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## ETHNOARCHAEOLOGY OF SUBSISTENCE SPACE AND GENDER: A SUBARCTIC DENE CASE

Hetty Jo Brumbach and Robert Jarvenpa

The interplay of gender and spatial organization of labor receives little attention in archaeological discussions of hunter-gatherer society. To help remedy this situation, our ethnoarchaeological research among subarctic Dene (Chipewyan) communities employs a gender-resource mapping approach, including the spatial dimension of hunting for a complex of major subsistence resources. Analysis reveals both profound differences and interconnections between female and male hunters as they procure and process materials and move across the landscape in the sociological context of three team types. The data offer a means of modeling gender dynamics in archaeological contexts as well as rectifying the often invisible role of women in ethnoarchaeological interpretations of hunting in high-latitude societies. An analysis of historical shifts between "push-centered" and "village-centered" hunt demonstrates how both women's and men's behavior can be incorporated in site formation processes and general subsistence settlement models, such as Binford's forager/ logistical collector framework.

La interacción entre la organización espacial del trabajo y la organización del trabajo según género recibe poca atención en las discusiones arqueológicas sobre sociedades cazadoras-recolectoras. Para ayudar a remediar esta situación, nuestra investigación etnoarqueológica en las comunidades subarcticas Dene (Chipewyan) emplea una perspectiva de localización geográfica de recursos según género, incluyendo la dimensión espacial de la caza para un grupo de recursos principales de subsistencia. El análisis revela tanto profundas diferencias como interconexiones entre cazadoras de ambos sexos, a la hora de conseguir y procesar materiales así como cuando se mueven en su medio dentro del contexto sociológico de tres tipos de equipos. Los datos ofrecen un medio para modelar dinámicas de género en contextos arqueológicos y también rectificar el papel a menudo invisible de las mujeres en las interpretaciones arqueológicas sobre la caza en sociedades de altas latitudes. El análisis de los cambios históricos entre la caza centrada cerca de las aldeas y la caza centrada en el bosque demuestra cómo el comportamiento del hombre y la mujer puede ser incorporado en los procesos de formación de sitios y en modelos de asentamientos basados en la subsistencia, como el marco recolector espontáneo/recolector organizado desarrollado por Binford.

This paper examines the relationship between a fundamental aspect of social life—the cultural construction of gender—and the spatial organization of hunting. Information derives from one group of Dene or Northern Athapaskan Indians, the southern Chipewyan (or *kesyehot'ine*) of subarctic north-central Canada. We argue that more attention to gender dynamics may alter prevailing ideas about hunting behavior and foraging economies generally and, at the same time, offer new dimensions of variability for explaining the archaeological record.

The ethnoarchaeological methods employed in this study include direct field observation of ongoing behaviors, mapping of both occupied and

recently abandoned settlements, and directed interviews with living informants/consultants who were responsible for creating the sites. We believe these observations have direct relevance for archaeologists working in prehistoric contexts, even though gender constructions from the remote past may seem elusive.

More than a decade ago, Conkey and Spector (1984) raised serious questions about the lack of interest in gender by archaeologists. This stands in contrast to developments in sociocultural anthropology in recent years where the importance of gender relations, sexual stratification, differences in female and male visions of society and culture, and gender bias and blindness in social research have become prominent themes (Dahberg 1981;

Hetty Jo Brumbach and Robert Jarvenpa ■ Department of Anthropology, University at Albany, State University of New York, Albany, NY 12222

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Leacock 1978, 1981, 1983; Morgen 1989; Orter and Whitehead 1981; Quinn 1977; Reiter 1975; Rosaldo 1980; Rosaldo and Lamphere 1974; Sacks 1979; Sanday 1981). Archaeological research, however, has only begun to address the dynamics of gender in past times and places (Classen 1991; Gero 1991; Gero and Conkey 1991; Kahoe 1990; Nelson 1990; Spector and Whelan 1989; Watson and Kennedy 1991).

Despite a long-standing disinterest in formal analyses of gender, archaeologists have not been silent about women's and men's behavior. Rather, the archaeological literature is "permeated with assumptions, assertions, and purported statements of 'fact' about gender" (Conkey and Spector 1984:2).

Some of these assumptions concern women's roles in foraging societies. Archaeological studies far too often rely on the received wisdom of a "man the hunter, woman the gatherer" model and interpretation of prehistory (Washburn and Lancaster 1968). Our goal here is to show that women's roles are more flexible and expansive, even in hunting-intensive contexts of the northern latitudes, than is typically recognized when it is assumed that plant collection and processing and hunting follow a more or less strict division of labor. Women's economic roles are neither so rigid nor so limited in scope. Our own ethnoarchaeological studies with the Chipewyan suggest that a revised view of women's roles is particularly salient for northern latitude hunter-gatherer communities where plant foods do not contribute substantially to the diet in terms of calories. Women clearly participate as hunters and procurers of animals, a pattern recognized by other ethnoarchaeologists working in subarctic settings (Albright 1984; James 1983).

In order to mitigate androcentric bias in archaeology, Spector (1983:82-83) has recommended a "male/female task differentiation" approach for investigating economic behavior, a framework we have adapted for our own research. Spector used the approach profitably in examining male and female activity patterns for the Hidatsa of the Great Plains. Ethnographic information on the historical Hidatsa was reanalyzed to identify tasks performed by males and females, as defined on the basis of four dimensions: (1) social unit (age, gender, and kin relations of persons cooperating in economic activity); (2) task setting (locations,

locales, or geographic range of activity); (3) task time (frequency, seasonality, and other temporal contexts for activity); (4) task materials (implements, technology, and facilities employed in activity). In the present effort to clarify women's roles in hunting, we are highlighting task setting or *spatial organization*, a dimension that has immediate, concrete mapping implications for prehistoric archaeologists and ethnoarchaeologists alike. By increasing the visibility of women and their contributions to the archaeological record, we hope to achieve a more balanced view of male-female relations in hunter-gatherer society.

In his recent discussion of ethnoarchaeological approaches to mobile campsites, Gamble (1991) recognizes a need for general models of spatial organization, on the one hand, and social contexts and behavioral insights informing hunter-gatherer society on the other. Yet, gender relations are largely overlooked in such research. Accordingly, we argue that gender, one of the most fundamental structuring principles for all human societies, is integral to the spatial organization of food procurement and processing. At the same time, our ethnoarchaeological field materials and analysis for the subarctic Chipewyan can be used to assess the utility of one well-known model of hunter-gatherer spatial organization, Binford's (1980) forager/collector framework.

**Previous Related Research**

Previous research serves as an essential platform for the present project. Our long-term involvement with the Chipewyan began in the early and mid-1970s with studies of hunting ecology, socioeconomic change, and interethnic relations (Jarvenpa 1977, 1979, 1980, 1982a, 1982b). Ethnoarchaeological investigations in the late 1970s and early 1980s focused on the historical and ecological basis of ethnic-cultural adaptations and differentiation, including the role of Chipewyan, Cree and Meis Cree, and European groups in the Upper Churchill River fur trade of northwestern Saskatchewan (Brunbach 1985; Brunbach and Jarvenpa 1989, 1990; Brunbach et al. 1982; Jarvenpa 1987; Jarvenpa and Brunbach 1983, 1984, 1985, 1988). That research experimented with several kinds of ethnoarchaeological methodology, including extensive collaboration with on-site native consultants.

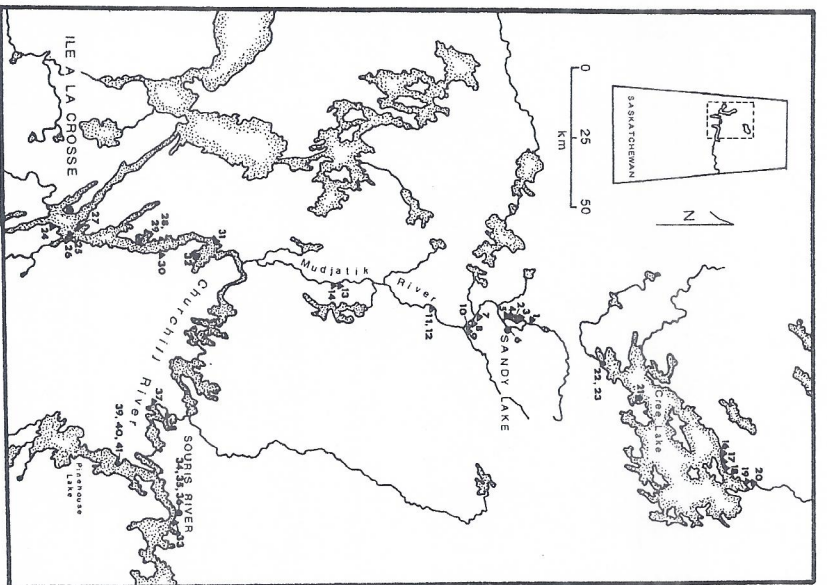


Figure 1. Network of historic archaeological sites in southern Chipewyan territory.

