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Prehistoric Evidence for Pawnee Cosmology

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Deetz has noted (1965:1), “The most basic statement of archeological purpose must include a reference to the derivation of the intangible from the tangible.” In this report I ask, Is it possible to document archeologically the antiquity of the Skiri Pawnee ceremonial and cosmological system, and what explicit inferences can link historic and prehistoric data?

On the Plains these inferences are most clearly articulated in the Direct Historical Approach (Wedel 1939:1–21), where we go from the historic to the immediate prehistoric. Wedel (1936), for example, did this extensively with Pawnee material culture. In this report I use the Direct Historical Approach to examine the area of cosmology by positing that past religious behavior is reconstructable through the archeological recovery of religious paraphernalia, and that historic religious ideas associated with those paraphernalia can be projected back in time. Aspects of the rich cosmology of the Skiri Pawnee are represented archeologically in non-economic faunal and floral remains, floor layouts, and astronomical alignments as those elements relate to cosmology.

Background

A number of Central Plains archeologists have worked on the antiquity of
Pawnee institutions. Presently it is believed that the Pawnee developed out of the protohistoric Lower Loup phase at about A.D. 1500 (Grange 1979). Ludwickson (1975) links that phase to the Loup River phase at this A.D. 1500 boundary, and ties the Loup River phase back to the earlier Upper Republican complex of the Central Plains Tradition. The Central Plains Tradition consists of three contemporaneous phases (A.D. 1000–1500) called Nebraska, Upper Republican, and Smoky Hill (O’Brien 1984). Like the historic Pawnee, the Central Plains Tradition Indians were farmers and built earthlodges, but unlike the Pawnee, who lived in fortified communities, they had a highly dispersed settlement system. The historic Pawnee lived in lodges with circular floor plans while the prehistoric Central Plains Tradition Indians lived in lodges with square floor plans. In spite of these floor plan shifts the continuity in a great number of other artifacts and attendant patterns point to these phases being ancestral or prehistoric Pawnee.

All Caddo-speaking Indians had rich and sophisticated cosmological systems, and that of the Pawnee is especially well documented (see Fletcher 1904; Murie 1981; Weltfish 1965). The astronomical aspects of this cosmology are described by Chamberlain (1982) and schematized to a lodge floor plan in Figure 1. All the Pawnee were daily observers of the heavens, and they were especially interested in two celestial bodies: Morning Star and Evening Star, the planets Mars and Venus. Their priests in particular were knowledgeable about the heavens and used their earthlodges as astronomical observatories. In fact Chamberlain (1982:179) proposed that a structure used in such a manner would be laid out so distinctively that it could be the means of identifying a priest’s lodge archeologically.

**Archeological Evidence of a Priest’s Lodge**

The C. C. Witt site, an earthlodge/burial complex of the Smoky Hill phase of the Central Plains Tradition, was excavated near Grandview Plaza, Kansas. The site consists of a single earthlodge situated on a bluffsip overlooking the juncture of the Smoky Hill, Republican, and Kansas rivers. Approximately 300 m directly south of the lodge, at the apex of the bluff, is a burial mound within which were found ceramics of the same type as those within the lodge. For this reason it is believed that the site is a farmstead with an associated family cemetery. The lodge has been dated by three radiocarbon dates; the average is A.D. 1240 ± 66 years. Its fireplace has been dated by paleomagnetism techniques at A.D. 1325–1450 with a 2 sigma level of confidence (Jeffrey L. Eighmy, personal communication). Therefore, based on these two sets of dates, an averaged date of A.D. 1300 is proposed for the lodge and mound.

The remains recovered from the lodge reflect the domestic activities commonly associated with Central Plains Tradition households (Blakeslee and Caldwell 1979; Gradwohl 1969; Strong 1935; Wedel 1959; Wood 1969). The three storage pits and all the postholes within the lodge were studied using flotation analysis and that made possible the recovery of a unique collection of faunal and floral remains. The animal bone was analyzed by Marie Brown (1981), and some of the botanical remains have been tentatively identified by Leonard Blake (personal communication).

The results of Brown’s (1981) study established that the remains of a redheaded woodpecker (right wing), a blue jay (left wing), a rare, long-eared owl (lower right wing), four bobwhite quail (right and left wings), and a woodpecker, species unknown (right and left wing) were left in Feature 2, in a storage pit, along with bone beads and a broken bracelet incised with a sunburst design. These birds were not important economically on the Plains, but were of great symbolic significance within the religion of many Plains Indians, especially the Pawnee and Arikara (see Fletcher 1904:21; Lowie 1954:159).

