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THE COUNCIL CIRCLES OF CENTRAL KANSAS: WERE THEY SOLSTICE REGISTERS?

WALDO R. WEDEL

ABSTRACT

At five Little River focus village sites in Rice and McPherson counties, Kansas, so-called council circles are probably the most notable features present. Each consists of a low central mound surrounded by a ditch or a series of depressions (borrow pits) or both. No village site has more than a single circle. At the only one yet excavated (Tobias site), elongate house pits arranged around a patio within the ditched zone formed a structural complex which is apparently unique in Plains archaeology. The houses were built of poles and grass, earth-covered wholly or in part, and had evidently been destroyed by fire. The covering fill contained numerous large boulders and scattered human bones, some fire-blackened. From their plan and contents, it is suggested that these house complexes were special-purpose structures; from their demonstrated orientation, it is further suggested that one of their functions may have been to record solstitial sunrise (and sunset?) points on the horizon.

A PARTICULARLY notable feature of certain early historic Indian village sites in central Kansas are the so-called "council circles." Still unique among the known archaeological remains of the Great Plains, they were first so designated by local historians nearly 40 years ago (Jones 1928: 541), for want of a better term rather than because of any actual evidence of their true nature or of their function in the native society they once served. Today, through systematic excavations, we have a much better understanding of the nature of at least one of these circles; and by combining the information thus obtained with a study of aerial photographs, we can offer some plausible suggestions concerning their possible use.

The council circle consists essentially of a low central mounded area averaging 60–90 ft. in diameter, around which there is a shallow ditch or a series of oblong depressions placed more or less end to end to form a roughly circular, subcircular, or elliptical pattern. In one or two instances, both ditch and depressions seem to have been present and concentric. The extreme outside diameter of these configurations, as determined from the surface traces and from aerial photographs, ranges from approximately 90 ft. to nearly 200 ft. The maximum relief seldom exceeds 3 ft. Other than the surface contours and minor irregularities, there is usually nothing especially distinctive

about the complex superficially, except that on at least two circles, scattered sandstone boulders are, or were once, visible on the mound slopes.

The known council circles have a curiously limited geographical distribution. They are absent from most of the sites tentatively ascribed to the Little River focus, which is believed to represent a Wichita Indian occupancy of about A.D. 1500–1700 (Wedel 1959: 584–9). Indeed, only five are on record—three in northern Rice County on the headwaters of the Little Arkansas River, and two in nearby McPherson County, 18 or 20 mi. to the east and within 2 mi. of the Smoky Hill River. All lie within $3\frac{1}{2}$ mi. of $38^{\circ} 30'$ north latitude; none is more than 6 mi. west or 16 mi. east of 98° west longitude. Each is closely associated with a village complex consisting otherwise of scattered refuse mounds or areas, storage pits, and surface litter of potsherds, flint chips, and other debris. No village site includes more than one council circle, and, contrary to some local misconceptions, the circles are not invariably placed on the highest point in the site. That they once occurred more widely is possible, but our attempts by aerial and ground reconnaissance to track down reported circles at other locations have been uniformly unsuccessful. If additional circles were visible before agricultural operations broke up the surfaces of the many known sites in Rice County and elsewhere, nothing in the patterns of crop growth or soil coloration has so far been recognized as indication of their presence.

The Rice County circles include one on the Tobias site (14RC8), 8 mi. north and 5 mi. east of Lyons; another on the Paul Thompson site (14RC12), less than $\frac{1}{2}$ mi. to the east; and a third on the Kermit Hayes site No. 2 (14RC-13), about $\frac{1}{4}$ mi. farther east and south. All are on the south side of the Little Arkansas River, which develops a permanent flow from springs at and just above the Tobias site and continues as a small but clear perennial stream for some miles to the southeast. The presence of this never-failing water supply was undoubtedly a prime consideration in placement of the village sites in this locality.

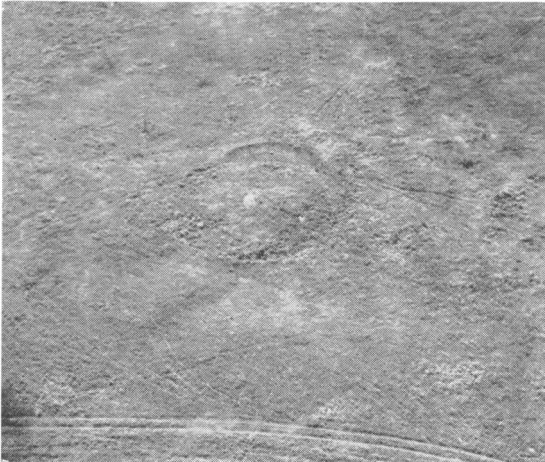


FIG. 1. Paul Thompson circle (14RC12), Rice County; camera pointing southeast.

