folsom-Yuma(?)	Absent
Points, Intrusive, Plainview, south	Occasional, especially north
Scraper-gouge; diagnostic tool type	Less common; confined to south or east; late phase
Scraper-plane; absent or rare in north	Diagnostic tool, especially in the north
Scraper, side; long type with 3 sides	Only in the Red River drainage to date

Fig.

Two of the most striking similarities between the Lawton and Clear Fork Complexes are in site locations and in typology, i.e., the absence of a grinding complex plus the occasional intrusive finds of Plainview point. Typologically, the main difference that strikes the eye is, of course, the dominance of flints as a tool material in Texas, the dominance of quartzites in Oklahoma, and an area of overlap along the Red River drainage where both are used. This overlap is also characteristic in eastern Oklahoma, at sites believed to be late on the basis of flint point types and grinding tools. In the diagnostic tool types, there is also a similar pattern of distribution between the flint scraper-gouge characteristic of Clear Fork, the quartzite scraper-plane of the Lawton Aspect, and an area of overlap along the Red River drainage extending roughly from Lake Altus to Lake Texhoma. Another major difference seems to be the strong presence of dart points in Texas and their virtual absence on most Lawton sites of the early and middle phases; except, again, along the Red River drainages.

With regard to the significance of the similarities, it would appear that the two complexes are closely related and that their adjacent distributions indicates that one is a development from the other. The problem is one of priority. At the present time, this cannot be definitely resolved because of lack of distributional data. Therefore, supporting evidence can be offered for two opposing directions of movement, (1) that Clear Fork is the older complex with the Lawton later and derivative from it, and (2) that the movement was from north to south, with the Lawton the basic complex from which the Clear Fork was derived.

Considering first the alternative that Clear Fork is the older, it should be noted that on the basis of intrusive Paleo-Indian Plainview points, both complexes are of approximately the same age. This would indicate, aside from other evidence, that both appear in the southern Plains toward the close of the

Paleo-Indian hunting horizon. In Oklahoma, so far, this is the only Paleo-Indian point definitely associated with the Lawton Aspect. If other early types occur, it is probable that they will be found south, along the Red River drainages. In Texas, there appears to be some possibility of association with Folsomoid and Yuma types, but the association is not unequivocal. Likewise, in Oklahoma, there is no association of artifacts with extinct animals. Though, of course, in Texas, Plainviews have been found with extinct types of bison. But it does not follow in all cases that Plainview is solely contemporary with extinct bison, because on other sites, they have been found associated with recent fauna. But it does seem as though, on the basis of other Paleo-Indian intrusive types alone, that Clear Fork might be slightly older. On the other hand, the greater number of Paleo-Indian association in the Clear Fork materials may simply mean longer survival of that pattern to the south. The margin of age difference between the two complexes would appear, in any case, slight.

The matter of the basic tool material also lends itself to a similar type of argument. Since the general tool found in both complexes are similar, the matter of material takes on added significance. One may argue that the use of flint in the southern region and the use of quartzite to the north represents a substitution of a local material for flint which was lacking. While locally and geologically (to a certain extent) this may be true, the situation in later horizons when flint was used in these same regions belie this argument. Trade and extensive foraging expeditions for flint appear to have filled these geological gaps when its use was culturally dictated. The more probable explanation might be, if Clear Fork is the older, that the large Clear Fork flint tools are a continuation of the technological tradition of the Paleo-Indian hunting flint-using complexes. In this case, the scraper-gouge might be a later special development of the Folsom-Yuma end scrapers. However, it should be remembered that the Paleo-Indian hunter employed, essentially, a flake-using tradition, while the

Clear Fork appears to combine this with a core using tradition. That is, the scraper-gouges, choppers, discs, and some of the knives, are core implements in which the flakes are the residual material, while the points, gravers, spoke-shaves, and most of the knives are fashioned from flakes which have been struck off cores. Of course, one may regard this as a transitional stage to the later and more strongly core-using quartzite tradition to the north. The question which arises is, in any case, why the change and from what source?

