



PLATE XIV

1. Restored pottery vessel from Cache 4, Salina 1, near Lindsborg, Kansas. 2. Restored vessel from Cache 1, Salina 1. 3. Restored vessel from Cache 1, Salina 1.

SALINA 1

A Protohistoric Village Site in McPherson County, Kansas

Salina 1 is located [REDACTED] in the northwestern part of McPherson county; [REDACTED]

[REDACTED] The valley of the Smoky Hill, characteristically deep and narrow in western Kansas, widens in McPherson county, and the enclosing bluffs become lower and more subdued. The river here reaches its southernmost point, approaching within five miles of the Arkansas watershed before turning sharply northward to Salina. North of the river are the Smoky Hill buttes, representing the southeastern front of the broken tablelands which characterize the Plains Border; to the south, the terrain is rolling and uneven as far as the Arkansas-Smoky Hill divide, where it merges with the flat featureless Great Bend lowland of central Kansas. The southern tributaries of the Smoky Hill in McPherson county are necessarily short and flow in intrenched channels within wide shallow valleys. Toward the western edge of the county the land rises steadily, and high hills and table lands hem the river valley. The region may be characterized as originally prairie land, with trees found only as a thin fringe along the river and its tributary creeks. Despite their comparative shortness the latter, especially Paint and Sharps creeks, carry a small amount of water throughout most of the year, and good springs are found here and there along their upper courses. The presence of wood and water, combined with excellent hunting grounds in the nearby uplands, made the locality a suitable one for aboriginal occupancy, and sites featured by low mounds are found both on the river bottoms and along the creeks on the Smoky Hill slope of the water-shed.

Salina 1 is of special interest, among other reasons, because it was one of the first sites in the state to receive attention from investigators other than mere relic-hunters. As early as 1881, Udden began investigations here which were carried on intermittently during the next seven years, and resulted in a short but valuable paper published in 1900 as well as a large collection of specimens now in the Bethany college museum at Lindsborg.¹ He regarded the mounds as remains of habitations and attributed the site to the Wichita or Pawnee; its age, at least in part, he concluded to be post-Columbian on the strength of a piece of chain-mail taken from one of the mounds. Udden was primarily a geologist; he erred in certain of his conclusions; but his work indicates a much sounder appreciation and a better understanding of the problem than does that of any other early in-

¹Udden, 1900.

vestigator in Kansas archaeology, Williston and Martin alone excepted.

The Survey party of the Nebraska State Historical Society, through the courtesy of Mr. Ed. Nelson, owner, was able to spend four days in excavations on the site.

The site comprises a group of twenty-two low inconspicuous mounds whose surfaces are littered with broken pottery, flints, shells, animal bones, and similar detritus. The group occupies an area of perhaps thirty acres, beginning on the immediate left bank of Paint creek and continuing irregularly up a gentle slope toward the west. The mounds are from twenty to a hundred yards apart and as much as 300 yards from the creek; there is not the slightest indication of any systematic arrangement. On the creek bank at the southeast edge of the site is a roughly circular arrangement some sixty yards across of shallow elongated pits of varying size; its purpose is unknown, but similar structures are said to occur at other sites in the vicinity. Local collectors have designated these features by the term "council circles," but their precise nature remains to be determined. Immediately south of the site are several good springs which doubtless supplied water to the inhabitants of the village.

Cultivation has levelled and nearly obliterated many of the mounds; of those remaining, the largest measures forty feet in diameter, though the average is nearer twenty-five feet. Udden states that none of the mounds were more than three feet high and the average was about two feet; at present, the deepest is under twenty-four inches and the average is not more than ten or twelve inches. Some are marked by little more than a detrital area. Four were carefully tested by the Survey party in order to determine their precise character and, so far as possible, their origin. Trenches from four to ten feet in width were dug along the diameter and through the center of each mound, and down to subsoil. In every case, the mound was found to consist of loose gray soil mixed with ashes, charcoal, sherds, flints, animal bones, and similar camp refuse. There was no clear evidence of stratification, due perhaps to the shallowness of the deposits. Under the rubbish was encountered hard red lumpy clay free of any mixture. In none of the mounds was there any indication of fireplace, floor, or postholes. Burnt clay, characteristic of the house mounds on the lower Solomon, was virtually absent at Salina 1. The only inference to be drawn was that the mounds, contrary to Udden's statement, are not the remains of fallen habitations, but represent accumulations of kitchen refuse. In short, they are middens of the same character as those found on protohistoric² sites on the lower Loup and Platte rivers in Nebraska. The houses were not on or under but between the mounds.