The Tobias circle is the only one which has been extensively worked, but before we review the findings here, some comments on the other known circles are in order. The Paul Thompson circle, best marked and smallest of the series, lies in unbroken pasture land on a round-topped ridge (Fig. 1). Its central mound rises about 3 ft. above the lowest point in the surrounding ditch, on the southeast side of the circle. Although a heavy cover of grass and forbs obscures the surface details, there is some evidence that the ditch is broken on the south, west, north, and east by low ridges, so that it may be described as an interrupted (quartered?) circle. The northwest and northeast depressions are the least pronounced. Large sandstone boulders were barely visible at one or two points on the mound slope in the summer of 1965; none was seen in the encircling depressions. The boulders were presumably gathered from ledges along the Little Arkansas, 100 yds. or less to the east, where a few simple petroglyphs were noted. Shallow circular depressions or "buffalo wallows," possibly representing lodge sites or collapsed storage pits, are scattered around the council circle, and probable refuse mounds are present.

The Hayes circle is on the summit of a broad flat-topped upland ridge, from which the Paul Thompson and Tobias circles are visible — or would be if a few large cottonwood trees bordering the Little Arkansas River were eliminated or had their tops trimmed. When I first saw the circle in 1940, the mounded center

appeared to be about 2 ft. high, and the surrounding ditch was continuous, with a depth of 12–18 in. and a width of 15–20 ft. In the ditch, young corn stood 18–24 in. high; elsewhere on the mound and outside the circle it was a scant 6 in. In the early summer of 1965, preceding a disastrous washing rain, two large shallow depressions were clearly visible on the southeast and southwest sides of the mound, separated by a low ridge south of the mound center. Similar though less obvious ridges were discernible east and west of the mound, and there were faint indications of two smaller shallower depressions on the northeast and northwest. By summer's end, these had been obliterated by rain wash. According to Mr. Hayes, who helped break the sod here in 1928, there then appeared to be two concentric ditches around the mound, one of them more or less continuous, the other discontinuous and possibly quartered (Jones 1928: 541–2). Despite intensive cultivation since that time, and in sharp contrast to the situation at the Tobias circle, no sandstone boulders have ever been uncovered in or around this circle. A great deal of material, including mainly potsherds and stone artifacts, has been collected around the circle, and there are several areas of heavy concentration of surface detritus which probably represent former refuse mounds now reduced by long cultivation.

Eighteen miles east and 4 mi. north of the last is the Swenson or Sharps Creek site, lying 1½ mi. south of the Smoky Hill River. It occupies a long north-south ridge, with Sharps Creek some distance to the west. Disturbed refuse mounds, 8 or 10 in number, are scattered along the ridge in a long straggling line north and south of the circle. This is the largest and perhaps the most elaborate circle of the entire series. It is in unbroken ground, and the heavy stand of bluestem and the other tall prairie grasses which usually cover it, plus its exceptional size, make it difficult to describe in the absence of an instrument survey. It appears from aerial photographs to be some 200 ft. in diameter, approximately circular in plan, with a nearly continuous outer ditch 2 or 3 ft. deep within which is a series of curving depressions, perhaps six in number, both of these features surrounding a central mounded area. The relief, if visual impressions can be trusted, may be as much as 4 or 5 ft. Superficially, this circle



FIG. 2. Sharps Creek circle, McPherson County; camera points south.

reminds one of a small fortified Upper Missouri River village site (Fig. 2).

When I first visited the site in 1934, there were numerous signs of extensive but apparently unsystematic digging, notably in the mounds; some of the holes were as much as 12 ft. across and 5 ft. deep. Whether this digging was carried into the circle, and thus accounts in part for the observed irregularities of surface in the enclosed section, I am unable to say. If this circle has not been hopelessly plundered or if its configurations and original ground plan have not been destroyed by the random digging of the past, it richly merits full scale investigation.

