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AMERICAN INDIAN ARTIFACTS FROM THE KANSAS RIVER

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American Indian artifacts recovered from the gravel bars of the Kansas River in northeastern Kansas consist of pot sherds and projectile points. The dating of artifacts on stylistic grounds suggests a relatively continuous archeological record from the Kansas River ranging from the end of the Wisconsin glaciation to the Late Holocene. The remains of Pleistocene and Holocene fauna are abundant on the same gravel bars that yielded the artifacts. The presence of woodland musk oxen and stagmoose indicates that northeastern Kansas was part of the *Symbos-Cervalces* faunal province during the Wisconsinan. By inference, the Late Wisconsinan human occupants must have been adapted to the environmental conditions of this province. Early Holocene bison are abundant on the gravel bars, as are artifacts associated with Early Holocene bison hunting in the Central Great Plains.

† † †

INTRODUCTION

Gravel bars in the Kansas River in the vicinity of Bonner Springs, Wyandotte County, Kansas (Fig. 1) are producing a rich fauna of Pleistocene and Holocene mammals. Unfortunately almost nothing has been found *in situ*. In spite of this, the Kansas River localities still provide our best information concerning the Late Pleistocene and Early Holocene fauna of eastern Kansas. Martin et al. (1979) reviewed the paleontological data from the Kansas River. Much of the knowledge is the result of extensive collecting by amateurs. A remarkably complete sequence of projectile points from these sandbars contributes new information concerning the distribution of types of projectile points in Kansas.

The oldest of these types, and indeed according to some (Haynes, 1971) the oldest clearly recognizable stone artifact type in North America, is the Clovis projectile point. Two of these points (*see* Rogers and Martin, 1982; Fig. 2B) were found near Bonner Springs. Although they are generally found associated with kills of *Mammuthus* (mammoth) in the western United States, they have been found associated with

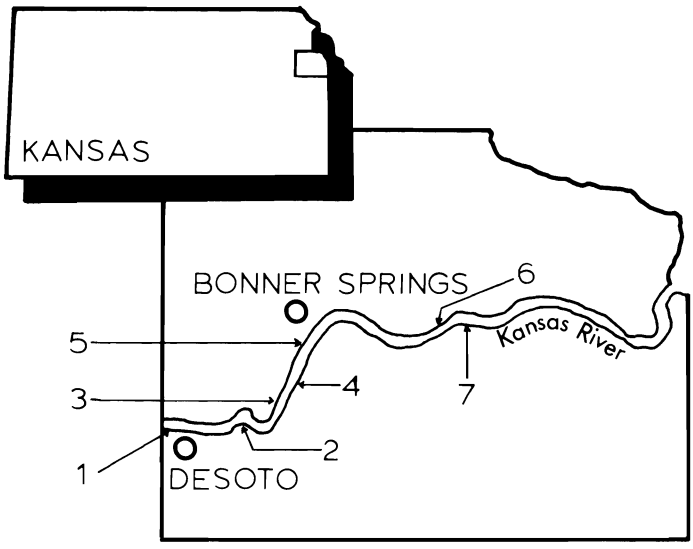

FIGURE 1. Index map showing area where artifacts were recovered. **Locality 1**, Sec. 21, T. 12 S., R. 22 E.; **Locality 2**, Sec. 13, T. 12 S., R. 22 E.; **Locality 3**, Sec. 18, T. 12 S., R. 23 E.; **Locality 4**, Sec. 5, T. 12 S., R. 23 E.; **Locality 5**, NE¼ NW¼ NW¼ Sec. 5, T. 12 S., R. 23 E.; **Locality 6**, Sec. 29, T. 11 S., R. 24 E.; **Locality 7**, Sec. 28, T. 11 S., R. 24 E.