By asking the Chipewyan to interpret artifacts and structural features at historic sites—artifacts and features often created by the specific consultants or their ancestors—provocative insights on past behavior, and meanings of past behavior, were obtained (Brunbach and Jarvenpa 1990). These native interpretations often challenged our own, Western academically informed views, providing needed balance in the collective deciphering of the past. While our general ethnoarchaeological approach combines the use of direct historical analogies (Gould 1971; VanStone 1971) and a concern with site formation processes (Binford 1978; James 1983), our research also seeks to extend the postprocessual search for meaning in past cultural systems (Hodder 1982) by judiciously cultivating the humanistic dimension of native consultants'

narratives. In this sense, ethnoarchaeology can be a separate and legitimate area of inquiry unto itself, not simply a source of analogs and cautionary tales for prehistoric archaeologists (Simms 1992).

Analyses of ongoing behavior (such as hunting patterns and food consumption) were systematically integrated as an analogical guide for understanding archaeological formation processes at a network of 41 recent historical sites (Figure 1). Finally, we incorporated corroborative data sources such as fur trading-post journals and business account book material held in the Hudson's Bay Company Archives.

**Research Issues and Methods**

More recent ethnoarchaeological research in the early 1990s involved mapping features and inven-



foraging surface artifacts at additional historical sites on Kneé Lake, Saskatchewan, a major lake expansion of the Churchill River in southern Chipewyan territory. Interpretation of these sites was aided by both Chipewyan women and men. These informants/consultants were able to speak with authority on their past lives at the older sites and on the meaning of the archaeological residues. In addition, maps were made of selected contemporary settlements.

Chipewyan consultants were shown site maps prepared both in 1992 and in previous years of this research and were asked to identify former houses, storage facilities, and locations where specific activities were carried out and material discarded. Larger-scale geological survey maps of the Upper Churchill River, Mudjank River, and Cree Lake drainages also were used to record more distant and dispersed fishing, hunting, and trapping locations. The purpose of this exercise was to learn more about the structure of the sociospatial organization of gender and to determine whether women and men used space differentially and, if so, in what ways.

The major sources of locally procured bush food for the Chipewyan in our study are moose, caribou, rabbit, beaver, muskrat, several species of fish (we concentrated on whitefish and lake trout), and waterfowl (we selected ducks) (Jarvenpa 1980). Plant foods do not play a major role in terms of absolute caloric contribution, but in order to balance the overwhelming emphasis on animal products, our analysis included berries, as one form of plant food, and a general category of nonfood plant resources that included bark (for baskets and other containers), moss (baby diapering), and medicinal plants, among other floral resources.

For each of the foregoing nine resources or "resource clusters," we observed and queried consultants about a comprehensive system of tracking, capturing, and processing. For example, our informants' ultimate rendering of the "moose system" included locating or tracking, killing, field butchering, transport to the place of habitation, distributing or sharing of meat, final butchering, thin cutting of the meat, meat drying and storage, food preparation, hide smoking, and other uses of antler, bones, and fat. Other resource systems emerged with their own distinctive pathways, thus producing extensive information on a range of

activities through which animal and, to a lesser degree, plant products passed.

In this fashion, information for each of Spector's four dimensions, with respect to all nine resource clusters, was recorded. For some activities, our informants were able to demonstrate with the actual tools and facilities, while other more distant activities were explained verbally. Direct observation of ongoing hunts or other economic enterprise was possible in some instances. Maps were made of selected settlements and camps with their associated work areas and features, including locations of hunting areas, traplines, rabbit trails, fishing zones, initial butchering-processing loci, and final butchering-processing-storage locales, among other things.

#### Gender and the Definition of "Hunting"

Perhaps the most interesting insights emerging from our project concerned women's participation in the meat acquisition process, which includes the production of all animals and animal products whether hunted, trapped, or netted. We also learned about women's roles in the production of artifacts, features, and residues that form the basis of the archaeological record. The women with whom we worked expressed profound interest in tools and toolkits, and invested in the construction of features and facilities. We also added much to our previous knowledge concerning the complex technology and procedures involved in women's processing and storage of dry meat, animal hides, bone grease, and usage of medicinal plants, among other matters (Jarvenpa and Brumbach 1995).

The importance of women's processing and "transformation" skills, or the conversion of animal carcasses to edible meat, clothing, and other usable products, is too easily overlooked by researchers (Isaac 1995:3). In archaeological interpretations, the focus of attention is often on the kill, most stereotypically carried out by a male hunter. This myopia concerning the role of women, both as producers and as processors, has been a major contributing factor to the construction of an androcentric archaeology.

In addition, as Isaac (1995:4) has pointed out, the reduction of "economy to ecology and this latter to caloric transfers is partly responsible for a skewed view of Ikung (among other foraging groups) subsistence." What is lacking is the recog-

nition that hunting production extends well beyond momentary acts of procurement (Isaac 1995:4). Indeed, Isaac attributes slighting of the processing aspect of production to the urban, middle-class, postindustrial background of most contemporary anthropologists, a life experience in which little domestic processing of any kind occurs. Processing activities involved in the production of food and clothing may well be lost "to a generation of urban-industrial anthropologists who microwave their processed foods and dress from The Gap" (Isaac 1995:5).

In order to represent more accurately the roles of both women and men in foraging societies, the conceptualization of "hunting" should be reconsidered. Consciously applied or otherwise, the Western sport-hunting model is highly inappropriate. With its fascination for the lone hunter of large quarry, the sport-hunting model obscures on the moment of the "kill," falsely isolating the hunter from family and society. It also falsely separates the act of killing from a complex system of travel, preparation, and logistics preceding the kill and the intricacies of butchering, processing, and distributing following the kill. The full spectrum of activity is most appropriately seen as "hunting," an enterprise that produces food, clothing, tools, and other necessities of life and requires interdependence of female and male labor in any foraging society.

Aside from the conceptual distortion involved in reducing complex hunting-gathering economies to little more than a series of "kills," this narrow view diminishes the recognizable archaeological record. A male-biased archaeological record emphasizes projectile points, minimum numbers of individual animals harvested, and counts of "male hunters." In reality, however, archaeological sites can be characterized by the presence of hearths, storage pits, roasting platforms, drying racks, postmolds, and other features, as well as smaller residues, which are the testimony of complex and lengthy processing of animal products. These latter aspects of hunting as part of a comprehensive provisioning process are frequently dominated by women.

#### Women's Participation and Life Cycle

##### Dynamics

As noted previously, our Chipewyan consultants reported that women as well as men participated

as hunters in both the pursuit and capture of animals. However, as hunters in this restricted sense, women's roles were influenced in ways and by processes that either did not affect men or impacted men differently. One of these factors is life cycle dynamics (Brumbach and Jarvenpa 1997). While there was considerable individual variation in the intensity with which women participated in hunting, much of this was related to age and family responsibilities. Adolescent and younger women appear to have been quite active, often as apprentices or partners to older relatives. During their twenties, many women remained active, either alone or with their husbands or other relatives. For many women, however, advanced pregnancy or increased family responsibilities signaled a decline in long-distance travel for purposes of hunting. In their middle and later years, women often increased their participation in a wide range of hunting activities, both with their husbands and with other relatives. Often, daughters, nieces, or granddaughters were taken on as apprentice/helpers.

A second factor that has had an impact on female mobility is increasing Chipewyan family size and number of children reared. This trend emerged with the expansion and intensification of the European fur trade economy throughout the nineteenth century, and family size has increased in this century. Census data reveal a significant historical increase in number of children reared per adult Chipewyan woman. The statistic has grown from 2.8 children with a range of 1-5 in 1838 (HBCA 1838), to 3.1 children with a range of 1-8 in 1906 (Canada 1966), to 4.8 children with a range of -12 by 1974 (Canada 1974). Because of a lack of comparability in the various census documents, we have been able to calculate only an average number of children for each adult Chipewyan woman in our study area who had at least one child. This statistic is not the same as the average number of children born to a woman in the course of a lifetime. Nonetheless, these figures demonstrate a substantial increase in family size and, concomitantly, an increase in the domestic responsibilities of women in their roles as mothers and child-care providers throughout the post-contact period.

A third factor that has had an impact on female



Table 1. Typology of Southern Chipewyan Hunting Teams.

Team Type	Travel Distance and Procurement Space	Historical Occurrence
All-male	long distance and extensive range	more common in recent history
Male-female	medium distance and moderate range	less common in recent history
All-female	restricted distance and limited range	common throughout history

and, to a lesser degree, male mobility is mandatory schooling for grade-school-age children. While schooling was available for some children as early as the late nineteenth century, government-sponsored formal education did not begin until after negotiation of Treaty No. 10 in 1906 and the legal recognition of the English River Band of Chipewyan. Even then, however, many children never attended school, while others had only a few erratic years of education in distant boarding facilities. This state of affairs was common into the 1940s and 1950s.

