The Hide Trade and Wichita Social Organization: An Assessment of Ethnological Hypotheses Concerning Polygyny

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Compared with late prehistoric archaeological sites attributed to the Wichita, protohistoric sites in Oklahoma contain artifact assemblages indicating that hide processing for trade with French voyageurs became a primary economic activity. Yet aside from assemblage changes, little is understood about how market demand for hides and other animal byproducts altered Wichita social organization, if at all. In this article we investigate polygyny. We examine the hypothesis that in household economies where production depends on women’s contributions, market integration intensifies demand on female labor: Where polygyny is practiced, market integration increases the number of wives sought by males, leading to larger families. We compare ethnological data and Blackfoot accounts of polygyny with ethnohistorical and ethnographic information concerning the Wichita. We then review protohistoric Wichita documentary and archaeological data to discuss their strengths and weaknesses for identifying these social and economic changes.

Keywords: protohistoric, hide trade, polygyny, Wichita, Blackfoot

The women tan, sew, and paint the skins, fence the fields, care for the cornfields, harvest the crops, cut and fetch the firewood, prepare the food, build the houses, and rear the children, their constant care stopping at nothing that contributes to the comfort and pleasure of their husbands. The latter devote themselves wholly to the chase and to warfare. By the first they become rich, by the second famous.

[Athanase de Mézières y Clugny commenting on Wichita society, 1778, Bolton 1914b:203]

What consequences did the hide trade have for Wichita social organization? As described in the introduction to this Memoir, the protohistoric Wichita existed for approximately 400 years on the extractive margins of the developing world economy (Perkins and Baugh, this volume). Yet for all the changes recognized by scholars concerning settlement locations and artifact assemblages, we know virtually nothing about how increased demand for hides and animal byproducts altered Wichita society, if at all. Did they adjust their economy and society to take advantage of foreign trading opportunities? If so, how did their social organization change?

In this paper, we review data from ethnologists related to the role of polygyny in economies based on household production. Specifically, we hypothesize that where “the value of women’s subsistence contributions (“domestic income”) increases, polygyny becomes more likely, since the income that men gain from marriage increases” (White and Burton 1988:872; see also Grossbard 1980; Spencer 1980). Men seek multiple wives to augment household production (White and Burton 1988). In the protohistoric Wichita case, we hypothesize that continuous demand by French
traders for hides and animal byproducts (cured meat, tallow, bear oil, etc.) altered the Wichita’s documented practice of sororal polygyny leading to what ethnologists term “wealth-increasing” or “general” polygyny. Greater productivity increased a household’s acquisition of French trade goods (guns, beads, metal implements, etc).

Descriptions like that by Athanase de Mézières (above) illustrate how Wichita men procured game, especially bison, while women processed hides and other animal byproducts. Ethnographers and ethnohistorians report the same division of tasks in most, if not all, Plains societies. Contemporary accounts from the Great Plains note how a wife spent much more time tanning a single hide than her husband spent procuring it: once a man on horseback located a bison herd—which on the southern Plains might take a good deal of time—he could acquire more hides and carcasses than a single wife could adequately process (Jablok 1950:20–21). Additional wives, therefore, could substantially increase household productivity (Faragher 1988:201). Women’s expertise in hide tanning also contributed greatly to the value of the finished commodity (Sundstrom 2002:114).

With a few exceptions, not many investigations from the southern Plains (Habicht-Mauche 2000, 2006) or elsewhere (Hollimon 2006; Perry 1979; Scheiber 2006; Sundstrom 2002; White 1999) explore the ramifications of the hide or fur trade for gender relations during the prehistoric, protohistoric or historic eras (cf. Frink and Weedman 2006). Nevertheless, such treatments could tap a vast historiography concerning North America’s fur trade with an equally vast literature on gender studies, to explore how women’s social statuses and roles potentially changed under intensifying trade relations. In particular, more could be learned concerning what occurs when indigenous modes of production remain intact, but capitalist market demand leads to an intensification of production; when goods produced for use develop into commodities produced for exchange (cf. Leacock 1978:255; Perkins and Baugh, this volume).

In this context, few archaeological studies explicitly address polygyny and its economic role in indigenous households. Admittedly, polygyny’s signature in the archaeological record remains ambiguous. Our objective is to combine what we know historically and ethnographically of Wichita society with available archaeological data on lodges, lodge size, and settlement organization to consider how archaeologists might better identify polygynous households. Ultimately, however, our paper will critique the available data rather than reach definitive answers. We raise more questions than we answer.

The theoretical model for the present study derives from two sources: ethnological investigations of polygyny and ethnohistorical reconstructions of Blackfoot society on the northern High Plains, the latter serving as a case study of how the hide trade altered indigenous gender relations. First, this theoretical perspective is discussed. Then, information concerning Wichita social organization is summarized before evaluating archaeological data from protohistoric and historic Wichita sites. We conclude that available Wichita data do provide some support for these hypotheses, but further research would certainly improve our understanding.

**POLYGNY FROM A COMPARATIVE PERSPECTIVE**

**Ethnological Studies**


Certain societies in Africa provide the clearest examples of wealth-increasing polygyny.

Without autonomous female productivity . . . expanding polygynous systems are impossible to maintain. Where they exist, such engines of productivity and stratification do indeed become the ideal pattern sought by the majority of males, and women’s bargaining position is strong. The African polygy-
nous compound is typically an industrious consort-
tium of highly productive and autonomous co-wives

In other words, where wives’ labor contrib-
utes greatly to household production, men pursue
additional spouses to expand output. We would add
that all household members, including wives,
might benefit from the incremental growth of
wealth and prestige resulting from polygyny. Al-
ternatively, men may appropriate the surplus value
for their own ends.