If one assumes Clear Fork as the antecedent of the Lawton Aspect, there is still the matter of quartzite being used in the north as a substitute for flint. This question may be argued in the same manner. One may, in this case, ask why quartzite, which is more difficult to shape, would be substituted for flint, which is more easily worked and from which sharper cutting edges may be obtained. Of course, when we consider the position of the flint-using Paleolithic hunting industries and the quartzite-using industries in Oklahoma, one sees that that is apparently just what did happen. Here, a technologically inferior material, quartzite, followed, rather than was substituted for, flint; that is, the Lawton Aspect was preceeded by the Paleo-Indian hunting cultures in the Oklahoma Panhandle and in western Oklahoma. So, this point of deculturation can be established. However, this is not strictly true in this case, as the break is so distinct as to be a disconformity and, therefore, must result from a basic difference in technological or cultural tradition. Coming back to the Texas area, one sees, at least in the northern range of the Clear Fork Aspect and its western edge, that some quartzite forms appear in scraper-gouges, the largest axes, and in some knife and point types. One wonders therefore if the dual use of materials was not a cultural influence from the north (referring here to north central Texas) rather than simply a lack of suitable flint. In fact, since flint was so plentiful in Texas, especially in the Panhandle, one wonders why quartzite was used at

all. This question is especially relevant if the quartzite tradition does not underlie the flint tradition, as some students have maintained (Shaeffer, 1957a).

The matter of dart points is another crucial question. These appear to be plentiful in Texas and along the Red River and on some sites in southern Oklahoma, but are scarce to non-existent at most other sites in Oklahoma where quartzite tools predominate. In fact, it would be difficult to state a distinctive dart point type for the Little River focus. Darts apparently increase in occurrence as one goes south. If priority is given to the Clear Fork complex, then one would have a further exemplification of deculturation as the Clear Fork tradition moved into Oklahoma. Not only was flint abandoned as a tool material, but stone points, as well as the distinctively shaped scraper-gouge. In their place, one would find the use of quartzite, a cruder scraper-plane, while the stone dart point would have virtually vanished. This could well be interpreted as a progressive adaptation to a very rigorous ecological condition. In fact, it would seem almost a change of economic base. Of course, Ray (1937) has described and Kelley (1947, p. 107) has noted that the Abilene point may indicate the presence of a complex in Texas which is ancestral to Clear Fork. But again, this would appear to be a complex in which points were scarce and other tool forms rudimentary, a situation more suggestive of the common level of development in the north.

As Kelley (1947, p. 100) points out, using Austin as a base of reference, Clear Fork traits are strongest northwest of that point and are weaker to the south, east, and west. This would seem to point to an early northwestern center rather than something coming up from the south or across the lower part of Texas from the west. While some Clear Fork traits have been noted from this direction, especially in the Pecos River Focus in southwest Texas and the Big Bend cultures, these appear in a recognizable late or ceramic context, dating about 1,000 A.D. There appears to be no early Clear Fork horizon in west Texas. To the east, there is the slightly later Round Rock and Edwards Plateau manifestations. Though

there is thought to the contrary on this (Kreiger, 1954), these complexes seem to be, at least derived through an eastern Archaic affiliation rather than a continuation or autochthonous development of Clear Fork. This impression is based upon the first appearance of grinding tools and also the utilization of mussel shell in these complexes which would appear more easily explainable in terms of diffusion from the east than independent development. Looking further to the west, there appears for the present, at least, no direct early link between Clear Fork and the Cochise Culture of southeast Arizona and New Mexico. In fact, the point types and general tool form is so different from the underlying High Plain (Folsom-Yuma) complex (Haury, Sayles, Wasley, 1959) that this source hardly seems an antecedent for Cochise or Clear Fork. In view of this lack of early source from either the west, the east, or the south, the only alternative is a northern source for Clear Fork.

If we assume this as a hypothesis, the following picture emerges: a non-flint-using complex technologically crude moves southward in early Recent times during the terminal period of the large point-using Paleo-Indian hunters. As this movement takes place, the tools of this complex become more specialized, varied, and the material and techniques show increased selection and improvement. It is possible that this movement took place after the actual ecological changes occurred which eliminated the extinct types of fauna. During this time of change, the Paleo-Indian culture of the High Plains continued to survive in its marginal areas and after it had disappeared on the High Plains proper. In Oklahoma, the contact between these Paleolithic High Plains and Low Plains groups resulted in some merging of tool forms, notably the parallel-sided knife and some use of Plainview points in the Lawton materials. In Texas ecological conditions were perhaps more favorable for the later continuance of the High Plains culture. This would have permitted southward extension to have taken place and so have allowed the Folsom-Yuma-Plainview cultures to extend farther east before contact

than their distribution to the north suggests. There is certainly more evidence of High Plains technological influence in Clear Fork than in the Lawton Aspect. For example, in the matter of dart points, Clear Fork 3 and 4 (or as designated by Kelly, Baird beveled and Taylor thinned). These show High Plains derivative features in the steep chipped angles along the edges with the centers unworked. These are characteristic of the scraper-gouges in the Clear Fork complex and may be a technical carry-over. The fluting and troughing on the Taylor-thinned points and the gouges are, of course, well known High Plains techniques, having their epitome in the Folsom points.