mastodon in Missouri (Graham et al., 1981). Mammoths are a rare component of the Late Pleistocene fauna near Bonner Springs, while mastodon *(Mammut americanum)* remains are comparatively common. The rest of the Late Pleistocene fauna, e.g., *Mammut*, is characteristic of the *Symbos-Cervalces* faunal province of Martin and Neuner (1978) and is the fauna associated with Pleistocene spruce forests in the eastern United States. Other Late Pleistocene mammals from the vicinity of Bonner Springs include *Symbos cavifrons* (woodland musk ox) (*see* Nelson and Neas, 1980), *Cervalces* (stagmoose), and

Mylohyus sp. (extinct peccary). This fauna indicates the environment the Clovis hunters were occupying in eastern Kansas was typical of the *Symbos-Cervalces* faunal province. This faunal province disappeared from Kansas and many of its component mammals became extinct about 10,000 y.B.P. The spruce forest began to disappear about 12,000 y.B.P., and after a brief interlude of northern deciduous forest, the deciduous parkland that presently characterizes eastern Kansas developed (Wright, 1970). *Bison* is the most common Early Holocene faunal element, and as the deposits probably record random mortality without the intervention of humans, its abundance in the fossil record probably reflects real abundance in the vicinity at that time. This contrasts with the rarity of Late Pleistocene bison in these deposits. Late Pleistocene bison are represented only by a skull from Kansas City, some distance east of the present collection, and a skull found near Bonner Springs. Early Holocene bison, on the other hand, are represented by many individuals. An abundance of bison skulls intermediate in size, between typical *Bison antiquus* and the Modern *B. bison* correlates well with an abundance of Early Holocene lithic types found near DeSoto. Many of these lithic types are usually associated with bison hunters in western Nebraska and Wyoming. Research on Woodland and Archaic sites in the eastern Kansas region has not produced either an abundance of bison remains or bison kill sites. It appears from the collections that Early Holocene bison are more common than are Late Holocene bison. This would seem to be significant because Late Holocene sediments are much more abundant and may suggest a prairie expansion in this region during the Early Holocene. This would help to account for the abundance of artifacts generally associated with bison hunting elsewhere.

The Late Pleistocene-Holocene size reduction of bison is well documented (Schultz and Frankforter, 1946; Schultz and Martin, 1970). The range in size of bison bones found on sandbars near Bonner Springs suggests that a nearly continuous sequence is present, and the discovery of *in situ* specimens should make a local biostratigraphy possible. Figure 2A shows the presumed sequence of bison skulls.

