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Gender Dynamics in Hunter-Gatherer Society: Archaeological Methods and Perspectives

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WHAT IS THE NATURE OF gender difference and gender relations in hunter-gatherer society? More pointedly, what is our understanding of gender dynamics in hunter-gatherer societies of the past as interpreted through archaeology?

Addressing such questions is to acknowledge some formidable obstacles. Not the least of these, for most archaeologists, is the absence of living cultural systems from which to model female and male behaviors. Conventional archaeology lacks living, breathing consultants who may offer their own interpretations of female and male lives from a cultural insider's vantage point. Ethnoarchaeological studies, as well as judicious use of analogy and inference from the ethnographic and ethnohistoric record, hold promise for bridging some of these gaps. Even so, deciphering gender patterns in societies of the remote past may be akin to "working without a net."

Based in part on biological reproductive behaviors and in part on negotiated ideology and social relations, gender is deeply rooted in all societies. As Sassaman (1992:71) argues, "Gender is the primary social variable of the labor process in forager or hunter-gatherer societies." Indeed, it may be the oldest and most fundamental distinction shaping human experience. Gender dynamics among hunter-gatherers in prehistory, therefore, are central to our understanding of the human condition at large. Since 90 percent of our species' evolutionary history occurred in the context of hunting, fishing, and foraging economies, in the absence of domestication and food production, the kinds of relationships forged between women and men in those contexts are fundamental precedents in the development of human sociocultural systems generally.

To help clarify these precedents, this chapter reviews some major themes in

research on gender among prehistoric hunter-gatherers.[1] What kinds of evidence or *assumptions* have archaeologists marshaled in this effort? The distinction between evidence and assumption is not trivial. As Conkey and Spector (1984:2) observe, the archaeological literature is "permeated with assumptions, assertions, and purported statements of 'fact' about gender" despite, until recently, a disinterest in formal analysis of such matters. Because hunter-gatherers occupied the earliest and longest span of prehistory, the chasm between ethnographic-ethnohistoric patterns on the one hand and the archaeological record on the other is most daunting. This gap presents formidable challenges for analysis and uses of analogy.[2] Accordingly, we seek an understanding of both overt and implicit interpretations of gender by archaeologists and the kinds and quality of information, if any, they are based on. Several broad questions emerge from and may be asked of the literature on prehistoric hunter-gatherers:

1. What is known of the sexual division of labor?
2. Are women's and men's tools and tool kits and their uses decipherable?
3. How are women's and men's activities situated in households and other spaces?
4. What do skeletal analyses reveal about the biological, demographic, and social dimensions of women's and men's lives?

While these issues are interconnected, specific studies or particular authors may focus initial attention on one question or another. Much of the literature has a frankly materialist bias, emphasizing ecological-economic infrastructure and the social relations of production that support it.[3] What are the strengths, limitations, and omissions in this literature? What more do we need to know? Are dimensions of power, prestige, and vantage point accessible to researchers?

The Great Divide? Sexual Divisions of Labor

Perhaps more than any other topic regarding prehistoric hunter-gatherers, the sexual division of labor has been a lightning rod for inappropriate analogies, muddled models, misconceptions mired in myth, and misrepresentations of data. In part, this is because what women and men did in their daily lives—or what archaeologists think they should have been doing—is an emotional projection screen inviting a plethora of hopes, fears, and biased assumptions embedded in the gender ideology of the West (Kent 1998:39).

In conventional usage, "the sexual division of labor" refers to the rules and norms that govern assignment of work to men and women in any society. Unfortunately, much discourse on this topic, particularly when related to hunting and foraging peoples, is marred by an exclusionary tone. That is, the sexual division of labor is often presented as a list of things that women cannot do, should not do, or are prohibited from doing by men (Jarvenpa and Brumbach, in press; Nelson 1997:85–111).