Sororal polygyny, in contrast, is frequently
associated with New World hunting and gathering
societies (White 1988:551). The economic ra-
ationale behind sororal polygyny is harder to pin-
point: “For hunters and fishers in the New World
the pattern is that of limited polygyny dependent
on the exceptional productivity of certain men;
rarely do co-wives generate substantial wealth”
(White 1988:552). Rather, sisters often assist one
another in completing basic household tasks.
Sororal polygyny may also serve affinal interests
by further solidifying the union of two families.

White (1988:551–552) notes that under cer-
tain historical conditions societies alter sororal
practices in response to changing economic op-
portunities. When households stand to benefit
from growing demand for their goods, societies
have sometimes developed characteristics not
unlike those associated with wealth-increasing
polygyny. The North American fur trade consti-
tuted one such situation. Following White
(1988:552),

a good hunter/warrior might lay claim to a family
of sisters whose cooperative activity in agriculture
and hide preparation was of great value. This case,
however, illustrates a feature of this pattern that ties
it in with the first [i.e., wealth-increasing polygyny]:
the extremes of this type, including those that are
exclusively sororal, nearly always entail wealth or
rank stratification among polygynists. None of the
extreme cases are simple hunters: they are mostly
hunter/traders, often with horses, in the extractive
peripheries of the world economy.

In short, increasing demand by European and
American traders for animal hides and related
products over a considerable period (i.e., 1600s
to late 1800s) may have intensified indigenous
polygyny.

The Blackfoot

The case of the High Plains Blackfoot of
Canada and the United States illustrates one ex-
ample of how the hide trade could influence mar-
riage practices. Beginning with Oscar Lewis’
(1942) The Effects of White Contact Upon
Blackfoot Culture, successive investigators have
analyzed historical accounts left by Europeans and
Americans (e.g., Catlin 1973; Maximilian 1966),
or memories of Blackfoot informants recorded
in the late nineteenth century (Grinnell 1962;
Wissler 1911), to describe the transformation of
Blackfoot society (Ewers 1955, 1958; Klein
1983; Nugent 1993).

During the late eighteenth and early nine-
teenth centuries, various indigenous groups on the
northwestern High Plains struggled with one an-
other to solidify trade relations with Europeans.
Amid this contest, the Blackfoot eventually es-
tablished close ties with both English and Ameri-
can fur companies. Limited exchange began with
the Hudson’s Bay Company of Canada in the
1780s. In the 1830s the construction of Fort
McKenzie in northern Montana initiated Blackfoot
trade with the American Fur Company. By the mid-
1800s, the Blackfoot were deftly profiting from
the competition between English and American
companies for bison robes (Dempsey 2001:608).
Based on Thaddeus Culbertson’s 1850 description,
Alan Klein (1983:154) estimates that “over
100,000 hides were shipped down to St. Louis
from this area alone, and that at least three times
that many were in circulation among the tribes of
the Upper Missouri,” a trend that intensified into
the 1880s. Widespread social consequences en-
sued.

The Blackfoot acquired horses sometime in
the 1730s (Dempsey 2001:607; Ewers 1955:18–
19). With horses, older Blackfoot beliefs concern-
ing individual control of property led to new, more
profound forms of inequality than had existed pre-
viously (Ewers 1955:240–244; Klein 1983:152–
153; Nugent 1993:344–352). Unlike other re-
sources used in production, good horses remained
scarce. Men owning many horses loaned “buffalo
runners” to others, often young men, for hunting
purposes. In return, lenders received bison meat
and a measure of loyalty. These obligations not
only altered reciprocal relations, but created new political and social ties: “Wealthy men relied on poorer relatives and band members for labor that maintained and ultimately increased the size of their herds; for labor that insured them a continuous supply of surplus meat, which they used to give feasts and help the poor (legitimating their own leadership); and for political support” (Nugent 1993:348).

Sororal polygyny likely existed in Blackfoot culture prior to European contact, but before 1830, few accounts by European and American observers describe marriage practices in any detail. Most families seem to have been small. Later informants indicated that marrying sisters reduced jealousy and conflict among wives (Ewers 1955:250; Wissler 1911:12), an advantage commonly noted in such societies. Exceptional men, described as “chiefs,” usually had four to eight wives (Lewis 1942:38; Nugent 1993:351).

After 1830, polygyny intensified. Observers describe a demand for wives that surely outstripped the limitations of sororal polygyny. Blackfoot informants in the 1890s recalled marriages more akin to White’s (1988:550) wealth-increasing strategies:

> In the old days, it was a very poor man who did not have three wives. Many had six, eight, and some more than a dozen. I have heard of one who had sixteen. In those times, provided a man had a good-sized band of horses, the more wives he had, the richer he was. He could always find young men to hunt for him, if he furnished the mounts, and, of course, the more wives he had, the more robes and furs they would tan for him [Grinnell 1962:218].

A few notables reportedly married twenty to thirty wives (Lewis 1942:38–39).

George Catlin (1973:118–123), traveling through Blackfoot and Mandan country in the early 1830s, noted the interconnection between trade, polygyny, and women’s importance in generating household wealth:

> these people, though far behind the civilized world in acquisitiveness, have still more or less passion for the accumulation of wealth . . . and a chief, excited by a desire of this kind, together with a wish to be able to furnish his lodge with something more than ordinary ... sees fit to marry a number of wives, who are kept at hard labour during most of the year; and the avails of that labour enable him to procure those luxuries, and give to his lodge the appearance of respectability which is not ordinarily seen. Amongst those tribes who trade with the Fur Companies, this system is carried out to a great extent, and the women are kept for the greater part of the year, dressing buffalo robes and other skins for the market [Catlin 1973:118].