The lodge floor plan (Figure 2) is very similar to that of other Central Plains
Tradition structures, but at the west end on its midline was found a unique four-post pattern and on the floor just north of those posts was found a bald eagle talon. Because four-posted altars have been reported in similar positions within lodges on the Plains (Bowers 1950:127), we believed that we had discovered an ancient altar. Also of note was the fact that the lodge is aligned almost exactly on a north-south, east-west axis.

When the data on lodge alignment and the four-post altar pattern were combined with the information from Brown’s faunal analysis (documenting the noneconomical birds) it became apparent that the Witt Lodge was quite different from any other documented Central Plains earth-lodge.

**Astronomical Alignments Within the Witt Lodge**

One of the more interesting developments in archeology is a growing interest in discovering the nature of prehistoric astronomical knowledge. To this end Avreni (1972) published celestial computer tables for the northern and southern hemispheres, and using these tables we are able to test the Witt Lodge for significant astronomical alignments. Chamberlain (1982:179) outlined five conditions which a lodge that had been used as a priestly observatory should manifest, and the Witt Lodge was examined in terms of them. First Chamberlain argued that a Pawnee observatory lodge would have an unobstructed view of the eastern sky; the Witt Lodge has not only that, but it has a commanding view of the horizon in every direction. Second, he indicated that a lodge’s axis would be oriented east-west so that at the vernal equinox the sun’s first light would strike the altar; the Witt Lodge is so aligned that at A.D. 1300 the vernal equinox dawn sunlight would shine in through the east entrance and...
pass over the central fireplace to strike the altar (Figure 2). Third, Chamberlain suggested that the size parameters of the lodge's smokehole and door (height and width) would be designed to view the sky. The Witt Lodge's entrance is just under 2 m wide (its height is unknown, but 2 m is suggested because that would be just over the height of a man). With these entrance parameters the rising sun, depending on the amount of haze in the atmosphere, would appear as a large orange ball, so large as to almost completely fill the entranceway. This latter display would flood the lodge with direct light for about ten minutes.

Chamberlain's fourth condition was that an observatory lodge's smokehole would be constructed to view certain parts of the heavens—such as the Pleiades. Unfortunately the Witt Lodge's smokehole parameters are unknown. The fifth attribute would be the presence of the four star pillar posts (the lodge's four main interior support posts) correctly aligned to the semicardinal points. The Witt Lodge's four support posts are indeed correctly aligned to the semicardinal points.

Additional archeological data on astronomical alignments within the Pawnee-Arikara tradition have been reported by Donald Blakeslee (personal communication, 1985). He has discovered alignments to the stars Capella and Rigel in two St. Helena phase earthlodges in Nebraska. The St. Helena phase is thought to be protohistoric Arikara. Blakeslee (1985) believes Capella to be the Yellow Star in Pawnee (Arikara too) cosmology that is associated with the northwest star position, and he feels that Rigel is the White Star associated with the southwest position.

As indicated earlier it is believed that the four-post pattern found in the Witt Lodge represents an altar because four-posted altars are reported on the Plains. It must be pointed out, however, that historically the Pawnee had earthen mound
altars located directly against the west wall of the lodge. Wedel (1936:47–50) has reported such an altar from a lodge at the historic Pawnee Hill site in Nebraska, although he also pointed out that not all Pawnee lodges had altars (1936:47–50). We identify the four-post Witt Lodge configuration as an altar even though it is not flush against the west wall, because it is situated in the position that the Skiri Pawnee circled in their historic lodges and called wahkaru', the heart or inner life of man, and haturu', the throat or mouthpiece for knowledge (Murie 1981:44). This place symbolizes the wise sayings of ancestors. Its position within the Witt Lodge is such that a priest could easily sit behind it and open up a sacred bundle to expose its contents to the sun’s rays.

Thus, the layout and orientation of the Witt Lodge reflect prehistorically two Pawnee religious ideas: (1) that the equinocial sunlight should illuminate the altar, and (2) the concept of the four-pillar star posts, representative of the ideology of the semicardinal points. Indeed, it is possible that the use of a four-posted altar could be interpreted as documenting the antiquity of this latter ideology.

The four-pillar star concept was traditionally incorporated into a lodge’s four central posts by using four different species of wood (the northwest post, cottonwood; the northeast, elm; the southwest, box elder; and the southeast, willow) and by painting them four different colors (Chamberlain 1982:97). An attempt was made to test this concept by analyzing the charcoal from the four center posts; we also tested the altar posts, but the identified charcoal did not match the species code. No soil was collected from around the posts so we could not determine if they had been painted their cosmological colors: yellow, black, white, and red. Thus, while we have four pillars, we lack the evidence to say with certainty whether the arrangement of tree species and colors associated with the Pawnee ceremonial lodges and altars was present at this early date.