Gerrymandering Gender

Some landmark anthropological literature in the 1960s crystallized prevailing attitudes of the time but also influenced a subsequent generation of archaeologists. Faithful to its title, the 1968 *Man the Hunter* volume (Lee and DeVore 1968) rather dogmatically portrayed "hunting" as the exclusive role of males. In this vision of cultural evolution, men were characterized as "cooperative hunters of big game, ranging freely and widely across the landscape" (Washburn and Lancaster 1968). This exclusively male hunter model was constructed, in part, by ignoring contradictory evidence presented in the original symposium by several ethnographers and by a questionable manipulation of the content of the five original codes for subsistence economy in Murdock's (1967:154–155, cited in Lee 1968:41) *Ethnographic Atlas*.[4]

Participants in the "Man the Hunter" symposium simply reclassified the pursuit of large aquatic animals as hunting rather than fishing, and they also redefined shellfishing as gathering rather than fishing (Lee 1968:41–42). Thus, gathering now included the harvest of wild plants, small land fauna, and shellfish. Hunting was more narrowly construed to highlight the pursuit of large and mobile animals, presumably those species capable of challenging and validating a male hunter's "masculinity." In essence, by narrowing and redefining the scope of "hunting," the symposium participants eliminated women's contributions and obscured women's very real participation in a behaviorally and culturally complex enterprise.

Dahlberg's (1981) edited volume *Woman the Gatherer* served as something of a rejoinder but did this by highlighting the role of women as the gatherers of plant foods, which often contributed more than half of some foraging peoples' subsistence in tropical and temperate environments. Thus, while one of its essays demonstrated the importance of female hunters among the Agta of the Philippines (Estioko-Griffin and Griffin 1981), the volume at large has come to be best known for its discussion of women as plant gatherers "par excellence." Unfortunately, such extreme views, rendered as mutually exclusive "man the hunter" versus "woman the gatherer" models, have come to sum up the way many archaeologists interpret the economic roles of women and men.

Despite a growing literature on the topic (Endicott 1999; Estioko-Griffin and

Griffin 1981; Kelly 1995:262–70; Leacock 1981; Nelson 1980; Turnbull 1981; Watanabe 1968), the ethnographic evidence for women as hunters, and the reality of highly flexible work roles for women and men, such information has had negligible impact on archaeologists interpreting artifacts, features, and other residues at prehistoric sites. As Conkey and Spector (1984:8) have pointed out, there is a deep-seated assumption that women in prehistory were "immobilized" by pregnancy, lactation, and child care and therefore needed to be left at a home base while the males "ranged freely and widely across the landscape."

More recently, Brightman's (1996) critique of the division of labor as presented in the literature on foraging societies persuasively rejects biological or physiological determinants of gender roles. Rather, he interprets sexual divisions of labor as somewhat arbitrary ideological constructions that operate primarily to exclude women from arenas of power and prestige dominated by men (i.e., "hunting") and that women actively collude in reproducing gender asymmetries since such arrangements may be interpreted by women not as exclusion but as entitlement and complementarity.

Brightman's constructivist argument is useful in recognizing malleability in the sexual division of labor. Yet his analysis is problematic in several ways. First, women often do not accept male ideas about gender differences within their own cultures (Buckley 1982; Counts 1985), thereby calling into question the saliency of Brightman's ideas about female exclusion or marginalization, or of women's "collusion" in such matters. Second, similar to the "Man the Hunter" symposium participants, he narrowly construes "hunting" as killing, not, as we would argue, as *a comprehensive range of logistics, pursuit, dispatch, processing, and storage activities necessitating interdependent female and male labor* (Brumbach and Jarvenpa 1997b; Jarvenpa and Brumbach 1995). Even in contexts where women directly harvest or dispatch game, Brightman (1996:723) interprets these as "exceptional" or abnormal circumstances rather than flexible, adaptive behaviors. Finally, by emphasizing arenas from which women are "excluded," Brightman has perpetuated a leitmotif that has confounded research on hunter-gatherers for decades.

Why is the sexual division of labor rarely, if ever, phrased as a list of things men cannot do, should not do, or are prohibited from doing? Why are men not frequently "excluded" from vital food processing, storage, and distribution operations or from hide and clothing manufacture? In our review of the archaeological studies that follow, therefore, we invite the reader to invert familiar questions or tropes so that one may begin seeing the sexual division of labor more positively as the complex and variegated subsistence tasks *actually performed* by women and men regardless of, and sometimes in contradiction to, the normative constructions of gender fostered by their own cultures.

Behavioral Ecology Arguments

Among these tropes is the notion that specialized male hunting strategies for procuring meat have a long evolutionary history in the genus *Homo* (Smith 1999). One rendering of this idea by human behavioral ecologists is the "show-off" model of male hunting, viewing it essentially as a prestige activity linked to sexual selection (Winterhalder 2001). Such gene-centric paradigms raise many vexing questions that cannot be fully addressed here: Why is "showing off" (or the closely allied "costly signaling") not also provisioning? Is "prestige" simply the vehicle by which genes reproduce themselves? Is male hunting the only meaningful route to "prestige" in human society?