Blackfoot practices underlined the significance of female labor: older husbands tolerated adultery by young secondary wives but severely punished those secondary wives who eloped with young men. “The fact that flight was considered such a grave offense for these individuals – and that adultery on their part was ignored once they became subsidiary wives – not only emphasized their lesser status as well as their secondary function within the household, but also protected the labor resources of older, powerful men” (Nugent 1993:352). Blackfoot women’s autonomy appears inversely related to their economic contribution.

Intensified polygyny, combined with horses, altered Blackfoot housing. Lewis (1942:35–36) notes that a single horse could transport more tipi bison hides than previously possible with multiple dogs. Improved portability and larger families expanded the circumference of tipis:

> The average tipi was made of from six to twelve skins and accommodated from six to ten people. However in the case of wealthy individuals with large families, tipis were made of 18 to 20 skins. There were a few made of as many as forty skins which could accommodate close to a hundred persons. These huge tipis contained three to four fire places [Lewis 1942:35–36].

Blackfoot historical and ethnographic data strongly support White’s (1988; White and Burton 1988) contention that market integration may intensify polygyny. As trade for exchange and the commodification of hides occurred, they shifted from a general pattern of small families characterized by sororal polygyny to a society where successful men recruited many wives for household labor, akin to White’s wealth-increasing polygyny.

Can ethnological constructs and Blackfoot history serve as an accurate model of changes among other Plains groups? In the Blackfoot case, the tremendous volume of hides provided to trading companies represents perhaps a higher degree of integration than occurred elsewhere. As discussed below, historical information for the south-
ern Plains lacks solid quantitative estimates for the trade that took place. Nevertheless, trade in the south likely did not approach the quantity or duration seen in the north.

WICHITA ETHNOHISTORY AND ETHNOGRAPHY

Protohistoric Synopsis

Intermittent European contact with the Wichita began with the Spanish *entradas* of Coronado in 1541 and Oñate in 1601. Documents from these expeditions provide valuable, if sketchy, information concerning Wichita locations, subgroups, and lifeways. However, no enduring contact or trade relations resulted (Vehik 1986a, 1992; Wedel 1982a). Two predictable consequences ensued: Spanish horses revolutionized southern Plains indigenous life (John 1975); and Old World diseases swept across the region, devastating Indian peoples (Ewers 1973; Perttula 1991; Smith, this volume; Vehik 1989).


From the early 1700s until the Louisiana Purchase of 1803, Wichita life became increasingly intertwined with French trade. Traders not only sought bison and deer hides for shipment to France, they tried to fulfill New Orleans’ demand, and the demands of the growing lower colony of Louisiana for these products. The dried or salted meat supplemented the meagre supply of beef and other domestic animals in the colony. Tallow was used as fat to cook with corn and other vegetable products. It was also important in the making of candles. The colonists combined wax from the common waxmyrtle (*Myrica cerifera* L.) with tallow – preferably deer it seems – which made the final product “as firm as those of France” . . . Rendered bear oil was used for frying and other purposes served by olive oil in Europe [Wedel 1981:57].

In exchange, the Wichita acquired various trade goods. Felipe de Sandoval, passing through Wichita villages on his way to Santa Fe in 1750, reported that the French supplied them with “vermilion, beads, knives, guns, ammunition, hats, cloth and other supplies” (Wedel 1981:73). Today, Wichita archaeological sites in Oklahoma and Texas contain substantial quantities of French commodities (e.g., see the articles by Leith, Odell, and Turner-Pearson in this volume).

As with the Blackfoot, the opportunity for European exchange influenced Wichita interaction with indigenous allies and enemies. Southern Plains strategies reflected the competing philosophies and opportunities presented by the Spanish and French. On the one hand, Spaniards sought to ban all trade in firearms, yet possessed substantial quantities of horses and other goods. They also declined official and individual overtures by French interests to initiate trade between the colonies. The French, on the other hand, willingly trafficked in firearms, and provided them to their indigenous trading partners. Unlike the Spanish, the French desperately needed horses, and bartered with Indians to obtain them. Under these conditions, complex allegiances and animosities played out (see, e.g., John 1975).

During the early eighteenth century, trade with the French possibly exacerbated Wichita-Osage hostilities (Wedel 1981:26). Traveling west through Osage country in 1719, Claude-Charles Du Tisné described the reluctance of the Osage to permit his party and their trade goods – including muskets – to pass into Wichita areas (Smith 2000:23; Wedel 1981:25). Nearly a century later, Anthony Glass noted the almost continuous raiding between these groups (Flores 1985).

Du Tisné also described the Wichita’s hostility toward the Comanche. Thirty years later, however, Felipe de Sandoval reported a Wichita-Comanche alliance: the Comanche exchanged horses for French firearms (Newcomb and Field 1967:256–257; Wedel 1981:42–44). Apparently, the Wichita acquired horses not only for them-
selves, but also for their French allies. The Wichita benefited as middle men in the exchange (Smith 2000:26–27).4

Archaeologists and historians explain the coalescence and southern migration of Wichita bands from Kansas to Texas as a response to population decline, increasing trading opportunities, and intensified hostility with the Osage and Lipan Apache (e.g., Smith 2000). Vehik (2002, 2006) synthesizes the ethnohistorical and archaeological data to reconstruct the probable locations of Wichita tribes (or subtribes) over time.

Abundant evidence suggests that distinct groups collectively termed Wichita today were allies in the past, often living apart but in close proximity (e.g., see end note 1). Following Vehik (2002, 2006), we reconstruct the locations of two pairings of groups, the Tawakoni and Waco pairing, and the Wichita (proper) and Taovaya pairing.