Therefore, it was possibly in the Texas area, under the primary influence of the easterly established Paleo-Indian hunting culture, that the quartzite core- and flint flake-using techniques merged. This would have involved not only the minor features of technology, but, more essentially, the change from quartzite to flint-using and from core to flake-using industry. It would be again this late High Plains influence which would account for the change from the scraper-plane to the more developed form of scraper-gouge, the latter being an adaptation of the High Plains large flint end-scraper.

Thus, by the time the Clear Fork culture penetrated to its farthest extent in the vicinity of Austin, it was met by the westward-moving Archaic cultures from the Mississippi Valley and the Gulf Coast. These latter were characterized, mainly, by established grinding complexes, utilization of mussel shells, stones for hearth baking, as well as new point and other tool types. The merging of these various forms began immediately in the Round Rock Focus, so that Clear Fork and Round Rock are mostly contemporary. This contemporaneity also suggests that Clear Fork reached its maximum extension geographically at this time.

If this reconstruction is not correct, then the movement was northward from a center in northwest Texas. In this case, the Lawton Aspect would be a classic Paleolithic example of deculturation. Moreover, if the movement was from north

to south, the question of ultimate antecedents becomes more difficult. For it has been pointed out that on the basis of existing evidence, demonstrable antecedents have not been found to the east, west, or south of Clear Fork. Moreover, from the standpoint of normal cultural progression, the cruder Lawton Aspect seems best to fit the cultural requirements of an intermediate progenitor. So, for the present, and as much on logic as distributional evidence, a northern source is postulated for the Clear Fork-Lawton Aspect continuum.

Comparison with Trinity Aspect

Trinity	Lawton
Sites	
On small tributary streams; on terraces	Mainly on large stream; on terraces
Intermittent streams or dry-washed	Back from large streams often; some same
No extinct fauna association	Same
Human burials; archaic type	None
Occupational soils dark color	Same only on late and eastern sites
Artifact Typology	
Carrolton Focus	
Choppers, quartzite common	Rare all phases
Drill; early types reworked Plainviews	None as yet found
Flint 80% for points, knives, borers	Flint dominant only some late phase sites
Grinding tools very rare	None; some in Altus Focus late
Gravers, rare	None
Hammerstones, rare	Common, especially middle phase
Points, 50% of all artifacts	Scrapers at least 50% early and middle phases
Points, Plainview intrusives common	Rare but occur
Quartzite, 20% of tools, gouges, and hammerstones	Quartzite 90% early and middle phases
Scraper-gouges, small	Small type in southern Oklahoma, late phase
Scraper-gouge, quartzite, 60% of scrapers	Only southern Oklahoma; percentages small
Sinker, fairly common	None
Elam Focus	
Choppers, quartzite, some	Some early; fewer late phase
Drills	None
Drill, reworked Plainviews, none	Same
Grinding tools, rare, but occur	None, except southern Oklahoma, fairly common late
Gravers, absent	Same
Hammerstones, quartzite, some	Common middle phase; less late phase
Knife, curved blade, straight back; some but crude	Late type Altus Focus
Knife, leaf-shape, quartzite	Late phase or early Archaic
Points, 50% quartzite	Only south Oklahoma; percentages unknown
Point, dominant artifacts type	Perhaps in Altus Focus
Points, large Archaic almost out	Only on eastern Oklahoma sites
Points, medium Archaic, dominant	Same as Altus Focus
Points, Plainview, out	Same, late phase
Points, Archaic types of flint, 50%	Similar to Altus Focus
Points, Plainview and unfluted Folsom 5%	Higher occurrence than Clear Fork or Lawton
Scraper-gouges, quartzite, very small	Only in Altus Focus, late phase
Scraper-planes, quartzite, some	Dominant middle phase, less later; Altus few
Sinkers, out	None

Fig.