Other behavioral ecologists, however, note that women and men may seek different arrays of prey or resources in order to achieve different genetic fitness goals (Hill and Kaplan 1993).[5] Zeanah (2004) adopts the latter perspective for interpreting the division of labor and settlement patterns in the Late Holocene Carson Desert of western Nevada. Employing central place foraging models, he concludes that men logistically hunted out of residential bases that were situated to facilitate women's foraging activities in resource-rich wetland zones. Arguably, this arrangement was a way of reconciling conflicting subsistence interests between the sexes. This contrasts with previous views of Great Basin prehistory that have posited wholesale replacements of mobile hunters with semisedentary gathering peoples (Bettinger and Baumhoff 1982).[6]

Zeanah's argument also challenges Hildebrandt and McGuire's (2002) specific hypothesis that "show-off"-style, prestige-based, large game hunting by men was increasing across California and the western Great Basin between 4000 and 1000 B.P. In prior archaeological research in California, these same authors suggested that a "lack of gender polarity" in the division of labor had considerable antiquity. The pervasiveness of plant and seed-grinding "milling stones" in a range of early site contexts, they argue, indicates interchangeability or a lack of task specialization by sex (McGuire and Hildebrandt 1994).

Flexibility in Women's Work

Other archaeologists, such as Wadley (1998) in South Africa and Bird (1993) in Australia, have made insightful reappraisals of the ethnographic and ethnohistoric records for their respective areas to demonstrate indigenous women's complex and widespread involvement in a range of hunting activities, including direct harvesting of both small and large game animals, as well as toolmaking, gathering, and food processing.[7] Such fine-grained information runs counter to simple or stereotyped views of the division of labor and, thus, may be used as a source of

models for more nuanced interpretations of the prehistory of South Africa and Australia. Wadley, for example, sees women's involvement as "meat providers" as highly variable and flexible. No doubt, such roles shifted along with changing gender relations linked to environmental and economic changes in Pleistocene and post-Pleistocene South Africa.

In some instances, arguments can be made for women's dominance in the direct harvest phase of activities like shellfishing, an important source of animal protein. Ethnohistoric documents attest to women's contributions in this area. Accordingly, Claassen's (1991) analysis of the Shell Mound Archaic, extending back to 8,000 B.P. in the southeastern United States, places women in a central position in the subsistence economy and society generally. Extensive shell heaps at Archaic sites, along with associated burials exhibiting preferential ritual treatment of females, suggest a prominent role for women as shellfishers. In a related study, Moss (1993) argues that while a variety of shellfish species were important food resources for prehistoric Tlingit society on the Northwest Coast, they were avoided by high-status individuals because of negative associations with laziness, poverty, and ritual impurity. There was also the danger of paralytic shellfish poisoning. Moss effectively integrates ethnographic and ethnohistoric accounts with archaeological evidence to suggest that, among Tlingit of commoner status, women depended on shellfish more than men.

While women's roles in hunting have been ignored, ironically, there is also a parallel danger in overlooking or misinterpreting the archaeological evidence for women's gathering activities. Vinsrygg (1987), for example, argues for a reinterpretation of bored or perforated stones in Stone Age sites from the Rogaland district of Norway. Rather than accepting these as "clubs" or war symbols, she interprets them as weights for digging sticks likely used by women and even children for uprooting plants in coastal areas.

Our own ethnoarchaeological work with the Chipewyan in the Canadian subarctic reveals that women's roles are far more flexible and expansive than previously believed. Women as well as men directly harvest a variety of mammals and fish. Moreover, hunting needs to be seen in context as part of a complex system of travel, preparation, and logistics preceding harvests or kills and the intricacies of butchering, processing, and distribution following kills. This full spectrum of activity is most appropriately seen as "hunting," an enterprise that produces food, clothing, tools, and other necessities of life and that requires the interdependence of female and male labor in any foraging society (Brumbach and Jarvenpa 1997b; Jarvenpa and Brumbach 1995). In a similar vein, Frink's (2002) ethnoarchaeological research among Cup'ik in western Alaska demonstrates the prominent role of women in managing multigenerational fish camps where they

make complex decisions about processing and storage of fish according to species, intensity of spawning runs, and time of year. A material manifestation of this activity, albeit invisible to conventional archaeology, is women's cutting of their ownership marks on fish tails.