**Witt Lodge Faunal Remains and Pawnee Cosmology**

Within Pawnee theology Tirawahat (The-Expanse-of-the-Heavens), their highest deity, created thought and, by the act of thinking, created the universe and the star deities (Murie 1981:38). The stars, in their turn, created man in their image. For this philosophical reason a Pawnee man looked within himself to organize his life and from himself, with Heaven’s blessing, came his vision of his life. The universe continued its seasonal round because the Pawnee willed it through specific revitalization rituals. Based on these notions the Pawnee recognized a rhythmic alteration of the cosmic powers: life-death; winter-summer; spring-fall; day-night; male-female; sky-earth; the cycling of the stars, sun, and moon; the succession of the powers of the south with those of the north; and the succession of the powers of the east with those of the west. From these concepts a logical sequence of ceremonies was developed (Murie 1981:43; Weltfish 1965:84–85). Tirawahat created the gods, the Powers in the Heavens, as intermediaries between mankind and himself (Murie 1981:38–39). Two of the most important powers were Morning Star, a warrior, and Evening Star, who is the mother of the Skiri and controls crops. Through their union they created people.

Associated with these gods and powers was an elaborate yearly ritual cycle, and the major religious item used in these rites was a medicine bundle with its sacred paraphernalia. Historically, medicine bundles were named (for example, Evening Star), and they contained a number of sacred objects including special ears of corn, pipes, rattles, feathers, and bird and animal pelts. Each sacred item had a symbolic role in the ritual associated with the bundle (Murie 1981:33–38). Because these items are normally highly perishable it is commonly thought that they are difficult to recover in archaeological settings. I suggest here that the faunal remains without economic value, especially the birds found together in Feature 2 at the Witt Lodge, were part of a
medicine bundle and that they serve to document the antiquity of some of the cosmological concepts of the Pawnee associated with birds. 

As mentioned earlier, just north of the four-post altar was found the right talon of a bald eagle, an item that could have been part of a medicine bundle or some other piece of religious gear. Historically, eagle skins, talons, feathers, claws, and wings were all important ceremonial objects (Murie 1981:45–46, 62–63, 227). They were signs of authority and represented knowledge coming from Tirawahat, his power or fire (1981:175, 319). The eagle is the chief of day and the symbol of Morning Star, the warrior (Fletcher 1904:21–22). Warriors preparing for battle painted a bird’s claw on their faces. There is also a Bird’s Foot constellation in the heavens (Chamberlain 1982:115), and when a maiden is sacrificed to Morning Star, she wears a hawk on her head (1982:66). The presence of such a claw near the Witt altar may be seen as evidence for the antiquity of these ideas and of Morning Star.

The owl too is important, and owl feathers and skins were worn by priests and doctors. The owl is a messenger; he teaches individuals how to worship Tirawahat (Murie 1981:227). The owl also represents the four powers of the west that are under the control of Evening Star and do not sleep: Thunder, Lightning, Wind, and Clouds. The owl is chief of night and has the power to help and protect people at night (Fletcher 1904:21). Finally, owl skins are emblematic of chiefs. The presence of a right owl wing in the storage pit of the Witt Lodge may be seen as evidence that these ideas are ancient, especially the concept of the four powers under the control of Evening Star.

The blue jay (kiri ki) is the carrier of prayers to the sky, to Tirawahat (Murie 1981:45, 63, 114, 227), and its skin and feathers were tied to a red pipe devoted to the sun or a black pipe devoted to the moon. Some warriors on raiding expeditions carried the bird on their head so it would carry their prayers for success aloft. Thus, the blue jay is the messenger between man and Tirawahat, carrying both prayers and sacrifices. Finally, blue feathers symbolize the clear blue sky, a color symbolic of Tirawahat (Chamberlain 1982:48). The blue jay found in the Witt Lodge storage pit suggests some of these ideas might be old also.

The final pieces of symbolic avian data from the lodge are remains of a red-headed woodpecker (Fletcher 1904:21) and an unidentified woodpecker. Murie (1981:226–227) notes that the woodpecker had the special protection of Tirawahat and the Thunders because this bird cries out fearlessly during storms and builds its nest in decaying trees. The woodpecker is chief of trees and can protect the Pawnee from harm brought by storms and lightning. The woodpecker is the protector of the life of men (Fletcher 1904:21). The presence of two species of woodpecker associated with our owl and blue jay remains may again be a clue to the antiquity of these Pawnee cosmological notions.