From the preceding list, it is apparent that in the Trinity Aspect, there is a coming together of two technologies and the gradual dominance of certain parts of each over a period of time. On the one hand, there is initially a convergence of flint archaic types of points, drills, boring tools, gravers, spokeshaves, with a complex of quartzite tools, such as scraper-gouges, side scrapers, hammerstones, and choppers. The sinkerstones, grinding stones, and Paleo-Indian points appear to be intrusive from several sources. As time progressed, the intrusive elements, as well as rare elements like the spokeshave and gravers, drop out while the tool material changes from predominantly flint to predominantly quartzite. The tool types, however, follow the Archaic types in their development, specifically the points, drills, and the knives, while the basic quartzite complex remains the same, except for the substitution of the scraper-plane for the scraper gouge. From this, it would appear that the basic tool kit comprises the quartzite items and that the technological tradition included use of a non-flint tool material. For this reason, the basic tool kits remained the same, while the new tool types which were accepted were adapted to the traditional material. In form and developmental sequence, the quartzite tools follow prototypes in the adjoining flint-using areas.

But for two exceptions, this would appear to be recognizable as terminal phases of the previous Lawton-Clear Fork continuum previously discussed. The exceptions are the high percentage of Paleo-Indian type points which occur during the Carrolton phase and the substitution of the scraper-plane for the scraper-gouge. The percentage of Paleo-Indian points is consistently higher than recorded for any sites in the Lawton or Clear Fork complexes where occurrences are occasional, sporadic, and not consistent. However, it might be noted that occurrence of both Plainview and Folsomoid types in Oklahoma is more frequent in the Lake Altus and Lake Texhoma areas along the Red River, than elsewhere in the Lawton area. The fact that this intrusion, so marked in comparisons with

areas to the west, north, and south, combined with the lateness of the scraper-gouge types which appear to be a smaller version of the Clear Fork gouges, presents a special problem. This seemingly anomaly can only be explained by assuming the last survival of the Paleo-Indian hunting tradition to the east and north of its earlier southern Plains center. Certainly, since all the other evidence points to lesser age for the Carrolton Focus, greater age cannot be postulated at present on this point alone.

The other point, the late occurrence of the scraper-gouge and its replacement by the scraper-plane, is a similar problem and is probably to be explained in somewhat the same terms of marginal geographical position from a diffusion center and cultural time lag. The derivation of the Trinity scraper-plane from a larger Clear Fork prototype (Harris and Crook, 1952, p. 21) seems logical in view of the southern affiliations of another diagnostic intrusive type, the "Waco Sinker." Of course, it might equally well have diffused westward from the Lake Altus area down the Red River drainage. This appears to be a minor point. But, at any rate, there is a time lag from a western center to an eastern boundary during the course of which there was a dimunition in size. If the assumption of an earlier date for the central Oklahoma quartzite manifestation is correct, then the trait of the scraper-plane did not begin to diffuse eastward until toward the end of the middle phase of the Lawton Aspect. This route of diffusion might have been via the Red River drainages or from central Oklahoma. Our present distributional blind spot in south central Oklahoma plagues us here. In any case, such a reconstruction as has been described might account for the early occurrence of the scraper-plane in the north and west as compared with its late occurrence in the east and central parts of its range.

This is a crucial point, however. The only resolution of this seeming variance in the historical sequence of development will be the finding of some stratigraphic evidence in Oklahoma or West Texas. Of course, if the same

relative stratigraphic positions are found to occur in the two regions, our present positions must be reversed. It would then have to be acknowledged that the Lawton branch is a marginal survival derived from Clear Fork, rather than as is now postulated, that Clear Fork is a more refined development of the Lawton Aspect. In this case, the origins of the whole Lawton-Clear Fork-Trinity continuum will be no nearer resolution than before, except that progress has now been made in linking heretofore separated complexes into a single pattern of technological tradition and development over quite a large area of the southern Low Plains.

COMPARISONS WITH THE COCHISE CULTURE

As indicated in the opening of this paper, a generalized typological relationship is immediately recognizable between the Cochise and Lawton cultures to those familiar with both materials. However, the similarities and parallels go farther than that. There are also a number of basic differences between the two complexes which set them apart from one another.