Ember (1975) and Hiatt (1978) assembled cross-cultural data to demonstrate an inverse correlation between men's contribution to subsistence and effective temperature. Simply put, men tend to procure more food in colder, high-latitude environments, while women's direct harvesting of food resources increases in warmer, low-latitude settings. Lee's (1968, 1979) influential work among the !Kung San, for example, demonstrates that two-thirds of the diet is plant foods gathered by women. In many other low-latitude environments, women's *and* men's plant gathering contributes significantly to the diet. Despite their prominence in gathering and also domestication of plant species from wild progenitors (Watson and Kennedy 1991), however, women receive only grudging respect for these accomplishments by archaeologists. This devaluation may derive, in part, from a Western recreational "sport hunting" model of behavior that accords prestige to those who vanquish large, dangerous animals, not to the gatherers of sessile plants.

As Halperin (1980) and Kelly (1995:262–65) argue, however, modeling subsistence as *procurement* only distorts the real labor contributions of women in processing and storing food resources, particularly in the high latitudes. Our comparative ethnoarchaeological studies in circumpolar communities reinforce this point (Jarvenpa and Brumbach 2006, in press). If archaeology is to achieve a basic understanding of women's and men's livelihoods in the past, we contend, the field must abandon Eurocentric prestige hierarchies when analyzing who did what. A preoccupation with and privileging of male hunting or even of female gathering shifts the scholarly gaze away from comprehensive social systems of provisioning toward questionable scenarios of individualistic competition and valor. We will return to these issues in the conclusion.

Tools of the Trade: Women's and Men's Gear

As discussed in the previous section, both women and men were involved in the performance of a wide range of tasks, including the harvesting of food and nonfood resources, and the conversion of these items into clothing, tools, crafts items, and numerous other useful products. In order to carry out these tasks, both women and men manufactured and used a variety of tools, implements, and carriers. Part of the sexual division of labor includes the kinds and uses of such tools and facilities. Fortunately, these artifacts comprise a major part of the archaeological record left behind by hunter-gatherers.

Gender Asymmetry in Tool Visibility

Nonetheless, there appears to be significant gender asymmetry in the "visibility" of men's and women's tools and activities. Hayden (1992:42) writes, "If women have frequently been neglected in prehistory, it has largely been because of the difficulty of distinguishing their activities from males on the basis of stone tools." While this may be an accurate assessment of gender "visibility," the caution has not been applied evenly to women and men by the discipline. Most stone tools are simply assumed to have been made by men, leaving the reader to conclude that women did not make stone tools or that their tools are hard to "identify." In reviewing stone-tool manufacture, Torrence (2001:91) observes, "The gendering of hunter-gatherer stone technology has until recently been considered to be relatively unproblematic: men have been assumed to be the major, if not the only, makers and users of stone artefacts."

Some portrayals of the past have characterized the manufacture of tools and implements along stereotyped and immutable lines similar to the "man the hunter/woman the gatherer" dichotomy. For example, it has been argued that men manufactured tools of hard materials (e.g., stone, bone, antler, and ivory) while women made objects of soft items (e.g., plant fibers and animal skins) or that men made hunting and fighting weapons (e.g., knives, spear tips, and projectile points) while women produced containers and domestic items (e.g., baskets, clothing, infant carriers, and pottery). More extreme positions have emphatically argued that stone-tool manufacture was largely the occupation of men and, therefore, that most tools recovered and studied by archaeologists were made by men. Such fanciful characterizations fail to capture the behavioral realities of actual people.

While assignment of any specific tool to one gender or the other is difficult or even impossible, archaeologists rarely have problems attributing tools to men. The real crux appears to be making such attributions to women. Women are denied credit as users and producers of tools by various means. First, by (over)-emphasizing problems relating to poor preservation of organic materials, women's tools and women's production are made hard to find. Women are "hard to see" in the archaeological record, goes the argument, because women predominated in the working of soft, organic substances, which are poorly preserved. In contrast, men presumably excelled at the production of stone tools, which are more likely to be preserved. These simplistic statements about who used what materials in prehistory, however, are just as shortsighted as statements about who performed which economic activities.