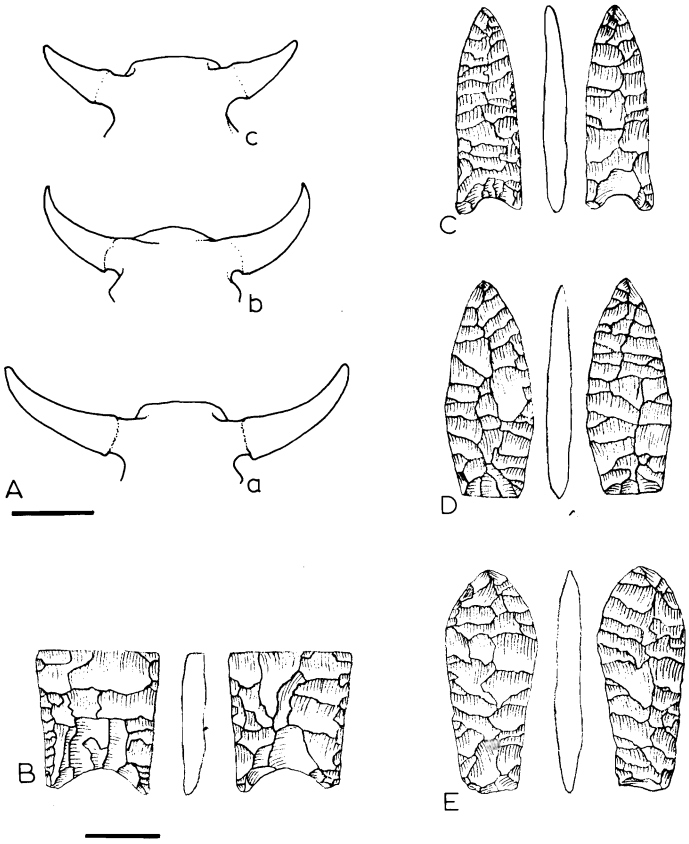

FIGURE 2. **A.** Sequence of *Bison* size categories from the study area. a. Pleistocene *Bison* sp., cf *B. antiquus,* University of Kansas, Museum of Natural History, Vertebrate Paleontology (KUVP) collection number 9905. b. Early Holocene *B. bison* (large variety), KUVP 65707. c. Late Holocene *B. bison* KUVP 54010. **B.** Clovis projectile point. **C.** Meserve or Dalton projectile point. **D.** Milnesand points. **E.** Hell Gap projectile point. Scale for bison skulls is 25 cm; that for artifacts is 2 cm

ARTIFACT TYPES

The Paleo-Indian Period is represented by a number of projectile points. The measurements of these projectile points are given in Table I. The localities where the projectile points were found are shown in Figure 1.

A Clovis projectile point (Rogers and Martin, 1982) was found by Robert Smith, U.S. Army Corps of Engineers, on the north bank of the Kansas River at locality 5 (*see* Fig. 1). This artifact, like the other artifacts found on the gravel bars of the Kansas River, had almost certainly been transported by the river and was not *in situ.* The lateral edges of the basal portion of the artifact have been dulled by grinding, presumably to keep the lashings that held the projectile point to the shaft from being cut. The tip of the projectile point shows signs of impact with very fine retouching to re-establish the point presumably indicating it had been damaged and repaired after being hurled against a resistant object. The artifact is fluted on both sides. The artifact exhibits the typical "glossy" surface of heat-treated flint. Heating the flint is believed to have improved its knapping characteristics. The gray flint from which the artifact was made is probably local in origin as it contains Paleozoic fossils typical of cherts in eastern Kansas.

A narrow time range for the use of Clovis projectile points (approximately 11,000 to 11,500 y.B.P.) has been argued for by Haynes (1971). This is somewhat controversial because several radiocarbon dates from Clovis projectile point sites indicate a broader time range. There is little doubt, however

TABLE I. Maximum dimensions (mm) of Paleo-Indian projectile points from the Kansas River.

Type	*Length*	*Width*	*Width (across base)*	*Thickness*
Clovis (*from* Rogers and Martin, 1982)	89.9	26.5	21.8	6.4
Clovis (Fig. 2B)	—	—	28.9	—
Hell Gap (Fig. 2E)	61.6	25.5	14.2	8.2
Milnesand (Fig. 2D)	58.9	23.8	17.7	7.1
Meserve (Fig. 2C)	56.5	18.0	18.0	6.2
Meserve (Fig. 3A)	77.7	22.0	—	6.5
Meserve (Fig. 3B)	92.6	27.1	28.0	6.5
Meserve (Fig. 3C)	—	—	28.0	—
Meserve (Fig. 3D)	—	—	27.3	—
Meserve (Fig. 3E)	—	19.0	18.8	5.5
Meserve (Fig. 3F)	—	26.0	24.9	6.6
Holland (Fig. 4A)	81.0	32.0	20.5	9.2

that Clovis projectile points are associated with the end of the Wisconsinan glaciation.

A second Clovis projectile point (Fig. 2B) was found by Frank Richardson of DeSoto, Kansas, on a gravel bar in the Kansas River at locality 1. The specimen is the proximal end of the projectile point. The projectile point has a short flute on one side and several thinning flakes removed from the other side. The basal edges are ground and the specimen is made from heat-treated flint. The shape and size of the specimen are quite unlike the dimensions of Meserve or Dalton projectile points found in the area.

A Hell Gap projectile point (Fig. 2E) was recovered by Richardson on the same gravel bar on which he found the Clovis projectile point. The Hell Gap projectile point exhibits some tendency toward transverse parallel flaking and is made from heat-treated flint. The lateral edges of the basal portion of the projectile point are ground. Radiocarbon dates on the Hell Gap cultural complex in Wyoming were 9,600±230 y.B.P. and 9,650±250 y.B.P. at the Sister's Hill Site and 9,830±350 y.B.P. and 10,060±170 y.B.P. at the Casper Site (Frison, 1978:23).