Similarities. Similarities between the two habitats, though separated by hundreds of miles, are marked. In southeast Arizona, Cochise sites are located often on the edge of ponds, lakes, and playas. This situation is duplicated in the Oklahoma Panhandle region, with the difference that on the average, the elevation between the bottom of the water basins and their banks is greater than in the southwest. Typical of western Oklahoma are sites on the forward slopes of what are now wide valleys and in central and southwest Oklahoma on the noses and forward slopes of second terraces which overlook present stream beds. Such sites are often from a quarter-mile to a mile from present stream channels. The similarities of habitat are then that sites of both complexes are located, almost without exception, far from present permanent water. This situation suggests great ecological changes from the present. In the case of Cochise, these have become playas in the last Pluvial and Post-Pluvial period which followed the end of the Pleistocene (Antevs, 1941, pp. 31-55). Similar sites on Oklahoma have not yet had the benefit of geological analysis.

However, in both cases, the site locations suggest occupation areas along the banks of wide shallow streams or along the edges of marsh areas and along banks of the marshy area which often surround shallow bodies of water. The economy suggested in both cases is gathering. In the case of Cochise, this supposition is supported by milling stones and handstones. Such evidence is lacking in the early Lawton phases. The previous suggestion of a younger chronological age for the Lawton Aspect is supported by this fact, that chipped implements

are primary tools in the Lawton Aspect. This implies indirect diffusion of this technique from the Paleo-Indian hunters of the high Plains. However, the tool complex is of a different functional emphasis as will be discussed later.

This lack of emphasis on hunting activities is a feature shared by both the Cochise and Lawton cultures. Despite the fact that chipping is the preferred tool manufacturing technique, points are virtually absent from the first two phases of the Lawton Aspect as they are from the first two stages of the Cochise culture. In both cases, such points as do occur in the middle stage of development are recognized as intrusive -- the fluted base points associated with the Chiricahua stage of the Cochise culture and the Plainview points associated with the middle phase of the Lawton Aspect. Other intrusive point types also occur in small numbers. In the Chiricahua stage, presumeably, these are from the west, while in the Lawton middle phase they are believed to occur in the Lake Altus region and to have their origin to the east.

Both cultures are also characterized, of course, by the employment of non-flint rock in preference to flint. Moreover, characteristic of both cultures is the use of cores for tools and the flakes as discard. In the final phases of both cultures, there is a tendency to use finer material; fine grained igneous rock in the case of Cochise, and finer grained quartzites in the Lawton Aspect. The use of igneous rock as a tool material gradually disappears in ceramic horizon in Arizona, as does quartzite in most areas of Oklahoma during the Archaic period, except for local survival in southeastern and southwestern areas. Quartz is used to some extent in both Arizona and Oklahoma. In Oklahoma, it is a trait which continues into the ceramic horizon and characteristic of western Oklahoma. No obsidian has been found in Oklahoma at a corresponding level of development as occurs in the final San Pedro stage of Cochise.

Because of the general lack of ground stone implements in the early phases of the Lawton Aspect, the similarities between the complexes is found in the

chipped stone. The scraper-plane which is the characteristic tool of the Lawton Aspect finds its closest parallel in form in the ovoid scraper of the Sulphur Spring stage (Sayles, 1941, pl. IV,b). What is referred to in the Cochise culture as the plano-convex axe also resembles the scraper-plane in outline. The difference between the tools is functional. In the Cochise axe there is primary flaking, the edges appear battered in some specimens (Sayles, 1941, pl. X,b) and not in others (Sayles, 1941, pl. XVI,a). The Lawton specimens are more like the latter San Pedro type, except that they show small secondary percussion retouching along the curve of the blade. The shape in both cases is somewhat similar but the Lawton type is flat on the underside and shows no flaking on the underside, a feature which results when a blade is used for a chopping function. The choppers found in the Sulphur Spring stage of Cochise (Sayles, 1941, pl. X,a; pl. IV,d) also occur in the early phase in Oklahoma but are not too common. Small plano-convex scrapers (Sayles, 1941, pl. X,f,h; pl. XVI,i) of the Chiricahua and San Pedro stages are duplicated in the Lawton material, as are end scrapers (Sayles, 1941, pl. XVI, j; pl. X, g,h), spokeshaves (Sayles, 1941, pl. X,j), and hammer-stones (Sayles, 1941, pl. XVI, k,l). At one site in Tillman county (Ti-4) on the Texas border, handstones were found similar in range to those illustrated for the Chiricahua stage (Pl. IX). Also found at this site was a stone similar in shape to the Chiricahua maul (Sayles, 1941, pl. IX,o). This site also produced large patinated flint side and end scrapers, indicating contact with the high Plains Paleo-Indian hunting complexes.