Finally, within Pawnee bird symbolism the duck and the wren are important, but of these no trace was found in the Witt Lodge. Four bobwhite quail were found in the Feature 2 storage pit with the other avian remains, but their significance is unknown.

In addition to the avian remains recovered in the Witt Lodge, a gar jaw and snapping turtle carapace were discovered (Feature 2), and within Feature 4, a second storage pit, the remains of a painted box turtle carapace and four gar skulls were found. Also present in the lodge are a number of mussel shells including four in Feature 2. Unlike the others in the lodge these are in excellent condition and are unmodified.

The possible importance of these latter faunal remains can be illustrated by examining the Pawnee Four Pole Ceremony. This ceremony is associated with the formation of the Skiri federation and the organization of the bundle scheme, especially that dealing with the four sacred bundles of the semicardinal points (Murie 1981:107). During the Four Pole Ceremony an enclosure that parallels an earthlodge was constructed. It was made by lining the outer edge of a circular en-
closure with green branches, to which was added an east entranceway, a central fireplace, and a west altar. Also put into place were four species-coded pillar star poles as central support posts. Just outside this structure to the east was raised a small mound. The mound was made of soil from the fireplace (Murie 1981:107–111). Associated with the ritual of this ceremony was a water-filled wooden bowl in which a mussel shell was floated. Within the mussel shell was placed a gar jaw, a thunderbird head, and the image of a turtle (1981:109). The presence of the gar jaw and the mussel shells, along with the structural parallels of the enclosure to the lodge, could be interpreted as clues to the antiquity of some aspects of that ceremony.

The significance of turtle carapaces is difficult to assess, for Pawnee turtle symbolism is obscure, but it may be associated with Morning Star or even Tirawahat. Meteorites are believed to be turtle-shaped and multicolored (Murie 1981:67), like the painted box turtle. Further, in the great ceremony of the doctors, the Thirty Day Ceremony (Murie 1981:170–173), at the third stage of the ritual a turtle fireplace is constructed, consisting of a turtle modeled in mud with a fireplace built into its back. Its head is to the east, where the gods do their thinking, and the tail is to the west, where all things are created. The turtle’s four legs are the four pillar stars (Fletcher 1904:22–23). Thus turtles have to do with water, but also are associated with Morning Star and the sky.

Finally, the presence of one last important element of Pawnee cosmology should be outlined. Throughout this report there have been references to the four semicardinal points, to four pillar posts, to four altar posts, to four bobwhite quail, and to four gar skulls. The number four is a very ancient and widespread mystical organizing principle of these Indians; clearly the recurrence of that number in a structure with so many other religious attributes documents the antiquity of that cosmological concept.

Conclusions

What is the evidence for the antiquity of the Pawnee cosmological system? The Witt Lodge solar equinox-altar alignment and illumination suggest that the east-west dichotomy of Morning Star and Evening Star was present at about A.D. 1300. The alignment of the Witt Lodge’s four main posts to the semicardinal points suggests the presence here of part of the Pawnee four-pillar star ideology, as might the four-posted altar. The symbolism of four, reflected in the finding of four bobwhites and the four gar skulls, is an additional clue. The historic use of gar and turtle as elements in the Four Pole Ceremony and their presence at the Witt site further substantiate this claim.

The most compelling evidence for the antiquity of certain Pawnee religious ideas comes from the birds found in the Witt Lodge. The presence there of the eagle, owl, woodpecker, and blue jay can reasonably be explained as symbolic rather than economic. The lack of duck or wren in the lodge may mean only that these birds were not part of the Witt site priest’s religious paraphernalia; they might be found in some other priestly lodge. All the above data appear to be reasonable evidence that the concept of Tirawahat was present, for the birds are generally associated with him.

Finally, in this report I further demonstrate the archeologist’s ability to reconstruct the intangible aspects of society. In so doing he or she has an important role in documenting ancient religious ideas and systems and has the potential for studying changes in religious thought.

Notes

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1 This interpretation is based upon using a 3° horizon angle at 39° 02' 12" N. Lat., where the equinox sunrise angle in A.D. 1300 would be ca. 93° 12'.

2 It should be pointed out that the most common ceremonial item found in a Pawnee lodge in the historic period was a bison skull. It was generally found on the altar (Murie 1981:56), but no bison skull was found in the area of the Witt altar nor in the lodge. While we do not know for certain why there was no skull on the altar, it is quite possible that bison were symbolically less important to the prehistoric Pawnee for Holder (1970:59) notes that all the ancient Caddo horticulturalists were deeply imbued with a Mother Corn ideology.

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