The situation changed dramatically in 1968 with the opening of a government-sponsored day school for grades K-6 in the Chipewyan community of Patanak. This school and a complex of other services became a magnet for families that had previously occupied smaller seasonal settlements in the Churchill River and Cree Lake drainage systems. Initially, some families continued to follow a seasonally nomadic way of life while sending schoolchildren to board with relatives. For most families, however, a highly mobile lifestyle involving prolonged and long-distance winter movements was increasingly curtailed. By the early 1970s, for those Chipewyan with school-age children, older systems of seasonal family nomadism were nearly completely phased out and replaced by all-male hunting-trapping teams. This trend has continued. By the early 1990s, the Patanak school expanded to include grades K-9. In turn, the mothers of these children have become increasingly centralized in residence, while their fathers conduct far-flung hunting and trapping activities in all-male task groups.

While life cycle dynamics, demographic change, the European fur trade, missionization, and the Canadian state have all impacted differently on women and men over the past 100-150 years, other profound contrasts remain in the patterning of female and male hunting activities. Ensuing sections of this paper examine these distinctions as they are manifested in the spatial organization of hunting behavior.

### Sociology of Chipewyan Hunting Teams

Although we have argued for a broad definition of hunting that incorporates a complex system of logistics, preparation, travel, killing, butchering, processing, and distribution, we will momentarily focus upon the procurement side of this spectrum. Among the southern Chipewyan, the task groups involved in the actual pursuit and harvesting of food animals are highly variable in their sociospatial organization. The factors affecting team formation and composition are complex and multifaceted, including such things as group size, and members' ages and family-kin affiliations. In order to further our understanding of gender and ethnoarchaeology, however, these teams will be portrayed as several distinctive types: (1) all-male, (2) all-female, and (3) male-female.

As noted in Table 1, these variably gendered hunting teams operate at different distances and spatial ranges with respect to villages and encampments, and their relative importance or prominence during particular historical periods has varied in accordance with shifting political economic impacts. The period between World War Two and the mid-1950s is a significant time horizon. A constellation of government programs encouraged a more sedentary existence for the Chipewyan in the central settlement of Patanak. A general decline in seasonal family nomadism over the ensuing 50 years has had the effect of magnifying the importance of long-distance, all-male hunting-trapping teams while curtailing the frequency of the mixed male-female teams who once commonly hunted moose, for example, within a modest distance of seasonally occupied villages and encampments. Yet, despite these profound changes, all-female teams have remained a fairly stable presence in the bush economy, as women continue to procure rabbits and other resources within a restricted range of camps, villages, or centralized settlements.

At a symbolic level, the expression *sits'eni* ("partner," "my partner") can be used as a form of

address by members in any of the team types discussed. Thus, two women teaming up to hunt muskrats or to make moosehide, or several men joining forces on a mid-winter trapline, may refer to one another as *sits'eni*, at least in the context of the work being performed. As a social identity and form of address, however, "partner" conveys specific shades of meaning when team members derive from different family households and when kinship connections are distant or obscure.<sup>1</sup> In such cases, "partner" can imply friendship and reciprocal bonds that extend outside the domain of hunting and work. In hunting teams composed of close family members, such as husband-wife, brother-brother, or grandmother-granddaughter dyads, "partner" is a subsidiary identity restricted narrowly to the task at hand.

Ensuing discussion considers the harvesting behaviors and locational patterns of the three team types. In turn, such patterning has implications for the way that gender dynamics structure archaeological residues.

#### All-Male Teams

All-male partnerships typically are comprised of two or three men. As in the case of fathers training sons, or older brothers instructing younger brothers, team members may derive from the same household. However, male partners of roughly equivalent age, experience, and decision-making ability usually derive from different households in a community. "Community" in this discussion has a dual reference: one of the many small winter staging communities or domestic settlements (*eyanaq'ade*), containing 5 to 10 bilaterally related families (or about 20 to 50 people), distributed throughout the Upper Churchill region before World War Two, on the one hand, or the large permanent central place of Patanak, with hundreds of people, which emerged in recent years, on the other.

Regarding either context, men have formed partnerships to accomplish a variety of hunting tasks that take them away from their families to distant bush locales for variable periods: (1) short-term concentrated hunts, lasting from a few hours to a few days, of large mammals such as moose and caribou, (2) intensive fishing operations that may last from several days to several weeks, and (3) hunting-trapping operations, of several weeks

to several months duration, which intertwine the pursuit of about a dozen species of commercial fur-bearers for market trade with the capture of a variety of large and small mammals, fish, and birds for domestic food consumption.

Referring to the general period of the 1930s, for example, a Chipewyan man recalls his hunting-trapping forays out of a multifamily winter staging community known as *lucock'yeθe*, or "big fish hooked" (Cree Lake 16 archaeological site, Figure 1) on the northern shore of Cree Lake:

From the north end there, I went trapping north and northwest to Kercher Lake, James Lake, up to Weitzel Lake. Then over to Pipestone Lake and Lloydsmith Lake. Then to Engenann Lake. . . . Round trips like that back to my cabin takes two or three weeks. . . . I had different partners. Jacob Stonypoint was the first. Then later Edward Lynx (his sister's husband), and later Prosper Denevou (his wife's brother).

The team<sup>2</sup> in question traversed a network of interconnected lakes, streams, and esker ridges to a large lake 45 linear km to the northwest, or about 90 km by actual dog-team travel. After two or three weeks, the partners returned to their respective family households at *lucock'yeθe* with segmented pelts for further handling and processing by wives and other female relatives.

Nonetheless, some all-male hunting activity could occur within a rather restricted radius of the winter staging communities. Such patterns probably intensified during years when migrating caribou herds were particularly abundant. Referring once again to the community at *lucock'yeθe*, another Chipewyan man recalls:

At first there were no caribou at Cree Lake, in 1931-32. But in 1933 they came in great numbers. . . . Then I would go hunting by myself on dog team. I would look for a caribou trail and follow that until I saw them. I would track them for 2-5 miles. Even though there were large herds, I would only take 4-5 caribou, enough to feed my family for awhile. Mostly I would hunt to the north of *lucock'yeθe*. . . . As soon as I shoot them with a .30-30 rifle, I butcher them and let them cool off and then take them back to camp.

Regarding the bush economy of recent years, much of the period between late October and mid-April finds all-male teams in a state of perpetual



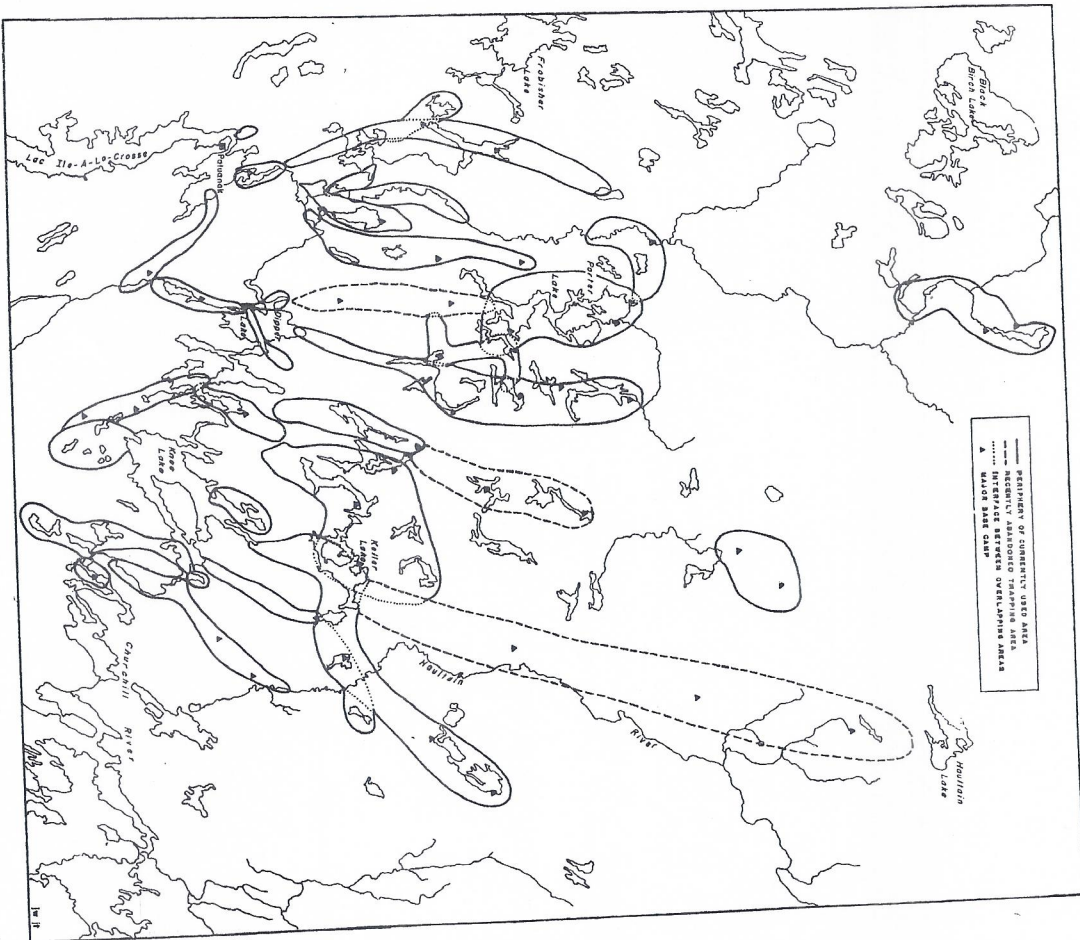


Figure 2. Distribution of southern Chipevyan all-male hunting areas used in the winter.