²By protohistoric is meant a site yielding a small amount of early European material (e. g., glass, metal, etc.), but for which there is no historical documentation.

Efforts to locate house sites were accordingly directed to the areas immediately about the middens. Four days were spent in digging trenches and test pits at twenty-foot intervals between several mounds near the center of the group; all tests were dug down to undisturbed red subsoil. Yet not the slightest traces of house floors or even of discolored areas were found, aside from five caches which will be discussed presently. Careful work about the caches was equally fruitless so far as house remains were concerned. It is difficult to believe that this technique, successfully followed in Nebraska, would fail so completely to reveal the location of subsurface habitations if such were present. The logical conclusion would seem to be that semisubterranean houses were not used at Salina 1. Moreover, since the mounds are obviously detrital and not domiciliary, it appears likely that the dwellings, built on the ground surface, were not of the substantial earth-covered type encountered on the Solomon, but were made of perishable materials such as poles and grass. The collapse of a grass house, after a few years, would leave no surface traces, and built on the prairie surface or at best only a few inches below, any remains at all would be very quickly removed by plowing. Evidently, then, the earth-covered lodge so characteristic of prehistoric and historic Nebraska and of the lower Solomon and Kansas rivers in pre-Columbian days, gave way to or was succeeded by a less permanent type of habitation south of the Smoky Hill in central Kansas.

The caches excavated, five in all, lay on a low ridge near the center of the site; they were ranged in a slightly curving line between the middens, at intervals of six to twelve yards. Their dimensions, in inches, were as follows:

| | Diameter at Top | Depth | Diameter at Bottom |
|---------|--------------------|-------|-----------------------|
| Cache 1 | 38 | 72 | 74 |
| Cache 2 | 34 | 57 | 42 |
| Cache 3 | 54 | 78 | 80 |
| Cache 4 | 40 | 64 | 78 |
| Cache 5 | 21 | 36 | 54 |

All these caches, it will be noted, were cistern-shaped, i. e., narrow at the top with their maximum diameter at the bottom. The floor of Cache 1 was covered with a thin layer of charred material, evidently the remains of a grass lining. Most of the artifacts recovered came from these caches, but a description of one will suffice to show the nature of all.

Cache 4, the largest and most prolific, was excavated by the writer. The upper portion of the fill was dark in color, very hard, and contained sherds, bones, and flints; two awls were found just below plow line. At a depth of twenty-four inches was a layer of

red clay, similar to that which underlay the entire village site; it was about four inches thick at the center and increased about the sides. Large lumps of charcoal and four small corncobs were found in this clay; otherwise, there was nothing to indicate that the material had ever been moved. The remainder of the cache was filled with soft ashes, forming a heap perhaps eight inches deep at the edges of the floor and rising at the center to within thirty inches of the top. Broken vessels, bone beads, awls, scapula hoes, fleshing tools, scrapers, miscellaneous sherds, flints, and quantities of large bison bone were encountered all through the ashes. The floor was circular, unlined, and was about two inches higher in the center than at the edges. Rodent burrows traversed the floor and led into the surrounding clay wall. The walls were extremely hard but had not been baked or otherwise artificially treated.

LESSER REMAINS

Pottery

Ceramic remains from Salina 1 differ very markedly from those which are characteristic of the Solomon, Kansas, and Republican valleys to the north. In color, the ware varies from grays through browns to reds, with many sherds exhibiting a lavender hue. The color variation is probably due in part to high percentage of iron in the potter's clay and in part to careless firing. The paste is very fine, even, and quite hard, but occasionally appears slightly porous or sponge-like. Tempering consists of fine sand and gravel, freely used, and, less commonly, of crushed shell or bone. Charred grass was present in one sherd, but may not have been intentionally added. Exterior surfaces were always left rough and unpolished; they were never treated with cord-wrapped paddles. Interior surfaces are likewise uneven, sometimes conveying the impression that the vessels were shaped with the fingers alone. In thickness, sherds range from .15 to .5 inch; both extremes are often found in the same jar.