Concerning the first, from about A.D. 1450 to 1720 the Tawakoni and Waco lived in central Kansas: today they are represented archaeologically by the Little River focus (Vehik 2006:Table 12.1). During this time, they traded extensively in bison hides and horticultural products (Vehik 2002). Around 1720 they undertook a series of moves, ultimately relocating to central Texas where their involvement in trade diminished somewhat. In Texas, the Tawakoni obtained Euroamerican goods by trading rugs, tongues, tallow, skins, and horses (Castañeda 1939:137; Sibley 1805:Frame 308). There is little information concerning what goods they produced versus what they simply moved as intermediaries. Data on Tawakoni and Waco household and lodge sizes largely come from Texas. Later, in the mid-nineteenth century, the Tawakoni and Waco settled in west-central Oklahoma.

Concerning the second pairing, the Lower Walnut focus represents the Wichita (proper) during the period A.D. 1450 to 1700 or later. The Marion, Kansas group of Great Bend aspect sites likely represents the Taovaya during roughly this same period (Vehik 2006:Table 12.1). In the early eighteenth century, the Taovaya began moving south. In 1719, they occupied two villages in southeast Kansas. These Taovaya seem not to have been very active in trading hides or agricultural produce (Conrad 1971; Wedel 1972). Sometime in the early eighteenth century, a portion of the Wichita (proper) settled at the Bryson-Paddock site in north-central Oklahoma where they stayed until approximately 1758. Some Taovaya resided contemporaneously at the nearby Deer Creek site (Vehik 1992:327). While the Wichita (proper) and Taovaya lived at Bryson-Paddock and Deer Creek, they intensively processed bison and traded those products to the French (Bolton 1917:393–400; Hackett 1941:302–303, 317, 322; Harper 1953a:277–278; Wedel 1981:59–73). Around 1758 both groups moved south, settling mostly along the Red River with smaller groups residing in other locations. Here they remained very active in trade but switched their focus to garden produce. Bison hide production increasingly became a Comanche specialty. The Comanche traded hides to the Wichita (proper) and Taovaya for French goods and garden produce (Faulk 1961:179; Harper 1953b:183; Sibley 1852:1087; Smith 2000:26; Stoddard 1973:456). As occurred with the Tawakoni and Waco, sometime in the mid-nineteenth century the Wichita (proper) and Taovaya moved north into west-central Oklahoma.

Aside from the fairly distant and ephemeral Arkansas Post and the community of Natchitoches (even further removed), the French never established a major trading center or ‘fort’ in the midst of Wichita country as occurred in the Blackfoot example. French voyageurs worked alongside Wichita hunters to procure bison hides and other animal products. Many of these activities likely occurred on the prairies to the west, well away from the established Wichita villages in central and eastern Oklahoma and Texas.

Social Organization and Household Composition

Several obstacles prevent clear reconstructions of Wichita society over time. From Coronado’s sixteenth-century records to nineteenth-century reports by U.S. citizens, outsiders frequently highlighted ‘exotic’ Wichita practices, like tattooing or cannibalism, but rarely mentioned mundane social facts, such as kinship practices, marriage patterns, or household arrangements. By the time anthropologists like George Dorsey (1904) and James Mooney (1910) arrived on the scene, the Wichita had already changed drastically.
European disease and colonial violence left a population of only a few hundred (Newcomb and Field 1967:349–354). Moreover, reservation life and missionization thoroughly modified social practices.

Written at the outset of the twentieth century, George Dorsey’s (1904:1–23) commentary on social organization portrays a people far removed from the semi-sedentary agriculturalists who hunted bison and traded with Europeans. Not surprisingly, he implies that monogamous marriage was the norm (Dorsey 1904:9–10). He has less to say concerning residence patterns after marriage. He does note, however, differences in the size and composition of lodges:

The lodges vary in diameter from fifteen to thirty feet [4.7–9.1 m]. The beds are two or three feet from the ground and are arranged around the wall, the upright forks serving to mark the position of the beds. The number of beds varies according to the size of the lodge, six being the usual number, while twelve is not an extraordinary number. Houses of diminutive size are occasionally built to hold a single family [Dorsey 1904:4; emphasis added].

Fifty years later, Karl and Iva Schmitt (1952) noted how their consanguinal and affinal kin terms equated with sororal polygyny. The Wichita “spoke of a man’s wife’s sister as your wife and of a woman’s sister’s husband as your husband. Such terminology was extended to classificatory sisters of a wife [e.g., cousins] and to husbands of classificatory sisters” (Schmitt and Schmitt 1952:29). Joking relations between a husband and women classified by his wife as “sister” highlighted the potential for a man’s marriage to his wife’s “sisters.” The Schmitt’s did not explore the ramifications of such practices for household composition.

Contemporaneous ethnographers of the Pawnee, on the other hand, paid more attention to kinship and household composition. As close linguistic relatives of the Wichita, the Pawnee had a similar heritage of sororal polygyny (Lesser 1930; Weltfish 1965). Gene Weltfish (1965:17) notes a variety of Pawnee marriage arrangements. She describes how economic factors configured households:

\[\ldots\] a man was not compelled to limit his marital relations to one woman or to one household so long as he could fulfill his obligations, i.e., provide meat for all through his exceptional talents as a hunter and horse and other luxury goods through his special ability as a warrior that could bring home booty. There was thus a certain fluidity about the marriage situation, although some marriages did last for many years [Weltfish 1965:17].