travel within their far-flung hunting areas and between hunting camps and domestic settlement (or centralized village), as they funnel materials to their families for further processing. Teams coordinate their work within hunting-trapping areas via a net-



Figure 3. Internal organization of an all-male hunting-trapping area.

bearing mammals are discarded after skinning, as are some body parts of mammals butchered for food, but the process of discard often reduces the visibility of these materials. For example, major portions of a large animal, like a moose or caribou, are conventionally transferred from the kill site and hunting encampment to a domestic settlement or central village where women handle the final stages of butchering, thin cutting, and smoke drying.

While the residues of hunting encampments, encampment networks, and their respective catchment areas may be difficult to locate and document with conventional archaeological



participation ethnography in the 1970s (Jarvenpa 1976, 1977, 1980).

For example, Figure 2 depicts a configuration of hunting-trapping areas (*ti'suzetelakkye*) in the early 1970s. At that time 76 Chipewyan men from the community of Pananak were organized into 31 teams or partnerships for winter hunting and trapping. Radiating north and northeastward from the main settlement, the 31 hunting areas ranged from 6.5 to 297.6 km<sup>2</sup> in extent, with a mean size of 112.6 km<sup>2</sup>.

Likewise, the men's hunting areas varied in distance from the main settlement. The smaller areas, generally occupied by elderly men retired from long-distance travel, were closest to Pananak, as few as 6.4 km away. Large remote areas, usually managed by the most energetic and experienced middle-aged men, were up to 123.9 km away. The mean linear distance to the farthest point of all areas was 57.3 km, about half the actual on-ground travel distance.

Spatial dimensions of all-male hunting teams can be considered at a finer scale. For example, in the early 1970s the two Parmigan brothers maintained a circuit of six winter hunting encampments in an area encompassing 202 km<sup>2</sup> (Figure 3). Like most larger winter hunting areas, it embraced a diverse patchwork of boreal forest, teed muskeg, bog, barren rock outcroppings, streams, ponds, and labyrinthine lakes and lakeshores. About every three days the team changed its camp location in order to monitor a far-flung network of traplines (*ti'suzionlu*) for furbearers and to pursue larger game. These activities required an average travel distance of nearly 34 km per day, much of it accomplished by walking. Products of the hunt were periodically transferred to the remainder of the Parmigan family situated in Pananak, about 66 linear km to the south.

Life histories of men exhibit considerable fluidity with respect to hunting teams and hunting areas. Both are ephemeral phenomena, and in recent years most men acquire new hunting partners every three to four years and shift winter hunting areas every two to five years.<sup>3</sup> This degree of change obviates rigid ownership of well-defined territories, and it is consistent with the geographical mobility and flexible residential alliances that prevailed among the southern Chipewyan in the late nineteenth and early twentieth centuries (Jarvenpa and Brumbach 1988:607).

#### All-Female Teams

Resource acquisition carried out by one or more women is usually done in the context of day trips from a camp or more permanent seasonal settlement. These habitations may be tent encampments established for a few days to a few weeks, or more permanent log cabin structures occupied seasonally over a period of years. These site locations are selected usually because they are along open-water travel routes adjacent to areas that afford good fishing and access to other animal resources.

While some women hunt alone, most women team up with other family members. Two common arrangements are mother-daughter and grandmother-granddaughter pairs. One archaeological consequence of such behavior is that residues will be distributed within a few hours or a day's travel from a settlement. Residues that result from butchering or processing are more likely to end up at the settlement, since little processing takes place at the location of the kill. This is a consequence of the smaller size of the resources generally targeted by all-women teams. One woman describes rabbit snaring with her mother ca. 1945:

I used to hunt rabbits with my Mom. We had a little trail where we went. From our house we would cross a lake and go into the bush in winter, and my Mom would put out the rabbit snares. She would kill 7 or maybe 11 rabbits at one time that way. I was 17 years old. . . . At the end of the trail my Mom would kill a rabbit for a meal, make tea from snow, and have some bannock. We used snares. We would bring the other rabbits back home whole. She would sometimes gut them and leave the hair on them and keep them frozen in a shed outside. We especially hunted rabbits in winter.

Snowshoe rabbits (*Lepus americanus*) were and are a subsistence staple. While their contribution to the diet in terms of overall weight does not match that of moose, they are more widely distributed and can be taken on a more steady basis. Despite their importance, the archaeological visibility of rabbit acquisition is severely limited. In the example above, with the exception of the rabbit consumed in the meal, the animals were returned whole to the seasonal village. At the meal site, residues would include the rabbit bones, and perhaps a small rack by the fire to suspend a tea

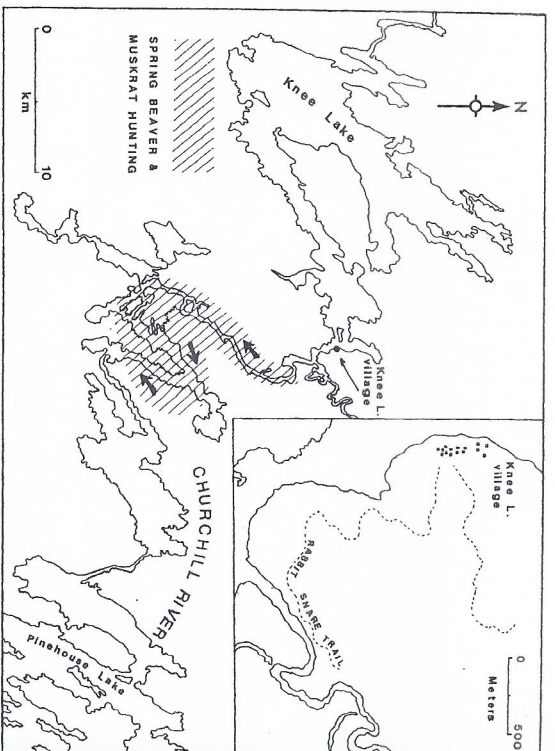


Figure 4. Spring beaver-muskkrat hunting route of an all-female team. Inset: women's daily rabbit hunting trails.

At the habitation site, the archaeological residues would include additional rabbit bones (cooked but not broken up for bone grease) and the remains of the storage shed. Additional processing activities could also take place at this location. Rabbit meat was sometimes processed for dried meat, or pemmican, which can be stored, and the skin was used to make woven blankets and mocasin liners.

Most rabbit hunting takes place in close proximity to seasonal domestic settlements, that is, along trails measuring ca. 1.6–3.5 km one-way for a total distance traveled of 3.2–7.0 km (see inset of Figure 4). Preferred locations are through patches of muskeg (in winter) and spruce thickets, and along margins of lakes and streams. The trails are used repeatedly until productivity falls off, and then trails in new areas are established.

Some individuals snare rabbits alone. Many women check their rabbit snares as part of their regular domestic chores. One woman reported snaring rabbits alone at the age of nine (due in part to her parents' infirmities) traveling a distance of 6.4 km round trip. All of the processing of the rabbits took place at the residential settlement. The same individual also recalls fishing as a young girl of 15.

I used to go fishing in the winter too. I had a big family with my little brothers and sisters. I used to put my brother in a toboggan to go ice fishing in the morning to check the running lines at 5:00 AM. My brother was only about nine years old. We'd pour hot water on the frozen fish to clean them.

In this case, the fishing was managed with under-ice gill nets on a lake within a couple of kilometers of the family's seasonal settlement. No archaeological consequences would be recoverable from that location, but the settlement would retain some evidence of the processing, cooking, and storage of whitefish and pickerel.

Another common team composition was that of grandmother-granddaughter. In some families, where the mother was busy raising younger children, older children were frequently in the partial care of their grandparents. In these often enduring relationships, young girls acquired many of the skills necessary for hunting and processing of animal products. One woman describes her experiences beaver hunting in the 1960s:

I have gone beaver hunting with my husband. But before marriage I used to paddle with my Grandma for one day in a small canoe for beaver and muskrat hunting in the spring time. Sometimes we trapped and shot them.