A Milnesand projectile point (Fig. 2D) was found by Richardson on the same gravel bar as the Hell Gap and Clovis projectile points. The artifact exhibits transverse parallel flaking and the removal of thinning flakes has given the base a beveled appearance that is typical of Milnesand projectile points (Sellards, 1955:343). The lateral edges of the basal portion of the projectile point are slightly ground. The flint has been heat-treated. The Milnesand "type site" is located in Texas. Wormington (1957:112) indicated that Milnesand projectile points have been found in Iowa. The Lime Creek Site (Ft-41) in southwestern Nebraska (Schultz and Frankforter, 1948) has yielded a projectile point type that is probably Milnesand (Wormington, 1957:120) in the same stratigraphic zone as a Scottsbluff projectile point. The Milnesand projectile point type was present at the Olsen-Chubbuck Site in eastern Colorado (Wheat, 1967) and was also in association with the Scottsbluff projectile point type. The Olsen-Chubbuck Site has a radiocarbon date on bone collagen of 8200±500 B.C. (Wheat, 1972).

Seven specimens of Meserve or Dalton projectile points were found by Richardson on gravel bars of the Kansas River near DeSoto, Kansas. The specimen illustrated in Figure 3A was found on the gravel bar on the south bank of the Kansas River at locality 2. The remainder of the Meserve or Dalton projectile points (Figs. 2C and 3B-F) were from the gravel bar on the south bank of the Kansas River at locality 1. Meserve or Dalton projectile points were first found *in situ* at the Meserve Site (Barbour and Schultz, 1932) near Grand Island, Nebraska, in association with extinct bison. Very similar projectile points were later found *in situ* in Missouri where they were named Dalton projectile points. The lower levels of the Graham Cave Site in Missouri contained Dalton projectile points and had dates of 9,700±500 y.B.P. and 8,830±500 y.B.P. A radiocarbon date of 7,900±500 y.B.P. was obtained from an excavation level above the lower levels that contained several Dalton projectile points (Crane, 1956). The specimen illustrated in Figure 3A has the lateral edges serrated except near the base where lateral edges are ground smooth. The artifact exhibits transverse parallel flaking and a flute on one side. The flint has been heat-treated. The Meserve or Dalton projectile point base illustrated in Figure 3D has transverse parallel flaking with the lateral edges ground and is made from heat-treated flint. A broken and unfinished Meserve or Dalton projectile point is illustrated in Figure 3C. This specimen is finished at the base except for edge grinding, but the anterior portion of the artifact still has a large mass of flint on one surface that has not been removed, and it is possible that the artifact broke during an attempt to remove the lump of flint. This artifact suggests the steps in manufacturing a Meserve or Dalton projectile point were first to shape the base, second to shape the tip, and third to grind the lateral basal edges. The flint from which the artifact is made shows no evidence of heat treatment. The Meserve or Dalton projectile point illustrated in Figure 2C is made of heat-treated flint and has the lateral basal edges slightly ground. The Meserve or Dalton projectile point illustrated in Figure 3B is made from heat-treated flint. The lateral edges are unifacially beveled for more than two-thirds of the forward length of the artifact. The basal lateral edges are blunted by grinding. The Meserve or Dalton projectile point illustrated in Figure 3E has the lateral edges unifacially beveled for more than

two-thirds of the forward length of the artifact. The beveled edges are serrated. The lateral basal edges are blunted by grinding. The artifact has been made of heat-treated flint. The tip is broken probably because of impact during use. The Meserve or Dalton projectile point illustrated in Figure 3F is fluted on both sides. The tip is broken possibly from impact during use. The lateral edges are unifacially beveled for more than half the forward length of the artifact. The lateral basal edges are blunted by grinding.