Three miles to the east, at the Paint Creek or Udden site (14MP1), is the fifth of the known circles. It lies on the left bank of Paint Creek, the southern part of the circle being not more than 25 yd. from the creek bank, with the village site, well known to collectors for years because of its sustained artifact yield, covering many acres of ground to the southwest, west, and northwest. No other circle is so asymmetrically located with reference to the village of which it was presumably once an important part. I do not have exact dimensions; it is certainly smaller than the Sharps Creek circle but probably exceeds in size any of the Rice County examples. Aerial photographs indicate that it is oblong rather than circular, with the long axis running approximately east-northeast by west-southwest; its measurements, again from aerial views, approximate 130 by 185 ft. The central area, if it was ever mounded, has been

greatly reduced by long cultivation. The south edge of the circle is in closely grazed pasture, and here 2 or 3 oblong depressions are visible, suggesting a discontinuous configuration. The rest of the circle is in cropland; however, its location was clearly traceable from the air last August, when the vegetation in the northwest, north, and northeast sectors was healthy and green, whereas that within the circle was stunted and dying. The response of the crop to the still undetermined subsurface character of the circle complex was curiously reminiscent of my observations at the Kermit Hayes circle in 1940, though at the latter the contrasts were rather less striking (Fig. 3).

The Tobias circle (14RC8), before systematic excavations began in 1940, appeared as an asymmetrical arrangement of shallow oblong depressions, apparently 5 in number and varying greatly in size and shape. None was more than 1½ ft. deep. The area thus enclosed was approximately circular, about 70 ft. in diameter, and was mounded to a height of about 2 ft. at the center. Within the ditched area, the ground surface gave not the slightest indication of what might be expected in the way of subsurface structures, pits, or other features, except that here and there the tips of sandstone boulders barely protruded through the shortgrass sod. Other boulders, in the southeast, southwest, and northwest depressions, lay on the surface or were partly embedded in the sod. Since there had been no previous disturbance by collectors or by modern farming, surface trash was limited to a few small sherds, flints, and weathered bones brought to the surface by burrowing animals.

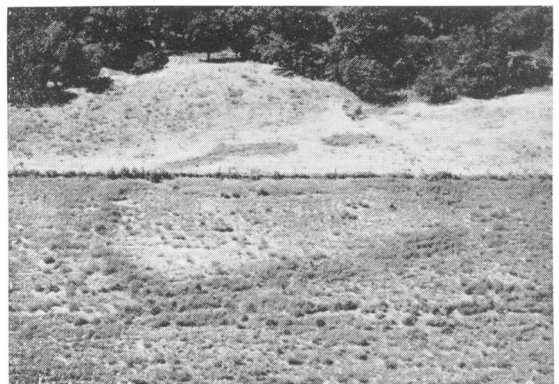


FIG. 3. Paint Creek circle (14MP1), McPherson County; camera points north.