Sometimes my Grandma made me shoot them, but often I missed. But I always caught them with traps. We used mainly traps and guns. After that, I always went with my husband. We would go on the same trail, yet we each individually set our own traps.

If you want to eat the meat, you must take the guts out right away. Otherwise it rots. You can use any type of knife, maybe a one foot long knife. . . . Later at camp, you take the skin off, and then cut the meat up into small pieces and put them on a smoking rack.

Again, the material consequences of the hunting of small mammals will be difficult or impossible to recover at the actual loci of the kills. Most of the processing takes place at a temporary hunting encampment or a domestic settlement where features—hearths, smoking racks, and storage facilities—are located. Tools such as knives, stretching racks, and bone scrapers are more likely to be used, and discarded, at such places.

The same woman reports hunting muskrats when she was as young as seven or eight years of age. In many respects, muskrat hunting mirrors beaver hunting. In this case, the location was one of a series of small lake expansions along the Churchill River downstream from a seasonal settlement at Kree Lake (Figure 4):

I learned from my Mom and Grandma how to trap these animals and how to skin them. Each woman had her own place for trapping so that it wouldn't overlap with brothers' or sisters' places. I would travel down the Churchill River in a canoe with Grandma to Dregger Lake, past Wagahonanci. I was 7 or 8 years old. We used an old-style wood-frame canoe.

After trapping muskrats, you take the guts out, take the skin off, and then smoke the meat a little before boiling. We also share the animals with neighbors. Like beaver, we give away the whole animal because of the small size. You dry the meat on a smoking rack, but do not thin-cut or pound the meat. Then you hang up the meat in a cloth bag in a storage shed.

In this case, the travel distance from the settlement is considerably greater than for rabbit or fish forays, approximately 16 linear km or about 32 km in actual river travel. Of course, all-female movements of this scale are facilitated by hunting canoes, and such trips occasionally require overnight stays.

The archaeological consequences are very sim-

ilar to the previous cases, except for the production of short-term camps for meals or overnight stays. These remains would consist of one or more hearths (one for cooking and often a second one for smoking meat) at each location, along with small temporary drying racks and some of the bones of the animals that had been consumed for meals. Of course, more permanent or fixed facilities, such as cabins, storage sheds, large drying racks, and related features would not have been constructed at the overnight encampment. The bulk of the skinning, butchering, and processing would be carried out at the seasonal domestic settlement on Kree Lake, and it is at this location where most of the residues would accumulate.

Rather similar in distance requirements to rabbit and other small game hunting is women's procurement of plant resources. While the Chipewyan do not consume much locally procured plant food, they collect a variety of plant materials for non-food purposes, including fuel woods for heating, wood for dwellings, storage buildings and tools, medicines, baby diapering and other hygienic uses, basketry and other containers, and special fuels for hide smoking. Plant gathering is done individually as well as with other family members and is most commonly done as a day trip within a few kilometers of a seasonal domestic settlement. One woman describes berry picking as a young girl living on Lac Ile-à-la-Croise in the 1920s and 1930s:

We harvested a lot of berries. It was part of life in my young years. A lot of us went for berries together, mother and sisters, and off and on with my brothers when we were young. In summer time we used to go north on Lac Ile-à-la-Croise to various places. If not far, we went by boat to harvest for a day, just a few kilometers away.

Although berry picking did not involve the use of special artifacts or features, the collection and processing of certain other plant materials did. Another Chipewyan woman discusses the construction of special features involved in the use of moss for baby diapering in the 1940s:

There was a special moss, a yellow amber moss on the surface of the muskeg. We would hang it on trees to dry off. On each trek for moss we would dry more of it. We would make a tripod of trees and hang it on that to dry. I

raised my babies on that moss diapers. . . . You can find this moss about one kilometer or less away, or "one stick" or one yard in Chipewyan usage.

We used to store the moss in a cache made out of trees or saplings bent over into a corral to make a protective covering. We would make the cache in the gathering area. You can do all this by hand, except for chopping the trees down with an axe.

#### Male-Female Teams

Before World War Two, men and women often worked closely together in a variety of bush contexts. Occasionally, the residents of a winter staging community or domestic settlement became quite mobile, with groups of related families traveling together for much of the winter in a concentrated pursuit of barren-ground caribou. While males often performed the actual killing, husband-wife partnerships facilitated the timely and uninterrupted flow of travel, tracking, killing, butchering, processing, and meat distribution, that is, the integrated components of "hunting" in its most comprehensive sense.

In the late 1930s, for example, the Chipewyan families occupying the winter staging community of *enadzezdiani* ("Cree River") (Cree Lake 19 of *enadzezdiani* (Figure 1), near the outlet of Cree River on Cree Lake's northeast corner, pursued this strategy. Gilbert Whitefish, who was a nine-year-old boy and an apprentice hunter under his adoptive father's (and paternal uncle's) tutelage, comments on the situation at that time:

In those earlier days the whole family would go hunting together in the bush all winter. But that system was gone by the time I was married (1957). Then only men would go out. When I was a child we would move the tent wherever those caribou moved, and we trapped at the same time. . . . Several families, five or six, would travel together in tents, staying together. People would help one another. . . . Almost 30 people camped together. We would only hunt caribou beginning in late October. They stay there all winter, but move around looking for feed. Then the caribou would go back north in April.

After killing the caribou, you cut it up right there and haul it back to the tent. From there it's the woman's job. We skin it with a knife and use an axe to cut the bones. I brought the caribou back to camp with a dog team. . . . At camp

the women make dry meat. . . . We used to make bags out of caribou hide and put the meat in there. . . . Women would work together to process and make dry meat, *egume*. Each family made its own dry meat. The women also made the caribou hides. . . . They used to have a tepee-shaped smoking rack, and the meat would be cut up in long dried flat strips to dry in the fire.

While this group of families departed and returned to their wintering base at *enadzezdiani*, their travel circuit embraced a large region proceeding north to Pasfield Lake, then east toward Unknown and Waterbury lakes, then southwest to Close Lake and ultimately back to Cree Lake. This entailed a round-trip of nearly 300 linear km, closer to 600 km in actual travel.

Most reported examples of male-female hunting teams involve husband-wife pairs, although cases of father-daughter, grandfather-granddaughter, and other team combinations are known. As in the preceding example, such teams tend to concentrate on the pursuit of large mammals such as caribou and moose, but other resources can be involved.

Distances traveled by male-female teams tend to be greater than that carried out by all-female teams, particularly when moose or caribou are pursued. However, the spatial organization of hunting for moose, and especially caribou, has been uniquely transformed by the increasingly sedentary settlements of the post-World War Two era. A woman discusses some of these modifications:

I never killed a moose. Just my father or husband [killed moose]. My husband might go 5 or 10 miles out of the village. In summer, maybe he stays overnight, maybe portage a canoe to another lake. If he kills a moose, he brings a little bit of meat home. The next day there are two ways to do things: either men go to pick up the rest of the meat, or the women and the whole family go to make dry meat where the moose was killed. The second way was more common in the earlier days and in my early marriage. But later, after my first child, I did not go out. It was tough with a little baby. Nowadays, we always do it the first way.

The archaeological consequences of the two strategies are quite different. Following the earlier strategy, the archaeological impact of hunting activities would be less concentrated on the landscape; the impact would be seen as a large number



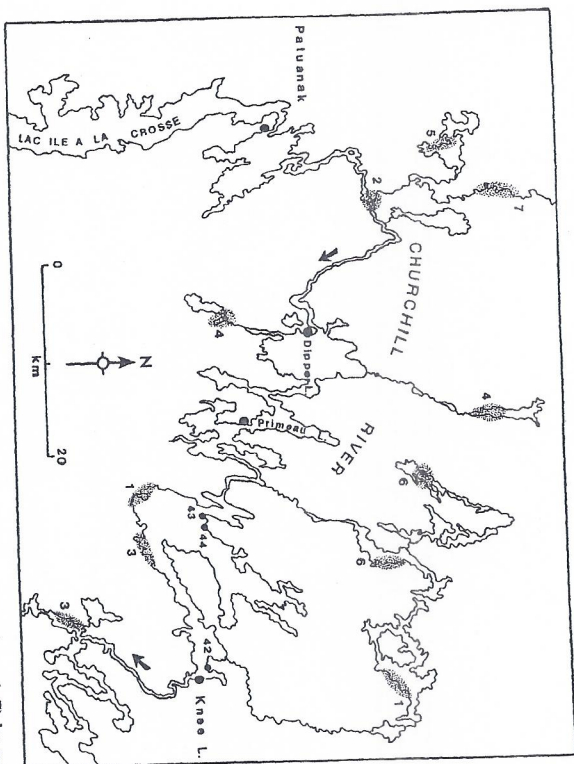


Figure 5. Contemporary southern Chipewyan settlements and locations of moose hunts (nos. 1-7) by mixed male-female teams. Nos. 42-44 are historic archaeological sites.

of widely dispersed but small concentrations of moose remains, artifacts, features, and other residues at temporary hunting encampments. Derivative of the later strategy, archaeological and artifactual material would become more centralized at seasonal or semipermanent settlements, thereby magnifying the archaeological visibility of a smaller number of cultural locations. Despite the foregoing modifications, fundamental aspects of the subsistence economy had not changed. Moose retained their importance as a resource. Nonetheless, a reorganization of the spatial dimension of Chipewyan men's and women's labor had a major impact on the formation of the archaeological record. Further implications of the two strategies will be discussed later in the paper.