Joseph Chandler of Kansas City discovered an interesting projectile point (Fig. 4A) on a gravel bar on the south bank of the Kansas River at locality 7. The specimen has a concave base, is fluted on one side, and the basal lateral edges have been smoothed slightly by grinding. The artifact resembles a Clovis projectile point in these traits, but it differs from a Clovis projectile point by being "shouldered." Projectile points with this approximate shape have been called "Holland" projectile points. Holland projectile points have been found in a cache in Iowa with Meserve-Dalton and Scottsbluff projectile points (Holland, 1971) indicating contemporaneity of these projectile point styles. The flute is not typical of Holland projectile points but would not be too surprising a trait to be found on a projectile point of a presumed antiquity of 8,000 to 10,000 years.

The gravel bars in the vicinity of the Clovis projectile points have yielded the remains of such potential prey species for Clovis hunters as mammoth, mastodon, woodland musk ox, horse, *Bison antiquus,* stagmoose, woodland peccary, deer and bear (*Ursus*), all of which are unfortunately not *in situ.* The Pleistocene fauna is typical of the *Symbos-Cervalces* faunal province and is associated with the Pleistocene spruce forests. *Mammuthus, Mammut, Bison, Equus,* and *Ursus* are all known to have been utilized by Clovis hunters, but it seems likely they would also hunt other available large animals. The

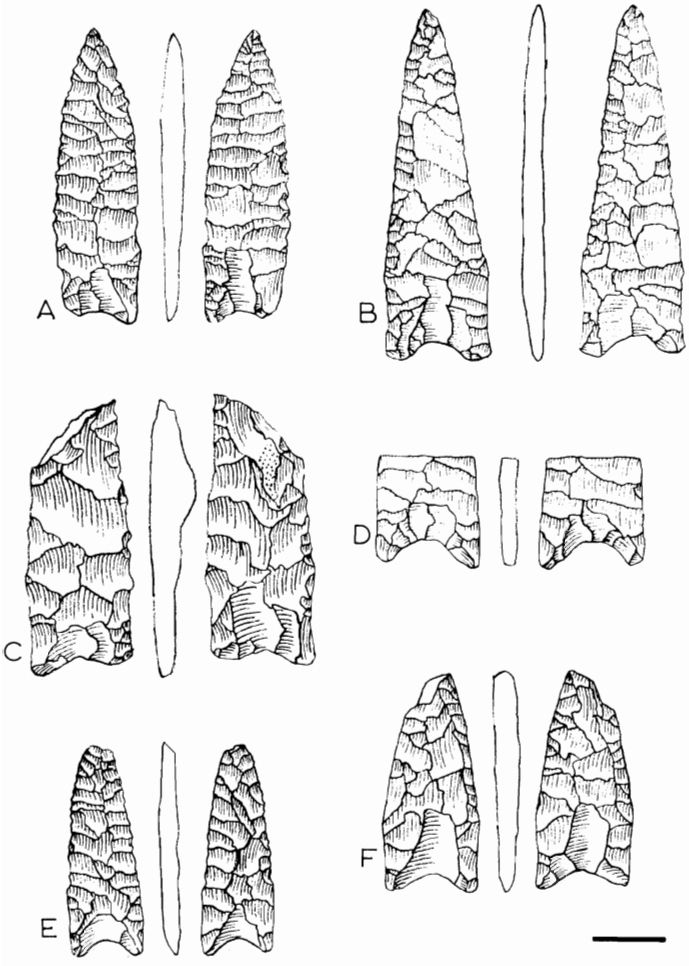

FIGURE 3. **A–F.** Meserve or Dalton projectile points. Scale is 2 cm.