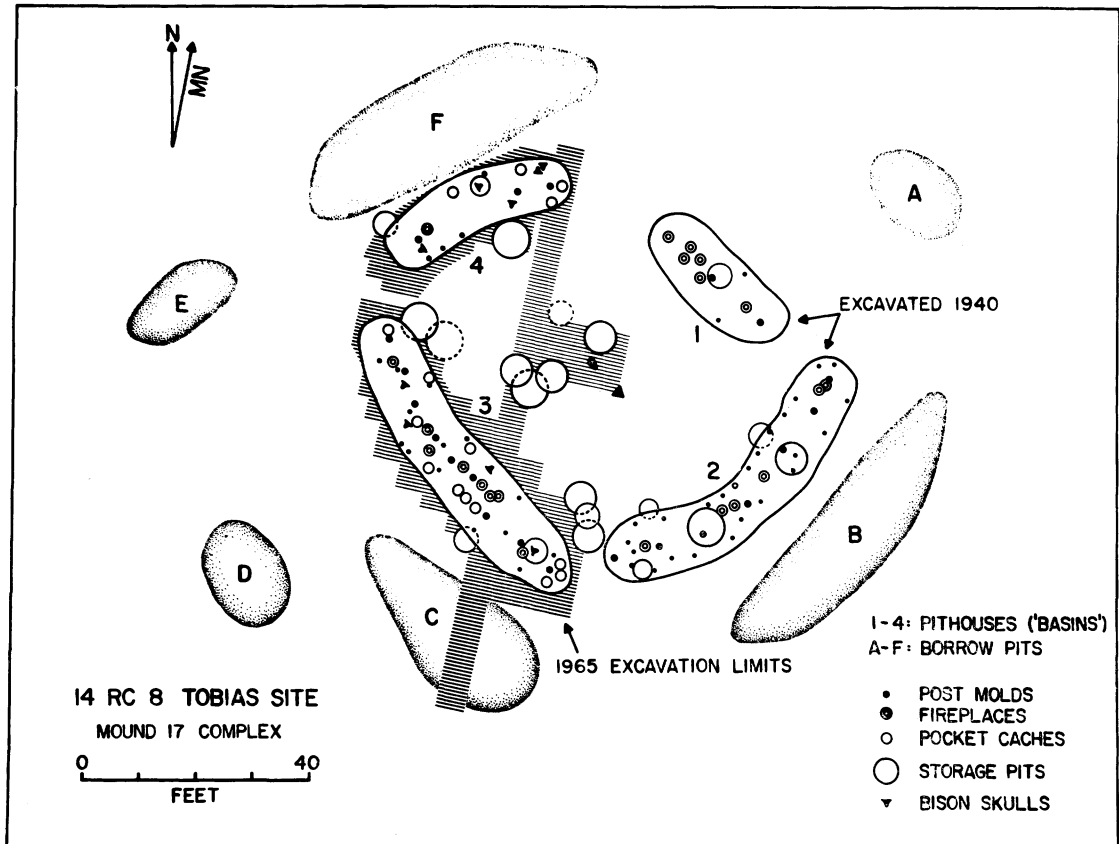


Fig. 4. Plan of excavations in Tobias council circle, showing house pits 1-4 surrounded by borrow pits A-F. Center of complex is at slab immediately northwest of triangulation point.

Close scrutiny of aerial photos made in June, 1956, requires some modification of the foregoing description. The surface depressions, or "borrow pits," number not five but six. They form a broadly elliptical and fairly symmetrical pattern whose long axis runs approximately east-northeast by west-southwest and which measures about 110 by 150 ft. Three of the depressions (Fig. 4, features A, D, E), one at the east end and the other two at the west end, are much smaller and relatively deeper than the other three.

The excavations within the circle in 1940 and again in 1965 have disclosed the presence of 4 oblong or curving dug basins or pits, which were arranged in a roughly quadrilateral plan, with each basin positioned more or less parallel to one of the larger surface depressions (Fig. 4). But, whereas the ellipse formed by the surface depressions is oriented east-northeast by west-southwest, the quadrilateral formed by the

dug basins is transverse to that axis on a line that runs north-northwest by south-southeast. Both configurations, however, were evidently centered on a common point marked by a plain sandstone slab beneath which were found four tubular bone beads.

The basins average 10-12 ft. in width and have a fairly uniform floor depth of 33-36 in. below ground surface, but they vary greatly in length. Basins 1 and 4, respectively in the northeast and northwest quadrants, are 30 and 36 ft. long; Basins 2 and 3, respectively in the southeast and southwest quadrants, measure 55 and 57 ft. The intervals between contiguous basins vary from an estimated 6 ft. between Nos. 2 and 3 to 14 or 15 ft. between Nos. 1 and 4; where contemporary and precise measurement was possible, the interval between Nos. 1 and 2 was 8 ft. and that between Nos. 3 and 4 was 9 ft. On the north and south, the intervals between basins coincide with the cardinal

directions; on the east and west, the coincidence is only approximate.

In at least three of the basins, there was strong indication of several successive trash-littered floor or living levels, which occurred at intervals throughout the lower 4–8 in. of fill. Above these, there was a very heavy admixture of burned clay, charred twigs and grass, and other signs of intense conflagration, suggesting that the house structures which once stood in and over the basins had been burned. Above the burned layer, each basin fill contained large numbers of sandstone boulders, varying from fist-sized to 200-lb. examples. Interestingly enough, most of the boulders around the margins of each basin appeared to be tilted, as if they had fallen or were thrown into a depression which was already partly filled in by, or after, the burning. Particularly heavy concentrations of boulders were noted at and near the ends of each basin, where some appeared to be lying directly against the original basin wall. A few bore sharpening grooves or grinding surfaces, but there is nothing to suggest that the boulders had any structural function. It is not at all clear to me why the equivalent of several wagonloads of stones should have been carried, doubtless stone by stone, 100 yd. or more up the ridge to be thrown into the burned-out structures.

That the basins were originally houses is evidenced by the presence and systematic arrangement of certain features on the floors. In each basin were found well-marked ash-filled fireplaces, postmolds, pocket caches, and larger subfloor storage pits filled with refuse. In Basins 1, 2, and 3, there was a line of fireplaces, some of which overlay earlier hearths, running along the midline; the larger storage pits tended to occur along this line. The two larger basins, Nos. 2 and 3, also showed a line of postmolds, some still containing upright charred post stumps, interspersed between the fireplaces. Smaller postmolds scattered irregularly along the basin margins probably reflect our incomplete recovery of a system of wall supports. We have no evidence as to position or nature of the entrances.