Between the extremes of short-term encampments occupied for a few days to a few weeks, and the permanent central village of recent times, are the seasonal domestic settlements occupied for several months by clusters of bilaterally linked families, which serve as staging points for travel and hunting into more remote areas.

Seventy-year-old Josephine Lynx had just returned from a moose-hunting trip with her husband when she made the following observations:

I go moose hunting with my husband at Keller Lake and around Kneee Lake, sometimes for two days, sometimes for up to a week. I always have hunted with my husband since early in our marriage. But I wouldn't go hunting after the third or fourth month of pregnancy. . . . I would help, together with my husband, pulling the moose out of the water and cutting it up in the bush. When I got back to camp, I would be the only one to do further butchering and making all the dry meat, as well as making the moosehide. Sometimes I would get help with hide making, like from my oldest daughter or another woman. In the early days of marriage, we would not haul the moose to Kneee Lake village, but instead do all the butchering and hide making and all that in the bush, because it was hard to carry things a long ways. The changeover to bring the moose back to the village for further butchering started about 35 years ago, around 1957.

As indicated by locations in Figure 5, male-female moose-hunting trips involve one-way travel distances ranging from 20 km (Kneee Lake) to 45 km (Keller Lake). The archaeological consequences of such hunting endeavors include some faunal and artifactual remains deposited at or near the kill site and several small sites where the couple, and sometimes one or more children, camped dur-

ing the hunting trip. These small encampment sites have a very low visibility. At seasonal domestic settlements, like Kneee Lake village, most of the processing would take place. These activities and their associated features (drying racks, smoking hearths, storage facilities) have relatively high visibility.

While husband-wife pairs were most common, some moose hunting was also carried out by other teams, such as father-daughter or grandfather-granddaughter pairs. One woman reported moose hunting with her father in the mid-1940s when she was between the ages of 14 and 16. These trips were usually short-term forays from one of the seasonal staging communities. After marrying at age 17 and moving to another community, she and her husband, sometimes accompanied by the whole family, traveled to other lakes to hunt moose for periods of a few days to a week.

Some teams are composed of distantly related or unrelated female and male partners, although these seem to be infrequent and somewhat fortuitous arrangements. During our investigations at the Kneee Lake seasonal settlement in 1992, for example, a moose-hunting partnership of this kind was in progress. A widow from that community and a visiting male, both in their fifties, conducted an overnight hunting trip along the bays, inlets, and marshes of Kneee Lake's south shore. Their trip covered an estimated 15 km.

Other animal resources, including fish, muskrats, and beaver, are pursued by female-male teams. One 52-year-old woman describes hunting for muskrat with her grandparents in the early and mid-1950s.

We used to trap for fur, not only muskrats. I used to go with my grandparents to trap muskrats with metal traps, not snares. We would go trapping in Little Flatstone Creek and Mudjank (Deer River). . . . When going out for muskrat, we'd go out and camp for a couple days and then move the whole trapline, move it again, all the way down to the mouth of Little Flatstone and then working our way up to Patuanak. . . . My Grandma used to make large birch bark baskets, square but tall boxes, taller than wide. She would use these to store the dried muskrat meat.

These trips of a few days duration would involve travel distances of between 8 and 30 km from Patuanak, at that time a seasonally occupied domestic settlement.

In the preceding case, most archaeological

residues, including faunal remains, hearths, and temporary smoking racks, would be deposited in briefly occupied overnight encampments, since spring muskrats were generally harvested and butchered for immediate consumption rather than transported whole (and frozen) to a seasonal settlement. However, some residues, such as storage facilities, would accumulate at the latter site.

#### Gender and Formation Processes

Several conclusions emerge from our ethnoarchaeological analysis that have implications for interpretations of hunter-gatherer society in prehistoric contexts generally.

1. One conclusion is the simple but undeniable reality that women hunt.<sup>4</sup> While the women we observed do not dispatch large mammals as frequently as do men (and are not prohibited from doing so), they are inextricably involved in the broader system of provisioning through pursuit, harvesting, and processing of large and small mammals, fish, and bird species. Indeed, the moment of dispatch is but a fleeting fragment in the total enterprise of hunting.

2. Variability in the spatial organization of hunting is affected by gender. The social composition of teams or partnerships implies different procurement strategies, travel distances, and catchment areas. All-male teams, especially in winter, hunt and trap in far-flung zones often dozens of kilometers away and many weeks removed from family households in either the winter staging communities of past decades or in the centralized villages of recent times. All-female teams hunt virtually year-round on a nearly daily basis, on short shorelines radiating out a few kilometers from villages as well as via canoe paths within a day's or an overnight trip's travel from staging communities or centralized villages. Finally, mixed male-female teams occupy an intermediate position wherein husband-wife pairs and their children, especially during the summer and fall months, conduct moose-hunting forays of two days' to two weeks' duration in a radius of 10-45 km of staging communities or villages. These different patterns of spatial behavior have direct archaeological consequences since residues recovered from within a radius of several kilometers of a contemporaneous settlement site are likely to represent the results of women's activities.



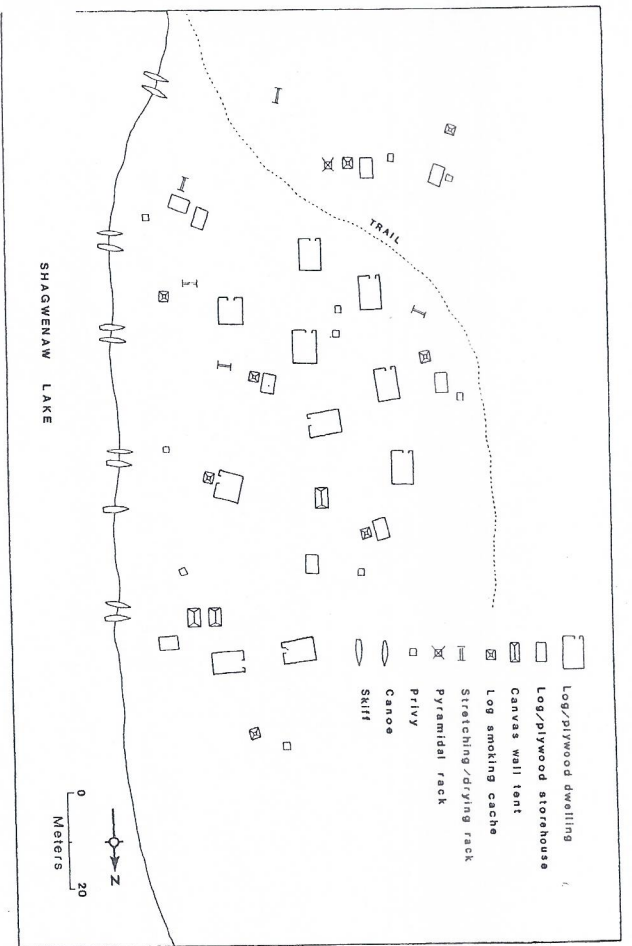


Figure 6. Women's and men's storage spaces in a contemporary Chipewyan settlement.

3. "Hunting" generally has poor archaeological visibility when narrowly construed as killing. While men tend to dominate the action involved in dispatching larger mammals, actual "kill sites" rarely coincide with the tents, drying racks, and other temporary facilities housing a hunting party. These hunting encampments, frequently managed jointly by men and women who are involved in the initial stages of butchering and processing, can be several meters to a half-kilometer away from the actual loci of kills. In turn, both the kill sites and hunting encampments may be far removed in time and space from staging communities and centralized villages, the ultimate sites for the final stages of butchering, processing, distribution, and storage of food products.

4. Conversely, "hunting" has considerable archaeological visibility when interpreted as an integrated system of travel, preparation, and logistics preceding kills and the intricacies of butchering, processing, and distribution following kills. Hunting behavior in this sense requires interdependence of male and female labor, and it generates both "kill sites" and "transformation sites," the latter consisting of a constellation of tempo-

rally hunting encampments, seasonal staging communities, and centralized villages where animal products are transformed into food, clothing, tools, and other necessities of life. Unlike the ephemeral loci of kills, "transformation sites" may be occupied for weeks, years, or decades. Fixed facilities at these locations such as houses, caches, platform and pyramidal racks, stretching racks, and smokehouses heavily reflect women's performance of thin cutting, smoke drying, grease making, and pemmican and hide manufacture, among other tasks. These repeated acts generate a fairly centralized distribution of archaeological and artifactual remains.