In general, where the Lawton typology is similar in form to that of the Cochise, the former is distinguished by the more frequent occurrences of secondary percussion chipping. This appears to be additional evidence for the more recent age of the Oklahoma stone industry.

Differences

The differences which exist between the Lawton and Cochise culture are due

mainly to the later age of the Lawton Aspect and its geographical removal from its source of origin which subjected it to differing historical and cultural influences. This last factor is apparent in the ultimate development of Cochise as a base for the later ceramic horizon. In Oklahoma, this sequence does not develop. This is attributable to the weak or non-existant development of a milling complex in the Lawton Aspect. As a result, this basic prerequisite for the ceramic horizon was filled by the Archaic Aspect which brought in a milling complex from the Mississippi Valley. Thus, by the time the ceramic horizon opens in Oklahoma, almost all trace of the Lawton Aspect is lost. The exception to this development occurred only locally in southwest and to a lesser extent in southeast Oklahoma, portions of the state which remained isolated and culturally backwards.

Specific differences, therefore, lie mainly in the realm of technology. The most obvious difference in this category is the tool material which is of igneous rock in the case of Cochise and quartzite for the Lawton Aspect. However, these were only regional differences since the main technological fact was the lack of a flint using tradition. When flint was introduced (or again introduced, as the case may be) in the Oklahoma area, it brought with it new tool forms which displaced those developed from quartzite.

Absent altogether from the Cochise culture is the scraper-gouge (or Abiline gouge) with its characteristically elongated shape. This scraper type, as has been indicated, centers mainly in southwestern Oklahoma though the shape is also to be found at the Craig site in northeastern Oklahoma.

Since the general shape is found in the end scrapers of the high Plain hunting cultures, we may assume that source of diffusion. The Lawton form, though, is characteristically thick, high backed and outlined by rough primary flaking. Another high Plain affiliation which appears to be lacking in the Cochise culture is the curved and parallel sides blade-knife, which is found in all phases of the

Lawton Aspect. On the other hand, Cochise tools which are lacking in the Lawton Aspect are milling stones, especially those with definite basin. Some ubiquitous slabs have been found which might have been anvils or incipient milling stones, but these are rare. Except in the case of some sites showing high Plains or Archaic contact, handstones are rare. Some quartzite boulders are found in the middle phase which might be interpreted because of their shape as handstones, but they lack any real ground faces being smooth almost to a polish. Absent altogether from the Lawton material is the mortar and stone pestle. These tools are also rare even at much later dates in central and western Oklahoma. Lacking also, at least so far, at Lawton Aspect sites, are any indications of middens or of storage pits. These latter are, of course, quite common by the ceramic horizon.

The major over-all difference between the Lawton and Cochise technologies lies in the reverse sequence of their ground-chipped tool ratios. Ground tools have their highest occurrence in the early stages of the Cochise culture and consistently decline in favor of chipped implements. The reverse is true in the Lawton Aspect. For the present, there is no satisfactory explanation of this point. If we assume that there is a very considerable time interval between these now geographically detached complexes, it might be possible to explain the typological development of the chipped stone technology. For this, one can assume that the terminal stage of Cochise overlaps with the early phase of the Lawton Aspect. This early phase might then be thought of as a time-compressed peripheral variation of the Chiricahua stage. The middle Lawton phase would then roughly equate with the San Pedro stage. Both Cochise-like stages in Oklahoma would be modified by high Plains contacts and local conditions. This connection would be imagined on the basis of present data as coming across the Texas panhandle, somewhere below the Oklahoma border. The Lawton Aspect would extend as a northern arm of a series of "Cochise-like" complexes which would include the Clear Fork focus. This would account in a satisfactory way for the development of the

chipped stone technology. But this would not explain what happened to the milling complex and why it is absent or weaker in Oklahoma than in the center of dispersion. Of course, the weak development of the milling complex parallelsconditions in the high Plains hunting cultures.