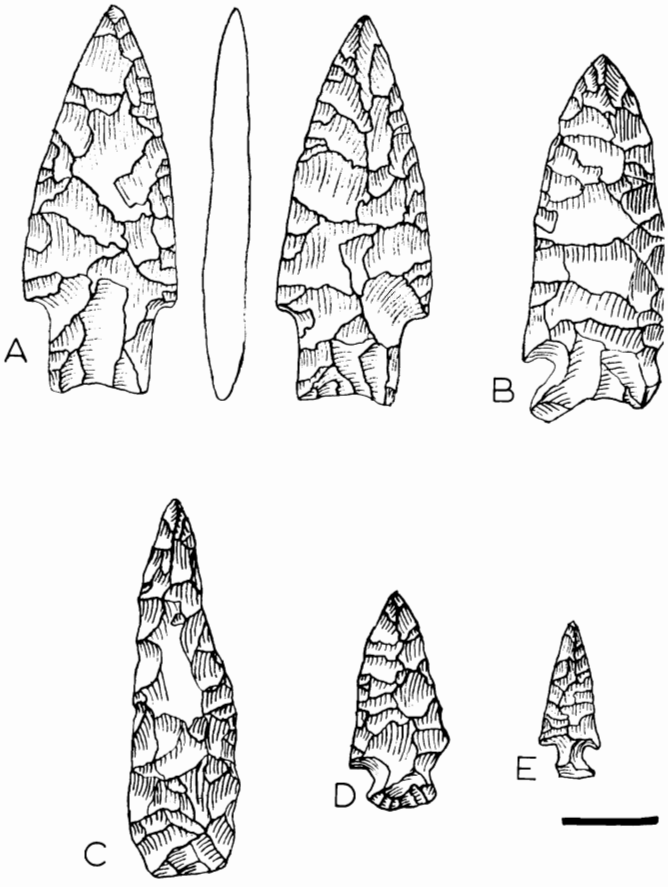

FIGURE 4. **A.** Holland projectile point. **B.** Archaic projectile point. **C.** Archaic (Nebo Hill) projectile point. **D.** Early Ceramic (Middle Woodland) projectile point. **E.** Early Ceramic (Late Woodland) projectile point. Scale is 2 cm.

Kimmswick Site, a Clovis projectile point site in Missouri, also falls in the *Symbos-Cervalces* faunal province. The Twelve Mile Creek Site, a Clovis projectile point site in western Kansas, belongs to the *Camelops-Navahoceras* faunal province as do most of the better known Clovis projectile point sites. It is interesting that this distinctive projectile point type occurs in two very different ecological areas, and this suggests that Clovis peoples were adaptable in their hunting strategies.

The other early projectile point styles found on the gravel bars of the Kansas River, such as the Hell Gap, Milnesand, and Meserve projectile points, are famous for their association with the remains of extinct bison, which are also present on the gravel bars.

Two Archaic Period projectile points were found on a gravel bar at locality 4. A Nebo Hill projectile point (Fig. 4C) was found at this locality by Amanda Martin. The Nebo Hill style of projectile point was made during the Late Archaic. Another Archaic projectile point with a concave base (Fig. 4B) was found a short distance from the Nebo Hill projectile point. The artifact is similar to Early Archaic projectile points from the Graham Cave Site (Chapman, 1952).

The Early Ceramic Period is represented by a Middle Woodland projectile point (Fig. 4D) found on a gravel bar at locality 3 and the base of a "sack-shaped," cord-roughened pot found by Joseph Slowinski on a gravel bar at locality 6. The Early Ceramic Period is also represented by a Late Woodland projectile point (Fig. 4E) found by Frank Richardson on a gravel bar near DeSoto, Kansas, at locality 1.

The Middle Ceramic Period is represented by three shell-tempered rim sherds from bowl-shaped vessels. One rim sherd was found on a gravel bar at locality 6 and two rim sherds were found on a gravel bar at locality 4.

CONCLUSIONS

American Indian artifacts from the river represent a fairly continuous accumulation of cultural material since the Late Wisconsinan. This suggests continuous human occupation of the Kansas River valley for an equivalent period.

The frequent discovery of projectile points and the bones of contemporary large animals in the same river deposit suggests the Kansas River valley has long been successfully exploited for big game hunting by man. The preponderance of projectile points in the river gravels compared to other lithic tools, such as scrapers, knives, drills, etc., suggests that hunting was responsible for introducing many lithic artifacts into the Kansas River deposits.

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