Within the quadrilateral patio around which the basin structures were arranged, excavation has been incomplete, though the 1940 and 1965 tests probably give a fair idea of what is there. Large deep storage pits now filled with trash seem to be plentiful; the wide variation

in character and hardness of their fill, and the recurrence of intersecting pits, suggest long use of the area. There appears to have been considerable disturbance in the central part of the patio. An unmarked sandstone slab, measuring about 6 by 12 by 18 in. and lying about 15 in. beneath the ground surface, seems to have been the center on which the complex of buildings was based. At any rate, centering on this slab, an 80-ft. northwest-southeast line just reaches the north wall of Basin 4 and the south wall of Basin 2, and a 70-ft. northeast-southwest line reaches the east wall of Basin 1 and the west wall of Basin 3. A north-south line through this slab passes, on the north, through the gap between Basins 1 and 4, and on the south through the interval between Basins 2 and 3. The basins thus were placed in the semicardinal directions from the slab-marked center point.

That the structures which once stood here were finally destroyed by fire has already been noted. It further seems likely that the end came suddenly and perhaps unexpectedly and that the occupants may have had little or no opportunity to remove their personal and household belongings. Among the materials recovered in our excavations were much broken pottery, including mainly Geneso grit-tempered and some Cowley shell-tempered wares; stone and bone artifacts, including small triangular projectile points, scrapers, knives, drills, pipes, milling stones, and several large caches of flint flakes and cores evidently intended for implement manufacture; charred corn, both shelled and on the cob, and principally scattered along the midline in Basins 1 and 2; single-rod coiled basketry; 15 or more bison skulls, none with mandible; and quantities of broken animal bone. Pea-sized blue glass beads, an iron knife and axhead, and a few other metal scraps confirm an early post-White contact dating. Most of the 1965 artifact finds parallel closely those in 1940 (Wedel 1959: 231–98). From cache pits within and outside the circle come glaze-paint potsherds that originated in the Rio Grande drainage as well as turquoise, mica-schist shaft straighteners, and other items which indicate contact with the Pueblo Indians.

Since the burial grounds for the Great Bend aspect villages have not been discovered, it is particularly noteworthy that we found human bones in all four basins opened at the Tobias circle. They were especially plentiful in Basin

1, at depths ranging from 6 to 24 in. below ground surface and thus 1 ft. or more above the original basin floor. They occurred, usually as scattered single elements in and above the burned fill, under and intermingled with the sandstone boulders. Mostly, they were the bones of children and adolescents, but with occasional badly-broken adult skulls and other elements; excepting those of small children, many were charred and fire-blackened. Partially articulated limbs occurred in two or three instances, and the otherwise unburned incomplete skeleton of a child, lying horizontally 13 in. above the floor, had its feet in a mass of burned wood with the bones calcined. Basins 2, 3, and 4 yielded far fewer human bones and no clear instances of articulation.

The human bones we found were clearly deposited, for the most part, after collapse of the basin structures; however, some of them, including at least one still partly articulated individual, were directly affected by the burning of the houses. It is possible they represent one of the community burying grounds in which remains of corpses previously exposed on scaffolds or in trees were finally interred. It seems more likely that they are the remains of former inhabitants of the houses, dead perhaps from enemy action or other catastrophe, whose scattered bones were later gathered up and deposited in the ruins of the burned-out houses by surviving kin or fellow tribesmen.

As to the nature of the houses which once stood within the council circle complex, it seems clear that they were something more substantial than the grass lodges reported by the Spanish explorers at the 16th-century Quiviran (Wichita) settlements. The masses of burned clay and earth, many carrying grass, twig, and pole impressions, were present in much greater quantity than I have ever seen in any Plains earth-lodge ruin, historic or prehistoric. I doubt that they represent the usual type of dwelling at the Little River focus sites, though it must be pointed out that no sustained efforts have yet been made to determine the usual type of house here. In any case, the fact that no more than one council circle has ever been noted on any single village site suggests that these were special structures, as does their obviously planned arrangement around a patio.

The apparent total absence to date of any recognizable ceremonial features or paraphernalia in or with the structures composing the

circle argues against their function as solely religious or ritual centers. Conversely, the occurrence within them of the same sorts of pottery, stone, bone, and shell artifacts, and other materials as are found elsewhere on the village sites connotes domestic or domiciliary usage. Their usually more or less central placement within the village area, which may cover from 15 to 100 acres or more, suggests that their occupants may have been people of unusual importance or high standing in the community. There is no present evidence that the circles were stockaded or otherwise defensively designed. Possibly the most plausible view is that they represent the residence of the village elite, a class of leading families perhaps, with ritual functions as well, and with the more modest homes of the commoners scattered around (I would suspect in less permanent grass houses such as were described by the first Spaniards to visit the Indian villages of central Kansas).