Returning to the Wichita, beyond ethnographic descriptions, a detailed early nineteenth-century account comes from the journal of Anthony Glass (Flores 1985; John 1983). At the invitation of the “Great Chief” Awakahea, Glass, representing U.S. Indian Agent John Sibley, spent eight months encamped along the Red River in 1808–1809. The Louisiana Purchase of 1803 ended the once-thriving trade in hides and other animal products with French voyageurs. Frustrated by the Spanish embargo on firearms and Spaniards’ apathy toward trade, the Wichita (proper) and Taovaya sought trade relations with Americans (Smith 2000:92). Glass’ account contains some remarkable observations about Wichita life.

Leaving Natchitoches, Louisiana on July 5, 1808, he and his party arrived at the first of two villages situated on either side of the Red River on August 11, 1808. Here they found the Wichita (proper), led by Kachatake, living on the north bank of the Red, while the Taovaya community, led by Kittsita, lived about a mile from the south bank (John 1983:418). In another village, located some five days away, lived a group of Tawakoni.

In his entry dated September 9, 1808, Glass notes that Wichita women far outnumbered men (Flores 1985:55; John 1983:422). If so, and we have no reason to doubt him, several pertinent issues arise. First, an unbalanced sex ratio likely reflected greater mortality associated with high-risk male activities: warfare, raiding, hunting from horseback, etc. Second, a surplus of women and a shortage of men certainly provided the right demographic conditions for polygyny. Regarding the latter, he observes:

\[\ldots\] men have as many wives as they please and put them away when they please and the women have the same Liberty with their husbands. The head warriors can take any women they please. Men of 50 and sixty are often seen with wives not more than fifteen [years of age]. Men and their wives never sleep together in less than 9 or 10 moons after the
Birth of a child, this they say is to prevent the children from being sickly. The Husband in the meantime keeps two or three women in the same house [John 1983:422; emphasis added].

In contracting marriages, Glass describes the significant role of bridewealth: “Men who want wives generally purchase them of the Uncle or Brother of the woman. The general price is one or two Horses. But if a stranger buys a Wife he must pay for her in Strouts, Blankets, Vermillion and Beads” (John 1983:421). Bridewealth, as ethnographers appreciate, is commonly associated with polygynous societies. A groom and his family compensate a bride’s relatives for the loss of her labor and/or to assure beneficial treatment by her new in-laws (Murdock 1949:19–21; White 1988:557). Reflecting their matrilineal organization, a brother or a maternal uncle, rather than the woman’s father, negotiated it.

Glass also discusses the overriding significance of bison compared with deer or other animals: “They make very little use of any other Animal food than Buffalo meat. Deer not being hunted are very plenty about their Villages and tame like Domestic Animals” (John 1983:422). Glass juxtaposes subsistence tasks with marital relations, but includes few details concerning the division of labor between men and women. Other observers, however, such as Athanase de Mézières describe how Wichita men hunted bison, while women tanned and processed the hides (Bolton 1914b:203).

How do we reconcile Glass’ account with later ethnographic descriptions? Obviously, these data derive from very different historical circumstances. Aside from momentary snapshots, our ability to identify change over time in Wichita marriage practices and household organization remains quite limited, especially when compared with accounts available for other groups, like the Blackfoot. Such gaps lead us to ask how data other than eyewitness descriptions might further address these issues.

**LODGE SIZE AND HOUSEHOLD COMPOSITION**

In the Blackfoot example, Lewis (1942:35–36) documents how increasing polygyny led to more household members and an increase in the diameter of tipis. Greater portability owing to horses facilitated their transport.

Did Wichita lodge diameters change through time? If so, might these changes reflect increasing polygyny? The Wichita traded most intensively with French voyageurs during the eighteenth century, specifically 1719 to 1803. Therefore, if polygyny did influence household size, lodge diameters should increase during this period. Obviously, alternative factors could explain variations in diameter, such as different lodge activities, availability of building materials, number of extended family members in one household, or other factors. On the other hand, lodge diameter might remain unaffected: multiple spouses might reside near one another, obviating the need for a single large residence (e.g., for the Pawnee, see Weltfish 1965:17). The latter situation calls for an examination of intrasite settlement patterns to identify lodge clusters (e.g., Cook and Dunbar this volume). The present analysis, nevertheless, is confined to investigation of lodge size and individual household composition.

As a preliminary step, the early historic reports and the archaeological record of Wichita houses is examined using Vehik’s (2002, 2006) reconstruction of Wichita groups, locations, and migrations. We must acknowledge, however, the severe limitations associated with available historic and archaeological records. First, most historical accounts record lodge size estimates. They amount to rough averages with little or no indication of the range of house sizes. Second, archaeological data for Wichita lodges are extremely limited and often suffer from small sample sizes (often only one or two excavated or identified structures from a given site). Finally, excavators struggle to determine the function of structures. Thus, arbors, summer sleeping quarters, and other buildings frequently resemble lodges. Given these limitations, we attempt to compare excavated lodge diameters from pre-contact complexes likely ancestral to these groups with diameters from post-contact sites.

**The Data**

Table 1 presents data for the Tawakoni and Waco. Table 2 provides similar data for Wichita and Taovaya houses. The columns of both tables
### Table 1. Tawakoni and Waco Household and House Sizes.