But, one would have to postulate adaptation to high Plains conditions and deculturation for the entire pattern. So far, there is no evidence to support this. Another explanation without distributional basis in fact, as yet, might be a common point of dispersion in the Great Basin with a movement through southeastern Colorado. For the present, none of these explanations can be substantiated by any body of fact. The distributional gap between western New Mexico and central Texas complicates the reconstruction further. However, despite regional differences which align Cochise more closely with the Great Basin than with the Great Plains, and the Lawton Aspect more closely with the high Plains than with the Great Basin, there is a general similarity in way of life, habitat and technology which seems to affiliate the Cochise and Lawton cultures more closely with each other than with their adjacent neighbors. It is to be expected that when the geographical gaps are somewhat bridged, this matter of differing sequential development will become clearer.

THE SOUTHERN PLAINS ARCHAIC

From the preceeding discussions, it has become clear that there is a basis for the recognition of a distinctive technological tradition in the southern Low Plains at a very early date. This tradition is distinct and recognizable from the Paleo-Indian hunting cultures of the High Plains to the west and from the horticultural-hunting traditions marginal of the Archaic pattern to the Mississippi Valley to the east. In its earliest and northern expression in this area (in Oklahoma) this tradition is characterized by the preferred employment of non-flint stone, especially quartzite and by a simple assortment of core tools of which the scraper plane is diagnostic and dominant. Accompanying tools are to various degrees hammerstones, choppers, side scrapers, and knives. The sites of this complex occur high on terraces paralleling major drainages and on ridges in valleys which are now dry and inconveniently located from the standpoint of water supply. To the south (in Texas) the preferred tool material is flint and the diagnostic and dominant tool forms are dart points and the scraper-gouge. Accompanying forms are choppers, discs, gravers, and knives. The general site situations are paralled in the south and north, but differ to the extent that the valleys selected for occupation in the south are smaller and narrower. In both areas, sites are found most often on the surface of or in red clays. A deep overburden of from ten to thirty feet which characterizes many Texas sites have not been found to date in Oklahoma.

A rough area of overlap and boundary between these two sub-regions is marked by the Texas and Oklahoma drainages of the Red River. Here, similar tool form changes and are found in both flint and quartzite. The diagnostic scraper-gouge of the south is found along side the diagnostic scraper-plane of the north. The terminal stages of this continuum appear to be at the eastern end of this area of overlap in northeast Texas. However, its technological influence in the form

of survival techniques and typology extend eastward and overlaps the Eastern Archaic boundary from Kansas south, paralleling at a distance of about a hundred miles the western boundaries of Missouri, Arkansas, and Louisiana.

In the eastern area of its distribution, the content of this pattern is distinguished from the Eastern Archaic horizon mainly by its absence of a complex of grinding tools, absence of abundant stone hearth material, the use of shell fish, ground tools, and by typologically different point types. On its western borders it differs from the early High Plains complex with which it is partially contemporary in their terminal phases by absence of a highly developed pressure flaking technique and the resultant large lancelote points, by the virtual absence of extinct faunal remains, and by the absence of a highly specialized flake industry characterized by a variety of small scrapers. At a later date in this same area, some limited survival of Low Plains archaic traits are apparent as late as the ceramic horizons.

Further to the west on the western edge of the High Plains, this Low Plains culture is paralleled in many respects by the Cochise culture centering in southern Arizona and southeastern New Mexico. Moreover, certain similarities exist as to general site location, equivalent antiquity as indicated by intrusive Paleo-Indian points, and typological similarity of percussion formed tools. The dominance of grinding tools in the early stages of the Cochise culture and their total absence in the early phases of the Low Plains development indicate a basic difference between the two traditions and suggest a differing source of origin for this aspect of Cochise technology.

From this summary of similarities and differences and lacking as we do any intervening distributional data which would bridge this temporal and geographical gap between the Southwest and the Plains area during this early period, plus the likelihood of a residual, peripheral and intervening Paleo-Indian hunting pattern between the two areas, the only recourse at the present time to explain these

close similarities and specific differences would seem to be some common point of diffusion from the north.

On the one hand, there appears to be a fairly close relationship established between the Cochise culture, the somewhat later Amorgosa culture of Ventana Cave, and the San Deguita culture of the California desert and Pacific coast with which it is apparently related. This distribution suggests a continuous one, either from the Great Basin or from the Pacific coast area. On the other hand, to the east of the Rocky Mountains and High Plains, there is another group of cultures in the Low Plains which are more closely linked among themselves than with those which have been linked west of the Rockies, which are comparably old and which in addition are culturally distinctive from the eastern cultures of the Mississippi Valley. Therefore, as a working hypothesis, devoid of final factual support, it is postulated that the initial stream of Archaic culture in North America had several sources, several points of origin and spread at several periods. Further, it is hypothesized that these movements became separated from one another soon after reaching the New World.