The relationship of the surface depressions forming the council circle before our excavations to the group of structures uncovered within the visible circle is still unclear, as is their original purpose. Using a 3-in. auger, we bored into two of the larger depressions in 1940 and found nothing that invited us to dig into them. In 1965, we cut a test trench through the southwestern depression, which had held rain water most of the season. There was indisputable evidence that a pit nearly 3 ft. deep, about 12 ft. wide, and of unknown length, had been dug here, and the deeper fill within was mixed with broken animal bones, stones, and other debris. Owing to the extraordinarily refractory nature of the fill, which stubbornly resisted shovel, pick, and mattock alike, our test was limited to a narrow trench, and from this it was manifestly impossible to determine whether there had ever been a house in or over the dug pit. Our impression was that the fill was mainly refuse, which had been deposited in an open pit; consequently, we were inclined at the time to retain the designation of "borrow pit" for this feature, on the further assumption that the dirt taken from it may have been used somehow in connection with the nearby house basin, perhaps as additional wall covering material. I do not regard this as a final determination, however, since probing in the larger northwest depression, which still held rain water at the end of the 1965 season, suggested presence of boulders or other intrusive matter at depths of

30 in. or more. It thus remains an open question whether or not there is here a second set of house structures, outside of and concentric with the four basins we opened, and perhaps later in time than our Basins 1-4. It should be added that certain observations made on aerial photographs since close of our 1965 work cast some doubt on the view that the surface depressions are nothing more than "borrow pits."

It would be fatuous at this stage to attempt to extend our interpretations from the Tobias circle complex to the other known council circles, none of which has been even partially excavated. I cannot resist the temptation, however, to call attention to the apparent quartering or segmentation discernible in the surface traces at other circles, to the reported double-circle arrangement at the Hayes site, and to the apparent interrupted trench within a continuous trench constituting the surface features now most conspicuous in the Sharps Creek circle. At the Tobias circle, the two largest structures excavated lie in the south half; and it may therefore be significant that the deepest and most conspicuous surface depressions at the Thompson, Hayes, and Sharps Creek circles are also those in the south portions. If systematic and extended work at some of these other sites becomes possible, and if the quadrant arrangement of inside structures is there repeated, one must wonder whether and how this reflects the social or ritual structuring of the society that once used these complexes. One wonders, too, what social or economic significance is reflected in the much greater size of the structures on the south side of the complex as contrasted with the north side structures. Was there, perhaps, some sort of North and South or Winter and Summer dichotomy in the organization of the local group?

Since close of the 1965 field investigations, there has been opportunity to compare some of our ground surface observations and measurements with aerial photographs by the U.S. Department of Agriculture (Photo No. AYO-1R-197, 6-12-56) and Kansas State Highway Commission (Photo Nos. MP-10-283 and MP-10-287, 12-5-63) of the localities involved. Some of the findings bear directly on the thorny problems of interpretation we face. For one thing, the Tobias, Thompson, and Hayes circles are oriented in a curiously interesting relationship to one another (Fig. 5). From Tobias, the Thompson circle is approximately 790 yd. east

by 35° south; from Thompson, the Hayes circle is about 2,135 yd. in the same general direction but at an angle of 30° south of east. In aboriginal times, when house structures stood within each of these three circle complexes and the intervening streamside timber was smaller or absent, an observer standing some 70-75 yd. south of the Tobias circle and looking east by 30° south, could have seen the Thompson and Hayes circle complexes in a single direct line. Moreover, at the winter solstice, about December 21-22, such an observer could also have seen the sun rise where his line of sight across the Thompson and Hayes circles touched the eastern horizon, since in this latitude the mid-winter sunrise occurs at 30° south of east. Two groups of local observers, who stationed themselves at my suggestion on the Tobias site at sunrise on December 21 and 22, 1965, verified this alignment of circles with the sunrise horizon point.

That this observed alignment of separate sites is probably not fortuitous is strongly suggested by the apparent orientation of at least two of these three circles. On the aerial photographs, the Hayes circle appears as actually an ellipse, whose long axis coincides with the 30° angle line of the winter solstice sunrise. The ellipse formed by the six surface depressions at Tobias is otherwise oriented, with its long axis east-northeast by west-southwest, and at an angle of 30° from an east-west line. Continued to the eastern horizon, such an axis would coincide with the sunrise position at the summer solstice or, projected to the western horizon, with the sunset point at the winter solstice. I can offer no explanation for the orientation of the Paint Creek circle at an angle of 24° from the east-west line.