<table>
<thead>
<tr>
<th>Date</th>
<th>People per Lodge</th>
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<th>Excavated Lodge Diameter (m)</th>
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<td>3.6-11.3</td>
<td>Smith et al. 1993</td>
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<td>1760-1786</td>
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<td></td>
<td>9-10</td>
<td>Cook and Dunbar, this volume</td>
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<td>Ewers 1969:143fn; Newcomb and Field 1967:273</td>
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</table>

### Table 2. Wichita and Taovaya Household and House Sizes.

<table>
<thead>
<tr>
<th>Date</th>
<th>People per Lodge</th>
<th>Reported Lodge Diameter (m)</th>
<th>Excavated Lodge Diameter (m)</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>~1250-1400</td>
<td></td>
<td></td>
<td></td>
<td>Monger 1970; Ranney 1994</td>
</tr>
<tr>
<td>~1300</td>
<td></td>
<td></td>
<td></td>
<td>Galm 1999; Vehik 2008</td>
</tr>
<tr>
<td>~1500</td>
<td></td>
<td></td>
<td></td>
<td>Lees et al. 1989:48, 50</td>
</tr>
<tr>
<td>1601</td>
<td></td>
<td>8.0-10.0</td>
<td>6.1-7.9</td>
<td>Wedel 1959:351</td>
</tr>
<tr>
<td>1719</td>
<td></td>
<td>9.6</td>
<td></td>
<td>Hammond and Rey 1953:754, 844, 846</td>
</tr>
<tr>
<td>~1740</td>
<td></td>
<td></td>
<td>3.9*12.2</td>
<td>Connell 1971:127; Wedel 1972:150</td>
</tr>
<tr>
<td>~1755-1800</td>
<td></td>
<td></td>
<td>5.3-11.9</td>
<td>Hartley and Miller 1977:165-171</td>
</tr>
<tr>
<td>~1755-1810</td>
<td></td>
<td></td>
<td>6.0-10.0</td>
<td>Woodall 1967</td>
</tr>
<tr>
<td>1778</td>
<td></td>
<td>15.0</td>
<td></td>
<td>Bell and Bastian 1967:67</td>
</tr>
<tr>
<td>1783</td>
<td></td>
<td>15.0</td>
<td></td>
<td>Bolton 1914b:202; Newcomb and Field 1967:276</td>
</tr>
<tr>
<td>1799</td>
<td></td>
<td>11.1-11.8</td>
<td></td>
<td>Chabot 1932:9</td>
</tr>
<tr>
<td>1808</td>
<td></td>
<td></td>
<td>21.3-24.4</td>
<td>Cortés 1989:89</td>
</tr>
<tr>
<td>1823</td>
<td></td>
<td>8.3</td>
<td></td>
<td>Flores 1985:48, 50; John 1983:416-422</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Barker 1924:843; McLean 1975:209</td>
</tr>
</tbody>
</table>
include: 1) the average number of household members derived from historical reports, labeled “People per Lodge;” 2) direct historical reports on lodges, or “Reported Lodge Diameter;” and, 3) archaeological evidence, or “Excavated Lodge Diameter”.

Turning to historical information, the estimated number of people per lodge in Tawakoni and Waco villages was greatest in 1760, 1828, and 1830, excluding what appear to be highly exaggerated counts from 1841 (Carroll 1951). Correspondingly, reported lodge diameters were largest in 1828 and 1830. High household and lodge size estimates possibly reflect polygyny. Polygyny was definitely a feature of Tawakoni life in 1820 (see Padilla 1919:57). During these years, polygyny could be a response to the labor required to process bison for trade: documentary evidence from 1828 describes how Tawakoni women engaged in hide tanning (Jackson 2000:59).

After 1828–1830, household size declines along with lodge size. By then, Euroamericans were actively harassing the Tawakoni and Waco. The Wichita soon moved to reservations in western Oklahoma.

The data represented in Table 2 for the Wichita (proper) and Taovaya provide similar—though slim—evidence for increasing house size through time. Nine lodges have been excavated dating from the eighteenth century: one lodge from Bryson-Paddock in north-central Oklahoma, excluding a possible arbor (Hartley and Miller 1977:165–171); five from the Upper Tucker site on the Red River (Woodall 1967); and three from the Longest site located on the Red River, also excluding a possible arbor (Bell and Bastian 1967:67). Nine lodges, of course, represent a small sample, and there is variation among the structures. Nevertheless, they average 8.9 m in diameter, considerably larger than the average 4.7 m diameter for earlier Taovaya and Wichita (proper) houses in southern Kansas and northern Oklahoma (see Table 2).

In terms of people per lodge, the historic data represented in Table 2 reveal fluctuations over time. Even so, household size appears relatively stable from the 1750s until the 1850s. With the Wichita (proper) and Taovaya migration to the Red River after the 1750s, estimates of the number of

<table>
<thead>
<tr>
<th>Date</th>
<th>People per Lodge</th>
<th>Reported Lodge Diameter (m)</th>
<th>Excavated Lodge Diameter (m)</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>1834</td>
<td>12.0-15.0</td>
<td>18.3</td>
<td>Perrine 1925:192</td>
<td></td>
</tr>
<tr>
<td>1852</td>
<td>12.0</td>
<td>18.0</td>
<td>Marcy 1866:160</td>
<td></td>
</tr>
<tr>
<td>1853</td>
<td>19.1</td>
<td>7.6</td>
<td>Wright and Shirk 1954:429</td>
<td></td>
</tr>
<tr>
<td>1862</td>
<td>6.1-7.6</td>
<td>6.1-7.6</td>
<td>Mead 1896:152</td>
<td></td>
</tr>
<tr>
<td>~1900</td>
<td>5.0-12.0</td>
<td>5.0-12.0</td>
<td>Schmitt 1948, 1950b</td>
<td></td>
</tr>
</tbody>
</table>

* Smaller structures may have been arbors.
people per lodge increase in line with what we might expect if polygyny intensified. The estimates increase slightly during the 1778–1783 period when they traded actively with French voyageurs.