5. While our analysis has stressed intersite differences in the use of space by men and women, there are significant intrusive patterns as well. Staging communities and centralized village sites serve as general-purpose curation centers for both women's and men's hunting implements and processing toolkits. Moreover, some of these gender-typed materials and features are sharply segregated spatially within settlement landscapes. For example, in contemporary Chipewyan settlements, log smoking caches (*lorthe kwae*) are

de facto women's spaces. Generally, each female head of a family household manages the smoke drying and storage of meat and fish in one of these detached structures. Located within 10 to 20 m of her family's dwelling, the same cache also serves as a center for safe keeping important pieces of a woman's personal processing gear such as pound-bundles, stretching racks, hatchets, knives, and babiche cordage.

By the same token, somewhat larger log storerooms or storage sheds (*i'asi thelakoe*) are implicitly men's spaces. Also located within 10 to 20 m of the family dwelling, each male head of a household generally maintains his own storeroom for protecting and occasionally repairing his personal hunting equipment: traps, snares, axes, rifles, outboard motors, and related gear.

Figure 6 depicts the configuration of eight smoking caches and nine storerooms, and their association with other architectural features, in a small contemporary Chipewyan settlement. The conjugal pairs, or elementary families, comprising the 10 households here are closely linked by a network of primary bilateral ties. Since this contemporary village approximates the scale and social composition of many Chipewyan winter staging communities of the pre-World War Two era, its spatial properties may serve as an analogue for interpreting male and female activity areas for some historical archaeological sites in the region (for example, the 1940s winter community at site Cree Lake 17, Figure 7).

A key behavioral distinction is that the men's

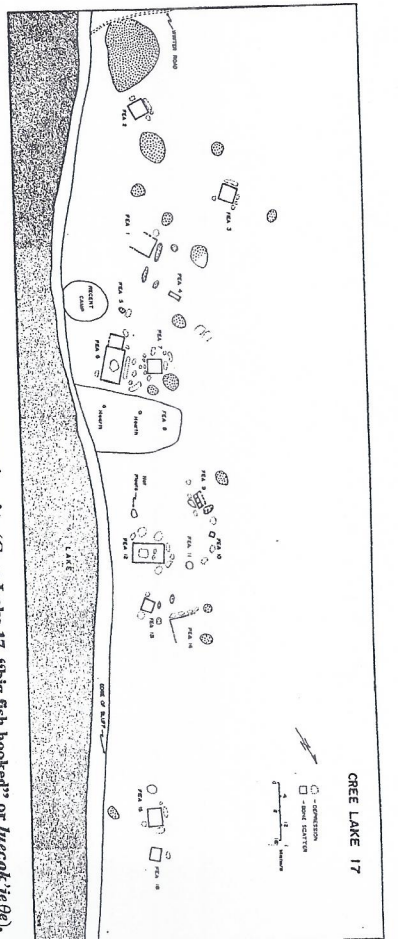


Figure 7. Historic Chipewyan winter staging community site (Cree Lake 17, "big fish hooked" or *lucock'ye'ee*).

spaces serve basically as storage for gear, which is deployed or activated by men outside the village in distant non-village or bush settings. Women's spaces, by contrast, signal both storage and active use of gear by women for processing food animals within the village landscape.

6. The visibility of archaeological remains is affected by patterns of disposal as much as and, in some cases, more than, by the nature of the subsistence economy. In the study discussed here, the archaeological consequences of women's moose-hunting and processing activities were greatly affected by the decision to return the carcass to the established settlement for further butchering and processing, as opposed to moving the community and establishing a temporary camp at the location of the kill. By concentrating the residues and features in one seasonal or semipermanent settlement, archaeological visibility is greatly increased, although in this case there were no significant changes in the kinds or amounts of food resources utilized. Instead, a reorganization of the spatial dimension of women's activities resulted in a major change in the formation of the archaeological record. This observation may have direct implications for the interpretation of the prehistoric archaeological record in situations where larger and more visible archaeological sites begin to appear without obvious transformations in the subsistence economy. For example, archaeological sites in the Eastern Woodlands of North America are characterized by increasing size and complexity throughout the Archaic. Some of these changes may have resulted from the reorganization of



Table 2. Moose-Hunting Formation Processes.

Female activity and materials	Kill Site		Hunting Encampment		Village Site	
	Bush-Centered	Village-Centered	Bush-Centered	Village-Centered	Bush-Centered	Village-Centered
dispatch animals, rough butchering	absent	absent	fine butchering, dry meat making, grease making, initial meat sharing and consumption	absent	hide making; pemican making; final meat distribution; storage and consumption	fine butchering, dry meat making, grease making; hide-making; meat distribution; storage and consumption
Male activity and materials	dispatch animals, rough butchering	dispatch animals, rough butchering	assist women	initial meat consumption	assist women	assist women

women's and men's labor as much as from changes in frequencies of subsistence resources.

7. Political economic changes in the southern Chipewyan territory since World War Two, including the emergence of one major permanent settlement, Pananak, have distorted the sociospatial organization of procurement discussed previously. While all-female teams continue to operate much as they have in the past, procuring a range of small mammals, fish, and other resources in close proximity to camps and domestic households, the mixed male-female teams have declined in importance as women and school-age children are tied increasingly to new services and institutions in the central settlement. In this context, all-male teams have become more prominent on the landscape, in many cases traveling longer distances and enduring longer periods of separation from their family households than in any previous historical period.

**Conclusions**

The moose-hunting behavior discussed previously yields additional implications regarding gender and archaeological formation processes. Two major scenarios emerge. These are defined by the key distinction of women being present at or traveling to the kill site vs. bringing the kill to the women at some central location, either the winter domestic settlements of former years or the year-round village sites of recent times. These patterns are referred to, respectively, as "bush-centered" and "village-centered" hunts in Table 2.

In both scenarios, a distinction is drawn between the kill site and the hunting encampment. The actual location where a moose is killed rarely coincides with the site accommodating tents, drying racks, and other temporary facilities housing a hunting party. This is especially true in warm weather, when moose are taken in the water and, minimally, must be dragged several meters to dry

land for initial butchering. Even if a camp is not already erected, a hunting party may choose to haul the rough-butchered carcass as much as a half-kilometer for further processing at a site where there is adequate space for tents, sufficient wood and water, and good access to trails or water routes, among other considerations (Jarvenpa and Burmbach 1983:178).

As noted previously, however, both kill sites and hunting encampments may be far removed in time and space from villages, the ultimate sites for the distribution and storage of moose meat. This multilayered sociospatial arrangement structures the formation of both archaeological materials and artifactual residues on the landscape.

In a bush-centered hunt, for example, women handle the bulk of the arduous thin cutting, smoke-drying, and grease making in a hunting encampment. Some smashed and cut-up long bones, sections of rib cage and vertebrae, as well as mandible, skull, and antlers are commonly discarded in the hunting encampment as large quantities of meat are consumed by the hunting party. Several kinds of cooking and smoke-drying hearths with their associated racks will be in heavy use for a week or two until the families pack up and return to their village. Only a modest surplus of meat may remain for distribution to other village families.

In a village-centered hunt, however, all of the foregoing women's activity plus pemican and hide manufacture, as well as most meat distribution and consumption, play out in one location. This generates a more centralized spatial distribution of archaeological and artifactual remains. For example, during a village-centered hunt based out of Pananak in the late 1970s, two men roughly butchered and consumed part of a moose over several days in a hunting encampment. However, they returned the bulk of the animal to their wives in

Table 3. Shifting Chipewyan Gender Dynamics and the Forager-Collector Gradient.

	Bush-Centered <sup>a</sup>	Logistical Collectors	Village-Centered <sup>b</sup>
Foragers			
High residential mobility	moderate residential mobility		low residential mobility
Low food storage	moderate food storage		high food storage
Generalized daily food-getting social units	specialized periodic food-getting task groups: all-male: 1 day-2 weeks all-female: 1-2 days male-female: 2 days-several weeks		specialized periodic food-getting task groups: all-male: 1 day-several months all-female: 1-2 days male-female: 1-2 days
Low site type variation	moderate site type variation: residential base; location; field camp; station		high site type variation: large permanent settlement; residential base; location; field camp; station

Note: General model adapted from Binford (1980).  
<sup>a</sup>Based on data for the Chipewyan before the late 1950s.  
<sup>b</sup>Based on data for the Chipewyan after the late 1950s.

Pananak who completed the fine butchering and helped distribute the meat among nearly 100 close kin in 16 village households.