It has been recognized for many years that the so-called council circles of central Kansas are unique among the known archaeological remains of the Plains region. Their demonstrated occurrence with a complex of semisubterranean elongate house structures at the Tobias site has done nothing to dispel their uniqueness, which extends to inferred function as well as to construction and arrangement. The alignment of the Tobias, Thompson, and Hayes circles, together with the evident orientation of the Tobias and Hayes circles along lines that coincide with solstitial phenomena, all seem to point toward purposeful, not accidental, placement.

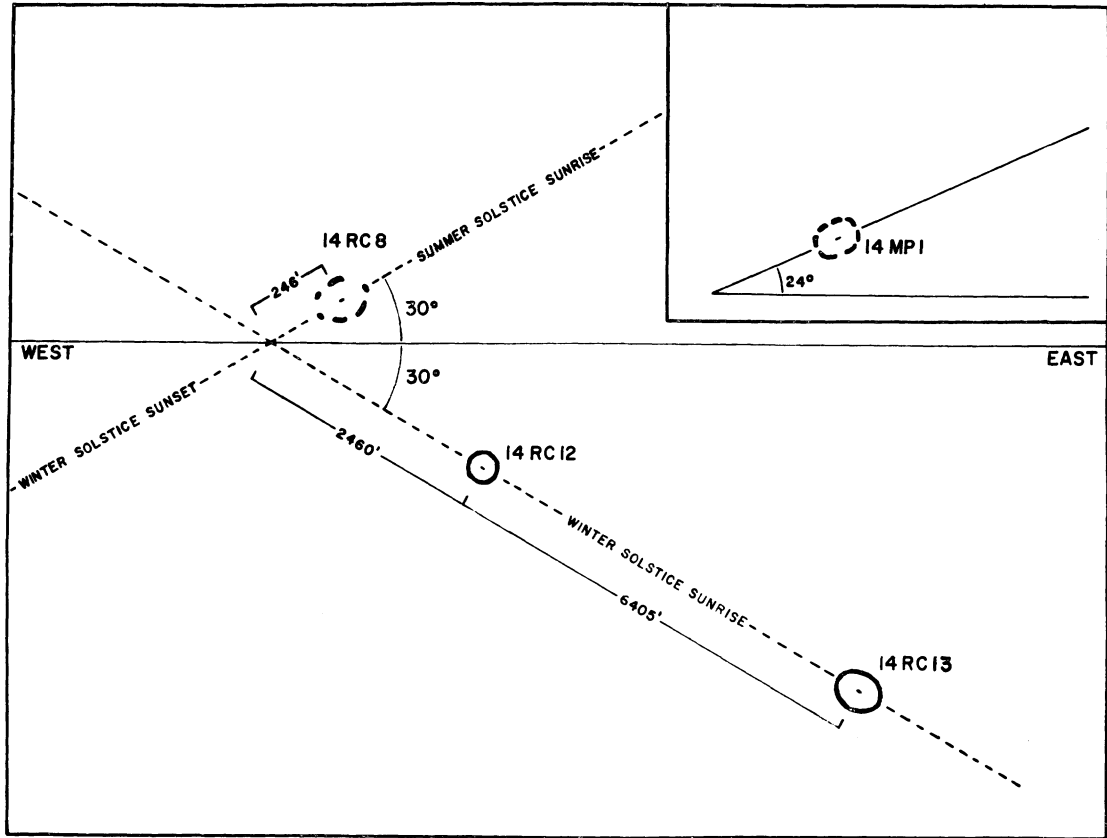


Fig. 5. Diagram to show alignment and orientation of circles at Thompson (14RC12), Hayes (14RC13), and Tobias (14RC8) sites, Rice County. Inset, Paint Creek circle, McPherson County.

That celestial phenomena figured in the mythology and ceremonialism of the native Americans is well known, but the extent to which the solstices were specifically involved is often difficult or impossible to ascertain. The Pueblo Indians, with some of whom the Little River focus people clearly trafficked to a greater degree than we have previously supposed, are an exception. Many years ago, in connection with studies of Pueblo Indian ceremonialism in Arizona, Fewkes (1897: 259; 1898: 67-8) commented on the importance of solar positions and seasonal changes, and particularly of the rising and setting horizon points of the sun, which in turn were reflected in the ceremonial calendar. He specifically noted that both winter and summer solstices were ritually observed by the Hopi of Walpi; that the time for summer rituals was determined from observation of the solstice sunrise point on the horizon, the winter ritual from the horizon sunset point; and that natural landmarks were used in these observations.