Vessel shapes are highly distinctive and show no resemblance to those so far found in northern Kansas and Nebraska. The characteristic form is a jar eight to eleven inches tall with about the same diameter, a flat or slightly concave bottom two to three inches across, globular underbody, rounded shoulder, and vertical or slightly flaring rim (Plate XIV, 1; Fig. 10). Vertically placed loop handles on opposite sides of the vessels connect the neck and shoulder. Smaller jars were essentially the same in most respects, but tended more to the globular. Cups and bowls, reported by Udden, were not found by us.

Handles were generally attached by perforating the vessel wall, inserting the ends of the handles, and then welding them on the inside; a ring of clay was often added on the outside for reinforcement.

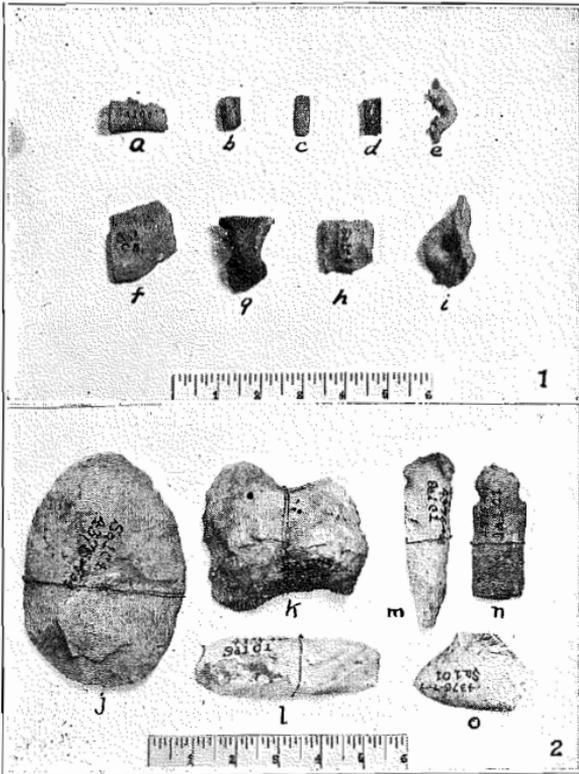


PLATE XV

1. Objects of clay and catlinite from Salina 1. a, pottery pipe fragment; b-d, worked catlinite; e, pottery handle; f, sherd scraper; g-i, pottery handles.

2. Flints from Salina 1. j, ovate digging or skin-dressing tool; k, chipped ax; l, scraper or knife; m, n, spearpoints; o, knife.

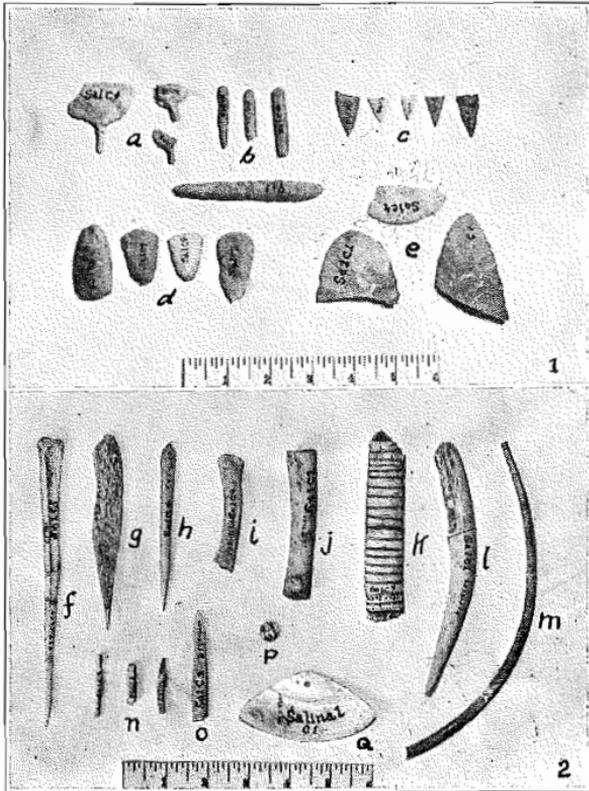


PLATE XVI

1. Small flint implements from Salina 1. a, drills with expanded base; b, pipe drills; c, arrowpoints; d, end scrapers; e, knives.