Concerning lodge diameters, historic reports suggest an increase in house size during the mid to late eighteenth century. Anthony Glass’ estimate of “70 to 80 feet in diameter at the base [i.e., 21.3 to 24.4 meters] and thirty or forty feet high” (Flores 1985:48) suggests a substantial increase in size compared with earlier excavated lodge diameters. Glass may have been referring to the residences of political leaders, but his narrative remains ambiguous. Evans reports large houses at the Devil’s Canyon site in southwestern Oklahoma in 1834 (Perrine 1925:192). After this period, historic reports indicate that house size decreases dramatically, to between 6.1 and 9.1 m, probably reflecting the severe reduction in trade relations and the depopulation of the Wichita in the nineteenth century.

Problems in the Data

If the tables indicate possible increases in lodge size and household membership during the mid- to late eighteenth century, serious deficiencies remain. Problems exist with both archaeological and historical data.

As evident in both tables, archaeologists have thus far recovered very little information on lodge diameters: at present, only 11 excavated Wichita lodges exist for the entire 600-year period from roughly 1300 to 1900, and many of these archaeological sites have only one excavated lodge (sometimes only partially excavated). Breaking down the 600-year period, minimal data exist for the early contact years of 1550–1700. Information would aid in evaluating changes wrought by inclusion of Wichita culture in European trade networks. Similarly, few excavated houses exist from the critical eighteenth and early nineteenth centuries, a time of intensive bison hide trade with the French. Moreover, excavators have struggled to differentiate houses from other structures such as arbors.

Recent excavations at protohistoric Wichita sites fail to remedy the lacuna. The excavations directed by George Odell (2002, this volume) at Lasley-Vore (34TU65) in eastern Oklahoma did not locate any lodges. Nor have excavations in the summers of 2003, 2004, and 2006 at the Bryson-Paddock site (34KA5) in north-central Oklahoma yielded new information on house diameters. Bryson-Paddock’s artifact inventory contains unusually high numbers of end scrapers, indicative of intensive hide production (Vehik et al. 2009). This large, early to mid-eighteenth-century village may represent a time when European trade significantly affected Taovaya and Wichita (proper) culture. Bryson-Paddock’s sister site, Deer Creek (34KA3), has never been excavated. In northern Texas, little recent work has included house excavations (for an exception, see Cook and Dunbar, this volume). While we can posit that polygyny intensified between 1720 and 1760, and probably continued until the reservation period, we have insufficient archaeological data to evaluate systematic changes in lodge diameters.

Documentary information derived from European or American sources indicates some changes in house sizes. It also provides direct accounts of Wichita polygyny. Historical sources, however, contain their own serious problems. Past observers commonly estimated the population of a settlement by counting the number of warriors, or the number of male adults and youth. Frequently, observers also made lodge counts. Today, we usually have no idea whether such counts are exact, rough estimates, or simply copies of earlier observations. The same applies to lodge diameter estimates, another type of historical information available to us. We have too few excavated houses from the historically documented sites to evaluate the written reports.

Nevertheless, researchers have combined lodge counts and population estimates to derive an average number of people per lodge (e.g., see Newcomb and Field 1967:340–341). We have attempted to do the same. To do so, a multiplier was employed to convert warrior counts (or counts of male adults and youth) into a total population estimate. The estimate was then divided by a lodge count to obtain the average number of persons per household. For example, the 1778 estimate of people per lodge, represented in Table 2, comes from the frequently cited description by Athanase de Mézières:
The nation of the Taovayazes is divided into two villages, one situated on the northern bank of the Vermejo, or Natchitoches, River, the other opposite the first on the other bank. The former is composed of thirty-seven houses, the latter of one hundred twenty-three. Each dwelling contains from ten to twelve beds, considering which fact a conservative estimate places the number of men, including youths, at more than eight hundred, while that of the women and the children of both sexes is very large... [Bolton 1914b:202; see also Newcomb and Field 1967:340–341].

To convert this description, the 800 men and youth figure is multiplied by three (Chabot 1932:9) and then the estimated 2,400 individuals is divided by 160 lodges to calculate an average of 15 individuals per lodge.

For warrior counts, Newcomb and Field (1967:340) propose a multiplier of five. In other words, they estimate warriors comprised 20 percent of the overall population. Further, they argue “that the number of occupants in the grass lodges varied through time, and that with declining numbers the average number of persons per household also declined” (Newcomb and Field 1967:341). However, Newcomb and Field (1967) fail to ask if warriors declined proportionally to non-warriors. As questioned earlier, given high risk male activities such as raiding, warfare, and bison hunting, did men have a higher mortality rate than women? Anthony Glass’ 1808 statement that women outnumbered men (Flores 1985:55) suggests they did. Differential mortality would skew a normally balanced sex ratio in favor of women. This situation necessarily complicates the use of a standard multiplier, while also providing another variable (i.e., a skewed sex ratio) that could increase the need for polygyny.

Moreover, given the tremendous volatility associated with population decline between the seventeenth and twentieth centuries (e.g., Ewers 1973; Perttula 1991; Smith, this volume; Vehik 1989) other potential problems arise in using a single multiplier, especially when attempting to investigate polygyny. Even in a time of population decline, polygynous families with two or more wives and their children would likely surpass the number of family members in a monogamous household. In averaging the number of persons per lodge, this variability is lost. Moreover, if an investigator implicitly assumes monogamous relationships in reckoning a multiplier, using that multiplier to explore the possibility of polygyny becomes a pointless, predetermined exercise. Any extrapolations based on historical data remain potentially problematic.

CONCLUSIONS

Rather than conceiving polygyny as an unchanging ‘culture trait,’ we have followed ethnologists who theorize such practices as dynamic and potentially susceptible to changing social and economic circumstances. The Wichita’s growing involvement in the European hide trade during the eighteenth and early nineteenth centuries represents one such situation. In addition to the opportunities for access to new commodities, it placed new demands on household production, demands borne most especially by females. Under these conditions, we have hypothesized that Wichita polygyny proliferated as a strategy to increase the number of women per household devoted to the production of hides. Greater production meant higher returns in guns, metal tools, beads, and other European commodities. Not only males, but also females would have coveted such goods, such that the entire household benefited.