At the present time, it would appear that the earliest and initial stream of migration was that of flint flake-using people (Folsom, Yuma, etc.) moving south on the High Plains at the time of extinct fauna. Another flint flake-using people (Eastern Archaic) followed, possibly swinging through the eastern Woodlands of North America and eventually turning westward, where it met on the western on the western prairies a third and later (?) converging stream of non-flint core using people (Lawton-Clear Fork) moving down the Low Plains.[10] These Low Plains groups had been preceded, it is assumed, by another branch of the same tradition (Cochise) who had moved farther south on the west of the Rockies, possibly by way of the Great Basin and Coastal ranges (San Deguito). The order of these movements is, of course, unknown. It might be that they were more or less contemporaneous or there might have been some gap. The flint flake traditions and the non-flint core

traditions may have been interfingered like a shuffled deck of cards, or they may have more likely followed a more organized migration pattern in consonance with gradual and continual ecological changes. These are problems to be worked out. At the present time we do not have the distributional data organized to intelligently evaluate the alternatives and to unravel the twisted warps of the pattern of early New World migrations.

Finally, it must not be overlooked that there is in eastern North America a third regional non-flint using tradition which in many areas is regarded as the precourser of the late flint using people.[11] It may be that the Folsom, Yuma, Plainview big game hunting tradition was followed by a non-flint tradition which was split by the prior distribution of this preceding Paleo-Indian hunting tradition into three branches, eastern, western, and Plains. This southern Plains pattern may have had a closer connection with the western Archaic and therefore crossed into the Plains somewhere to the north of Oklahoma. This "somewhere," as far as present distributional data is concerned, could be as close as Colorado, or as far north as Saskatchewan or Alberta. On the other hand, there could be a closer connection with the non-flint using stages of the eastern Archaic.

Insofar as the Lawton-Clear Fork-Trinity is concerned, it is convenient, for the present, to refer to this continuum as the Southern Plains Archaic, and thereby to distinguish it regionally from a western, Great Basin derived Archaic, as well as an eastern Woodland Archaic pattern.

NOTES

Comments by Sherman P. Lawton

2. Your experience apparently has been that the material comes from second terraces. In my experience this is true only when it is mixed with other material, such as Paleo-Indian. Otherwise, the places tend, in central Oklahoma, to be on third terraces or higher.

3. I am not sure it is correct to say that the material comes from shallow geological deposits. Probably this is true of places you have found. However, except, where the material is exposed on red sandstone beds by complete erosion, I usually find it in deep ditches, several feet or more deep. In fact, one leaf-shaped point comes from where the overburden is ten or twelve feet deep. This point tends to strengthen some of your relationships, especially to Texas and Southwest sites.

4. I would also include the hand-axe as a common feature.

5. I would also consider the leaf-shaped point to be "typical"; though I have not found many, they are the only constantly recurring type.

6. I think it is important that the Plainviews and other old points that have been found were lower down on the valley edges than the quartzite material which, in my opinion, is usually farther up.

7. There is a very definite flint site in Murray County, which I reported as part of the survey of the Sulphur (Arbuckle) Resevoir. The work is identical in form, but no quartzite was present. The material comes from deep gulleys high up on the sloping hill from the creek.

8. Besides Cleveland, Pottowatomie, Grady, Garvin, and Seminole counties, and the other places I have found, there are a number of clear-cut sites in Stephens County, which I reported as part of the Waurika survey. Also, the J. B. Evers of Bristow, Oklahoma have found a number of such places along the Deep Fork of the Red River.

10. In speaking of general similarities to other materials, I would like to call attention to the close similarity between this material and that from the early cave cultures of Spain and southern France. Though the dates for this southwest European material of 100,000 to 1,000,000 years would seem far-fetched in the Oklahoma area, the similarity in work is almost startling.

11. Specifically, I would like to call attention to the close similarities of material from the following locations in the eastern Woodlands area: (1) the glacial deposits in Delaware Valley, near Trenton, N.J. The material was argillite which is very easy to shape. (2) the Ohio Valley near Newscomerstown, Ohio. (3) the glacial deposits near Loveland, Ohio. (4) the glacial deposits near Little Falls, Minnesota.

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