2. Bone and shell from Salina 1. f-h, awls; i, hairpin; j, bone tube; k, scored rib fragment; l, tip of deer antler; m, problematical object; n, bone beads; o, bodkin; p, shell disk with two perforations; q, clamshell pendant.

(Plate XV, e). Sometimes the upper end of the handle was merely stuck onto the lip, while the lower end was fastened in the method above described. Very rarely, horizontal loops are found, these being placed on the shoulder. The handles are usually round in cross section; when flat, they are secured by being stuck onto the vessel and sometimes bear shallow flutings or other decorations (Plate XV, h).

Rims, in profile, are thin and sharp; collars are universally absent. Of forty-four rimsherds recovered, sixteen (36%) are ornamented by means of small diagonal incisions across the lip or just below it inside the vessel. The majority of the rims, like the pottery in general, are undecorated.

Pottery at Salina 1, as briefly described above, differs from Upper Republican wares in the following points: total absence of collared rims and of cord-impressions or other surface treatment; frequent use of loop handles; presence of flat or concave base on many jars; general vessel shapes; use of shell and bone for tempering; greater color variation; and generally inferior technique. It recalls pottery found at Minneapolis 1 on the lower Solomon in the presence of loop handles and in the variety of tempering materials, but in other respects differs as much from the Solomon river as from the Upper Republican wares. On the whole, the Paint creek pottery gives the impression of a decadent art, definitely inferior technically and artistically to that which characterizes the prehistoric and protohistoric cultures to the north. Moreover, it seems highly improbable that it could have been descended from the latter wares; the whole feeling of the pattern is foreign to these northern cultures.

The distribution of the Paint creek type of pottery is only very sketchily known. It is found on Sharps creek three miles to the west. The writer has seen it in collections from a number of sites on Cow creek and Little river in southwestern McPherson, Rice, and southern Ellsworth counties, and a related type is found sparingly in Harvey county. So far as our present information goes, it would seem to be characteristic of the Great Bend Lowland and immediately adjacent areas between the Smoky Hill and Arkansas rivers. It is likely that the ware is also related to that described in the preceding paper from Beloit 2, near Glen Elder on the upper Solomon, and to that found on White Rock creek in Jewell county.

Before leaving the subject of pottery, we wish to call attention to a sherd figured by Udden³ which is markedly unlike the usual product from Salina 1. To quote from Udden

" . . . the sides of this vessel were quite thin, only little exceeding an eighth of an inch in thickness. The upper outer surface was decorated by straight parallel lines forming V-shaped patterns. Below the widest part of vessel the outside was smooth. A number of ears adorned the outside of its upper rim . . . "

³Op. cit., Fig. 10.

The sherd illustrated has a collared rim with four parallel incised lines. The "ears" are in reality loop handles placed at intervals of less than two inches about the vessel so as to connect the rim with the upperbody, and decorated with small diagonal incisions. The "V-shaped" patterns consist of groups of parallel incised lines, with the lines in adjacent V's slanting in opposite directions. In every respect so far enumerated the piece is identical with many sherds from the protohistoric Pawnee sites on the Loup river in Nebraska, and there can be little doubt that the potter was at least very familiar with the northern ware if not actually a native of that district. On the other hand, the paste and tempering clearly show that the piece was of local manufacture. To the writer, who has worked in both areas, the piece very clearly indicates direct contact between the protohistoric peoples of the Loup and those on Paint creek, and thus affords a clue to the age of the latter village.

From Cache 1 came a fragment of clay pipe, with the bowl and projecting forward end of the stem broken off (Plate XV, a). A thick cake was present in what remained of the bowl cavity. Modelled clay pipes are said to be much less common here than those made of stone.

WORK IN STONE

Artifacts of stone recovered by our party consisted almost entirely of chipped objects. The exceptions included two complete and several fragmentary manos or mullers, which were well shaped, rectangular, and showed smooth faces on their grinding surfaces; they averaged about 6 by 3.5 by 2 inches in size. Hammerstones were roughly circular in outline, but were probably for the most part natural boulders. Arrowshaft buffers of Dakota sandstone were boat-shaped, and corresponded in every respect to those previously described from Minneapolis 1. Metates, mentioned by Udden as a common feature of the site, were not found by us, probably because of the activity of collectors since the time of Udden's excavations.