More recently, Parsons (1939a: 122, 212, 496, 555) has stated that at Zuñi, the Sun Speaker or Pekwin

determines the solstices by watching the sunrise from a petrified stump on the east edge of town, and the sunset in summer from a hill below Corn Mesa . . . The solstices date other ceremonies, so Pekwin is virtually the keeper of the calendar . . . The summer solstice, "when the sun turns back to winter," is observed, but ceremonial celebration is everywhere less than at the winter turning . . .

Solstice observations and rituals are also reported for Taos and Picuris (Parsons 1939b: 216; 1936: 78, 84, 112).

If ethnographic evidence of solstitial observances among the North American Indians outside the Southwest is scanty, that from archaeology appears to be even scantier. An extensive, though not exhaustive, search of the published literature has turned up only one record — from the Cahokia site on the American Bottoms near St. Louis (Wittry 1964), where a

great circle of 48 post holes, dated at *ca.* A.D. 1000, is believed to have served as a device for observations of the solstices and equinoxes.

We have, unfortunately, no documentary or other direct data on ceremonialism among the 16th- and 17th-century Indians of central Kansas, nor have we much specific information on solstitial observances among the later Plains Indians of the general region. Among the present day Wichita, there is apparently no evidence of ceremonies connected with the solstices. More than 60 yrs. ago, Dorsey (1904: 18) observed that "The religious system of the Wichita, like that of the Pawnee, though to a less extent, may be characterized as a star cult"; and in this, the sun was one of the prime deities "who not only gives his light, but assists in the growth of everything and in keeping the earth fresh and sweet." In the Wichita grass lodge, according to Dorsey (1904: 4), there were two doors, "one on the east and one on the west side" and he observed further that "a door is placed on the east side that the sun may look into the lodge as it rises, and that the west door is so placed that the sun may look in as it sets . . ."

Despite the lack of ethnographic confirmation, I think it entirely reasonable to suppose that the semisedentary corn-growing early historic natives of central Kansas, like their Southwestern contemporaries, were thoroughly familiar with the seasonal variations in the sun's daily course across the heavens; that they associated the sun's approach to a vertical sky position in summer with light, warmth, and a bountiful earth, its recession in winter with cold, darkness, and a barren earth; and that they possessed rituals designed to strengthen the weakened and distant winter sun for its long journey northward (compare Parsons 1936: 112). Considering the two centuries or more that have elapsed since the Wichita left central Kansas and the cultural disintegration, coupled with population decline that took place in that period, it is not surprising that their present day representatives can throw little or no light on beliefs and practices that may have been in vogue in the sixteenth to eighteenth centuries. In the archaeologically observed alignment of sites and the orientation of the council circles, we may have the only surviving evidence that, two or three centuries ago, the ancestral Wichita ritually recognized the great importance of the winter and summer turning points of the sun and marked them on the

horizon for ceremonial purposes by appropriate placement of the unique structures that formed the central points of their villages.

One more point deserves brief comment. I have previously noted the finding of scattered human bones in each of the four house basins at the Tobias circle. In light of the directional placements discussed above, it seems appropriate to propose that these may not be, as I tentatively suggested, delayed and partial burials resulting from enemy action or natural catastrophe. In the elaborate ceremonial system of the Pawnee, including specifically the Skidi tribe, whose historic homeland was some 200 mi. north of the Kansas sites we have been discussing, one of the more spectacular rituals was that of the sacrifice of a captive female to the Morningstar, represented by Mars. The details do not concern us here, but it is worth noting that, according to Dorsey (1907: 67)

... there is reason to believe that an abbreviated form of the ceremony was held each year in December, at which time only the ritual was sung and the smoke offering performed. If the assumption is correct that this ceremony in general represents a solstice ceremony, this abbreviated winter performance corresponds to the abbreviated performance of the Hopi ceremonies which are held in the corresponding period . . .

Linton's analysis (1926: 462) of the Skidi Morningstar sacrifice includes an observation obtained by Bourke from an old Zuñi chief to the effect that

In the days of long ago, all the Pueblos . . . had the religion of human sacrifice at the feast of fire, when the days are shortest . . .

Although cannibalism toward their prisoners, "whose flesh they eat, after having killed them with long and unheard of torments, horrible to mankind," is reported by the Spanish (Bolton 1914: 286-9) to have been common and widespread among the Wichita tribes in the eighteenth century, there is apparently no record of human sacrifice among the historic Wichita. The absence of such information and the tenuous nature of the data pointing to an association between human sacrifice and mid-winter rites permit us only to suggest the possibility that the disarticulated human bones at the Tobias circle, buried mostly without order and probably without ceremony, perhaps constitute further evidence of solstitial observances such as I now believe may be reflected in the alignment and orientation of the associated structural features.

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