It is noteworthy that in both bush- and village-centered hunts, there is a central consistency in men's behavior. While they tend to dominate action at the kill sites, these are the most ephemeral and least archaeologically visible locales. Other than entrails, little is left behind during rough-butchering at these sites. The entire process can be completed in less than two hours by men who are proficient with knife and axe. Moreover, since there is a very low probability of returning to the same kill site, hunting implements and butchering tools are unlikely to be recovered archaeologically from such contexts.

At the other extreme, a village site may be occupied for years or decades. Fixed facilities such as houses, caches, stretching racks, and smokehouses serve as general purpose curatorial centers for men's women's and men's toolkits. Yet, much of men's gear (rifles, axes, skiffs, outboard motors) is really in storage here, only to be activated in non-village or bush settings. The presence of women's gear (pounding stones, hatchets, stretching racks, hide scrapers, smoke houses, sewing machines), on the other hand, clearly signals active processing of moose in the village context.

The most ambiguous situation for an archaeological interpretation of gender is the hunting encampment. Sometimes both sexes occupy such camps, but as we have seen, the frequency of all-male hunting parties has increased in recent

decades. The emergence of a local school and a centralized settlement have retarded the geographical mobility of women particularly, fostering a greater spatial separation of male and female tasks than experienced by previous generations of Chipewyan. While the hunting encampments represent short-term occupations of a few days to a few weeks, their favorable locations can attract repeat visits by moose-hunting parties over a number of years. As a general rule, any evidence of prolonged processing and butchering of moose, such as the presence of upper leg bone as well as lower leg bone fragments, or more emphatically, the residues of hide-making tools, suggests the presence of women and larger family or multifamily hunting units.

Our analysis may be extended by considering the Chipewyan data in terms of general models of hunter-gatherer settlement systems. Although concepts like "forager" and "collector" can be defined in various ways for different heuristic purposes, Binford's (1980:15) well-known framework posits, among other things, that "foragers move consumers to goods with frequent residential moves, while collectors move goods to consumers with generally fewer residential moves" (emphasis added). Binford's approach has influenced numerous archaeological and ethnoarchaeological discussions and studies of hunter-gatherer spatial adaptations (Le Blanc 1984:418; Stein Mandryk 1993). We use it here to suggest how gender relations can be modeled as part of a more comprehensive social organization of space among hunting peoples.



Employing Binford's (1980) analytical framework, it is apparent that while the southern Chipewyan community at large has been moving away from highly mobile "foraging" strategies toward more central-based logistical "collecting" behaviors and settlement strategies,<sup>5</sup> this gross change masks a growing divergence in gender roles. Men's work as logistical hunters of large game becomes exaggerated. Women's central-based processing of large mammals and harvesting of small mammals is likewise magnified. Nonetheless, both men and women are still intricately involved in hunting as a comprehensive system of provisioning.

Analysis of the spatial patterns of female and male hunting also sheds light on the nature of processes that move a population of collectors toward more pronounced forms of logistical organization. Indeed, the shift from bush-centered to village-centered hunts involves increased logistical organization. The forces that generated such change were largely external and political economic in nature as Chipewyan children and their families became increasingly involved in government-mandated education programs. In turn, this impact was intertwined with and mutually reinforced by improved travel technology, Western medical care, and increased family size. While the interplay of these factors may be specific to the history of Chipewyan-European-Canadian relations in the central subarctic, they clarify one path by which increased logistical organization emerges.

Notably, bush- and village-centered hunts are recognizable archaeologically and reflect differences in the structuring of the spatial dimension of women's hunting activities. The decision-making processes that result in one pattern or the other are affected more by cultural factors relating to gender construction and political economy than by women's innate abilities or physical "prowess" as hunters. Indeed, because the relevant factors are not biopsychological "universals" or "givens" of male and female constitution, they should be of special interest to archaeologists.

Following principles recognized by Binford (1980), Table 3 compares three generalized hunter-gatherer strategies: foragers, logistically organized collectors (bush-centered hunt), and intensive logistically organized collectors (village-

centered hunt). Foragers are characterized by high residential mobility, low food storage, generalized daily food gathering social units, and the creation of only a few kinds of sites. By contrast, logistically organized collectors are characterized by low residential mobility, high food storage, specialized periodic food-gathering units, and the creation of many kinds of sites. Clearly, the Chipewyan are logistically organized collectors. Yet, within this broad spectrum there are greater and lesser degrees of logistical organization.

Older patterns of Chipewyan family nomadism positioned adult women at or near the loci of major kills. While this still occurs occasionally among some elderly hunting teams, it was more common in former decades. Products of the kill were transported a negligible distance as temporary camps were established so that women could immediately handle the butchering, thin cutting and drying of meat, and hide making, among other processing activities. Hunting for large game took place for much of the year. Residential camps were moved frequently, especially during the winter months. In addition to the processing of major kills of moose and caribou, pursuit of an array of smaller game, bird, and fish species was managed from some of these temporary residences as well. Prior to World War Two, most families switched back and forth between this pattern and that of moving major kills longer distances to seasonal settlements or villages where women carried out the processing. Women's life cycle dynamics, including family size, age of progeny, and related factors, often determined which of these two scenarios would be most desirable.

After World War Two, and accelerating after the late 1950s with the expansion of mandatory schooling and other government programs and services, hunts for large game and commercial furbearers were conducted increasingly by young and middle-aged males. This involved increased logistical planning in order to situate all-male teams away from permanent settlements for periods of a few days to several months. Often, longer travel distances were required to distribute hunters more evenly across the landscape. During these prolonged hunts, periodic trips back home were necessary to return rough-butchered carcasses and rough-dressed furs to settlements for further processing by women. In essence, this transition has

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created a new category of archaeological site, the "central permanent settlement," exemplified by contemporary communities like Patuanak, which is distinctly larger than any of the preceding site types.

Thus, while both forms of logistical collecting create short-term residences, overnight camps, and kill-processing sites, the new strategy has generated a larger, more visible, and possibly more enduring category of site. In order for part of the population to remain at this central settlement for most of the year, another portion of the population must be increasingly mobile and logistically organized. The Chipewyan have adapted to the demands of the twentieth century by constructing gender roles that are more divergent and more specialized. Stated another way, men have become far-ranging, logistically organized collectors, while women have become foragers who operate on a nearly daily basis from a central residence.

The foregoing observations can be extended to prehistoric contexts, while keeping in mind that ethnoarchaeological research offers a guide to general processes, rather than rigid analogies, for understanding past social systems. Whatever forces (environmental, intersocietal, or internal) encourage changes from "foraging" to logistical "collecting" strategies and to centralized settlements, these forces will also likely generate shifts in male and female hunting behavior and procurement space of the kind discussed above. Research designs and interpretations of archaeological evidence based on these forces and relationships are likely to produce a more holistic understanding of hunter-gatherer society, a vision that more fully reflects the gendered nature of economies in past times and places.

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Notes

- Partnerships and teams operate in the larger context of the southern Chipewyan's flexible bilateral community composition and residential alliances. Prior to the recent era of settlement centralization, clusters of five to 10 interrelated families (or about 20-50 people) typically spent the bulk of the year together in "winter staging communities" or *evana de*. Primary bilateral ties were important in the formation of these communities. For example, conjugal pairs or elementary families were often linked to each other by sibling relationships, particularly brother-sister ties, and by parent-child relationships, especially parent-daughter bonds; the latter reinforced by a tendency toward short-term matrilineal residence and bride service. The prevalence of cross-sex consanguineal linkages provided a basis for in-law relationships that were prominent in many all-male hunting-trapping teams, as in the case of brothers-in-law or father-in-law/son-in-law partnerships (Brumbach and Jarvenpa 1989:258-266; Brumbach et al. 1982:41-44; Jarvenpa 1980:128-132, 142-148; Jarvenpa and Brumbach 1988:602-606). In-law relationships appear to have been less common in the formation of all-female work teams. While more information is needed in this regard, some feelings of reserve and shyness between adult brothers and sisters, and between various in-law partnerships between such individuals (Smith 1982:20-25). Yet, avoidance behaviors, as between mother-in-law and son-in-law, appear to be neither as formalized nor as stringent as among some of the Cordilleran Athapaskans (Curtis 1928:41; McClellan 1975:410-436; Sharp 1988:129-131).
- All personal names in this article are pseudonyms.
- Variability in social composition, leadership dynamics, and allocation of labor and resources for Chipewyan male hunting teams is treated at length elsewhere (Jarvenpa 1977:233-235, 1980:143-146).
- A full review of the literature on women as hunters is beyond the scope of this paper, but for ethnographic studies, see Estoko-Griffin and Griffin (1981) and Jarvenpa and Brumbach (1995), among others. Briggs (1974:270-271) also discusses women hunters among Canadian Inuit groups, but emphasizes that such behavior is more commonly associated with males.
- The essence of this distinction was captured in earlier contrasts between "restricted wandering" and "central-based wandering" (Beardsley 1956; VansStone 1974).

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