Chipped implements included celts, axes, knives, arrowpoints, drills, and scrapers. Celts or skinning tools were not abundant, though a good many seem to have been carried from the site by relic-hunters. Axes or 'tomahawks,' evidently designed for hafting, were of the type shown in Plate XV, k. Spearheads, which may actually have been a special form of knife, were from 2.5 to 4 inches long fairly heavy, and had bevelled edges; the butts were round, with a groove for lashing them to a handle or shaft (Plate XV, m, n).

Knives were mostly thin chert flakes with finely re-touched edges; a few were trapezoidal or ovate in form and showed evidence of some care in manufacture. Four-edged or diamond-shaped knives were not found. End scrapers were numerous; they varied in length from one to four inches, but the great majority were under 1.5 inches (Plate XVI, d). They were as a rule better made than those from the Up-

per Republican area, but would seem to have been less serviceable than the larger, better made specimens on the lower Solomon.

Drills are of two types. The more common form is straight, rather heavy, blunt, and oval or trapezoidal in cross section, and was perhaps used for heavier duties such as boring stone pipes (Plate XVI, b). The second type is short, light, and has an expanded base for convenience in grasping; it may have been employed for perforation of leather and similar less strenuous work (Plate XVI, a).

Arrowpoints exhibit a striking uniformity in type. The forty-eight specimens recovered by our party are all triangular and unnotched (Plate XVI, c). They range in length from .5 to 1.3 inches, with perhaps 80% of them less than an inch long. They are made of gray, red, brown, and white chert, and show careful workmanship. Local collectors assert that of the hundreds of points found on the site, 98% or more are of this unnotched type. The remainder are either small delicately notched or else heavy stemmed forms.

A few worked fragments of fine-grained red stone, probably catlinite, were recovered (Plate XV, b-d).

WORK IN BONE

Bonework includes both large implements such as picks, digging tools, and gouges, and smaller artifacts such as awls, beads, and miscellaneous objects. Picks are generally made from the ulna of the bison, and are quite common. Digging tools, made from the scapulae of the bison and deer, are also numerous; they average under eight inches in length, whereas in the Upper Republican area they are usually ten inches or more. Gouges, probably used in skin dressing, were made by splitting the leg bone of the bison, and then working one end down into a rounding sharp edge. They are similar to the graining tool of the historic Plains tribes, but lack the fine serrations on the blade.

From Cache 5 came the worn and broken left femur of a human, the only human skeletal remains encountered at the site.

Awls ranged from 2.5 to 6.5 inches in length (Plate XVI, f-h). Two specimens were rudely made from slivers of bone; the rest were much more carefully fashioned from the split metapodial of the deer or from some other solid bone. Five specimens from Cache 4 varied in length from 2.7 to 3.7 inches; they were characterized by a triangular cross section, a pyramidal butt, and long tapering carefully worked point. There were no eyed needles.

Other objects of bone included several tubular beads of bird bone (Plate XVI, n), rarely with incised decoration; an undecorated three-inch tube of unknown use (Plate XVI, j); a four-inch section of bison rib bearing nineteen transverse grooves (Plate XVI, k); the much worn tip of a deer antler; and an 8.5-inch piece of very slender curved bone, pointed at an end, and encircled by a groove at the other (Plate XVI, m).

WORK IN SHELL

Two objects of worked shell were found. One was a small button-like disk .42 inch in diameter with two perforations. The perforations are conical, and the piece is in all probability of native manufacture (Plate XVI, p). The second is a lozenge-shaped pendant made by grinding down a clamshell; it has a small conical perforation in one corner, so placed that the piece would hang with the long axis horizontal. The curving opposite edge is very finely notched, there being about fifteen serrations per inch (Plate XVI, q). The piece is reminiscent of a pendant from Medicine Creek 4, House 1.4

SUMMARY AND CONCLUSIONS

The excavations of the Nebraska State Historical Society at Salina 1, supplementing the earlier researches of Udden, afford a much clearer notion of the probable relationships of the site. The Paint creek culture, as represented at the site, is characterized by the following traits:

- 1) A horticultural subsistence pattern, with maize, beans, and perhaps squash; hunting important.
- 2) Perishable habitations, probably grass lodges; earth-lodges absent; villages probably large.
- 3) Refuse, but no domiciliary mounds.
- 4) Pottery vari-colored (unpainted), never cord-impressed; vessels with flat or slightly concave bases, vertical loop handles, and direct uncollared rims; shell, bone, and gravel tempering; technically inferior and markedly dissimilar to Upper Republican wares.
- 5) Elbow pipes of stone (catlinite?); rarely of clay.
- 6) Celts of chipped type only.
- 7) Knives usually made of retouched flakes, less commonly ovate, rarely bevelled; some four-edged or diamond-shaped.
- 8) End scrapers small, well made.
- 9) Arrowpoints small, triangular, unnotched.
- 10) Arrowshaft smoothers of sandstone, boat-shaped.
- 11) Hammerstones plain, discoidal.
- 12) Metates and manos.
- 13) Bonework abundant, including scapula hoes, picks, awls, gouges, beads, etc.; no fishhooks.
- 14) Pendants and beads of clamshell.
- 15) Presence, though in very small quantities, of Caucasian artifacts.
- 16) Catlinite ornaments.

As regards authorship of the culture outlined above, we are seriously handicapped by lack of detailed information on the tribes which occupied central Kansas in early historic times. However, it seems

⁴See p. 191.

to have been carried by a semi-sedentary, horticultural people, living probably in grass lodges, and generally confined to the Great Bend Lowland and the immediately adjacent region. Udden's discovery of chain armor in one of the mounds and cross finds of pottery of the type characteristic of the Loup river in central Nebraska indicate that the site was early historic, and probably contemporaneous with the protohistoric villages of the Nebraska Pawnee. The scarcity of objects of Caucasian manufacture is evidence that it dates from the very beginning of the contact period.⁵ At this time, as we know from archaeological work in Nebraska, the Pawnee were living on the lower Loup and Platte rivers in large villages of semisubterranean earthlodges and were making high grade pottery which is distinguishable at a glance from that found at Salina 1. We may, therefore, safely eliminate the Pawnee from further consideration as being responsible for the Paint creek culture. The only other horticultural tribes native to Kansas in historic times were the Kansa and Osage, both Siouan, and the Wichita, of Caddoan stock. The Kansa resided on the Kansas river, and seem to have had no permanent villages west of Manhattan at the mouth of the Republican river. The Osage settlements were 150 miles or more to the east and southeast on the Neosho and upper Osage rivers. Both tribes, moreover, built earthlodges. The Wichita, on the other hand, have been identified with a high degree of probability with the peoples found by Coronado in 1541 in the great bend region of central Kansas;⁶ they are known to have lived in grass houses, placed relatively more stress upon hunting than did their Pawnee kindred, and made pottery. The precise nature of their pottery, as well as their material culture in general, is nowhere recorded. Further work on the 18th and 19th century Wichita sites of Oklahoma is needed before any final decision can be made with regard to the earlier phases of their culture. But, on the basis of the foregoing considerations, it seems reasonable to conclude that Salina 1 and related sites in the Great Bend Lowland are probably of Wichita origin and indicate that the region lying between the Smoky Hill and the great bend of the Arkansas was dominated by this tribe at the opening of the historic period, i. e., in the 16th and early 17th centuries. On the whole, it is perhaps safer, however, to use the geographical designation "Paint creek culture" instead of the linguistic term Wichita, at least for the present.

The antecedents of the Paint creek culture are unknown. Many of the component elements in the pattern are shared by the Upper

⁵Puebloan sherds, of types found on the Upper Rio Grande in New Mexico, have been recovered from sites in the Great Bend Lowland, especially on Cow Creek and Little river. So far as the writer has been able to determine, most of these are of 16th and 17th century manufacture, and suggest that Pueblo influences on the central Plains were perhaps most marked during the period of unrest which attended and culminated in the Pueblo rebellion of 1680.

⁶Mooney, 1910, p. 947.

Republican culture,⁷ but house types and pottery are markedly dissimilar. If the Paint creek culture grew out of the Upper Republican, as is not impossible, it underwent some very striking modifications in late prehistoric times. Basically, it may well be related to the former, but until more intensive research has been done in and about the Great Bend Lowland and southward, the question must be left open.

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⁷See pp. 204-205, also Strong, 1933, pp. 278-9.