Precedent for this model exists in well-documented historical studies concerning the Blackfoot on the northern Plains (Ewers 1955; Klein 1983; Lewis 1942; Nugent 1993). A direct line of causality runs between the onset and quickening pace of Blackfoot-European trade and the intensification of Blackfoot polygyny. Incorporation in the commodity market also apparently heightened sexual inequality as males placed greater demands on females for their labor.

Whether the changes hypothesized for Wichita marriage practices actually occurred remains hard to pin down given the available empirical data. As we have shown, most historical descriptions fail to discuss marriage practices at all. Anthony Glass’ journal suggests the possibility of wealth-increasing polygyny, but one passage hardly suffices to answer our inquiry. Extrapolating data from records of population estimates and lodge counts also incorporates problematic assumptions concerning marital practice and family size, assumptions that sometimes undercut the very hypothesis we have sought to examine. Rec-
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...ognizing these limitations, we have tried to incorporate historical records in tandem with archaeological data.

Unfortunately, the paucity of archaeological data on Wichita houses and households constitutes a further impediment. Perhaps the increasing use of sophisticated remote sensing techniques to obtain geophysical signatures, as exemplified in the interesting study by Garrett Cook and John Dunbar (this volume), will begin to locate more lodges for future analyses (for the central Plains, see Bales and Kvamme 2005). The small number of grass lodges excavated thus far, and the inability of excavators to differentiate houses from other structures in the archaeological record, prevents a clear comparison of lodge sizes through time.

Recognizing these caveats, the aggregated data do, however, suggest an increase in house size from the prehistoric and early contact period to the early nineteenth century. In fact, if all excavated and historically recorded houses are used, house size increases from an average of 4.7 m in diameter (based on largest measurements for each structure and eliminating potential arbor) for houses occupied before 1650, to 9.9 m for houses occupied between 1650 and 1900 (house sizes for the late period are actually available only from sites occupied after 1718). These averages include a significant range of variation in structure size. They may also mask finer temporal changes. Given the limited data available, the averages leave open the possibility that house size and therefore household size did increase dramatically after European contact.

The archaeological and historical data thus provide some support for the hypotheses posed at the outset. Clearly, the critical period in need of further investigation dates from approximately 1720 to 1846, when the protohistoric Wichita engaged intensively in the European fur trade, especially with French voyageurs. Our limited evidence suggests that houses and household size did increase during this period, possibly indirectly reflecting how polygyny intensified to maximize household wealth. But by the time the earliest Plains ethnographers arrived on the scene in the early 1900s, the end of trade, severe population decline, and the Wichita’s confinement to a reservation had so dramatically altered their lifeways that polygyny had vanished.

ACKNOWLEDGMENTS

We thank Tim Baugh, Lauren Cleeland, Chris Lintz, Donna Roper, Dan Rogers, Mary Jane Schneider, and an anonymous reviewer for assisting us with comments, references, and corrections. Any errors remain our sole responsibility.

NOTES

1. The name "Wichita" glosses five or more affiliated tribes (or bands) comprising the Wichita-speaking Caddoans. They included the Taovaya, Tawakoni, Iscani, Waco, and the Wichita (proper). Following modern convention, we use “Wichita” when discussing these people as a whole; “Wichita (proper)” when speaking of the smaller subdivision (Vehik 2006:206).

2. For example, polygyny is frequently mentioned, usually in passing, in entries for the Plains volume of the Handbook of North American Indians (DeMallie 2001).

3. Nicolas de Fer’s 1718 map of the lower Mississippi Valley, including the southern Plains (see Weddle 1991:324–325), reveals that prior to the Du Tisné and La Harpe expeditions of 1719, the French already possessed quite detailed information about southern Plains’ rivers and tributaries, and the location of multiple Wichita villages.

4. We might assume the Wichita needed access to Comanche horses for their own use, hence a Wichita-Comanche alliance in the 1740s. Well before this alliance, however, Du Tisné reported in 1719 that the Wichita possessed numerous horses. He counted a combined 300 horses at the two villages he visited (Newcomb and Field 1967:254). Smith (2000:26) suggests that while they had enough horses for themselves, the Wichita needed Comanche horses to trade with the French.

5. Archaeologists recognize a number of archaeological sites corresponding to documented settlements. For the first half of the eighteenth century, they include north-central Oklahoma’s Deer Creek (34KA3), Bryson-Paddock (34KA5), and Lasley-Vore (34TU65) sites (Drass et al. 2003; Odell 2002; Sudbury 1975; Wedel 1981). While later mid- to late-eighteenth-century sites include the so-called ‘Spanish Fort’ sites located on the Red River, the Longest (34JF1) and Upper Tucker (41MU17) sites (Bell 1984; Bell and Bastian 1967; Woodall 1967). Other sites in Texas have also been identified with different Wichita groups (e.g., see Bell et al. 1967; Cook and Dunbar, this volume; Jelks 1967; Turner-Pearson, this volume).

6. The research notes compiled by Karl Schmitt and Iva O. Schmitt between 1947 and 1950, and presently archived in the University of Oklahoma’s Western History Collection, constitute the most detailed ethnographic information we possess concerning Wichita social organization. Unfortunately, they only produced a preliminary report before Karl Schmitt’s untimely death in 1952 (Schmitt and Schmitt 1952). Other sources of ethnographic data include Dorsey (1904), Lesser (1979), and Newcomb (2001).