Where preservation is unusually favorable, including sites characterized by extreme cold or aridity, objects of organic materials have been preserved (Ellender 1993). For example, the village site Ozette in Washington state was covered by a mud slide that preserved thousands of objects of wood and other organic material, including building materials, wooden bowls and spoons, basketry, and other craft items, thus providing a more complete picture of the material assemblage of the site's occupants. At other sites in cold and/or arid regions, preserved materials have included animal skin, wood, textiles (e.g., Ellender 1993), and even mummified remains of the people themselves. When these fuller inventories are available, it is possible to assess a broad spectrum of tools made from a variety of materials both hard and soft. Such information is a more realistic platform for interpreting the complexities of women's and men's tools and tool use.

Another way in which archaeology has colluded to exclude women from the ranks of "tool users" is by trivializing and devaluing artifacts that are attributed to women. Even when preserved, objects of organic materials are rarely accorded much respect unless they are recovered in very large numbers, such as at Ozette. For example, what is arguably the best-known bone tool from North America, the caribou leg bone hide scraper from Old Crow Flats, Yukon Territory, originally dated to 27,000 ± 3000 years B.P., was once characterized as undoubtedly "a tool created by human hands" (Jennings 1983:45). The artifact quickly faded from attention after it was more accurately dated to recent times. Yet its likely manufacture and use by a woman (the leg bone hide scraper is a quintessentially woman's tool in the ethnographic subarctic) was not considered relevant. After all, women were hard to see in the archaeological record. The object's relevance to archaeology was only its reputed antiquity.

Problems of Gender Attribution

Bird (1993:22) argues that since the economic and social roles of men and women are not biologically determined but vary both cross-culturally and through time, it "follows that in any given cultural context . . . the distribution of economic and social roles by gender should not be assumed, but rather seen as a problem worthy of exploration in its own right." Similar arguments can be made for the question of who made what tools. While gender attribution for the manufacture of specific tools may not always be possible, archaeologists should approach each situation as a fresh problem requiring a probing interpretation. This is illustrated by Wadley's (1998:80–81) residue analysis of stone tools from the South African site of Rose Cottage Cave, in which both blood and plant residues are frequently present on a single stone flake (based on Williamson's [1996] study), suggesting that a single person might be involved with both meat

butchery and plant food processing. Stone flakes from another South African site, Jubilee Shelter, might have been used as arrowheads on occasion but also had plant polish on their cutting edges. Of course, the presence of plant polish does not imply that such tools were not used by men, but it does suggest that no secure gender attribution can be made (Wadley 1998:80–81).

Woman the Toolmaker

The assumption that women do not make stone tools, especially the large, formalized bifaces used for hunting and warfare, is often expressed (or implied) in the archaeological literature (see discussion in Bird 1993; Gero 1991). As Gero (1991:168) states, "The restrictive and self-fulfilling definition of stone tools as formal, standardized tools central to male activities leads to an anthropological overstatement about the importance attached to weapons, extractive tools, and hunting paraphernalia." Simply put, stone tools are *prescribed* as male by the profession. Observations of women manufacturing and using stone tools are further dismissed as "exceptions" (Bird 1993:22). In a manner parallel to gerrymandering women out of "hunting" by redefining the pursuit of small game as "collecting," the archaeological literature defines "stone tools" as elaborately produced items that are standardized, classifiable, and reproduced forms. Expedient stone tools, such as "unretouched flakes," used by women in the production of craft items are defined not as tools but as by-products from the manufacture of "real" tools (Gero 1991:165). Gero (1991), in perhaps the most influential assault on the "man the toolmaker" construct, appropriately broadens the concept of "stone tool." She insightfully notes that women can and do make stone implements but that archaeology simply does not value expedient tools as much as formalized bifaces, particularly projectile points.

Presumptions about gender hierarchy in prehistoric tool production and use parallel attitudes toward hunting and foraging work. While women may be responsible for obtaining the bulk of the food in many societies, high prestige is still accorded to the hunting of large game (particularly by archaeologists if not the hunters themselves) even when these resources provide only a small portion of a community's food supply. As a discipline, archaeology has failed to adequately address this apparent contradiction. While this issue cannot be explored in depth here, big game hunting and the apparent "prestige" that surrounds it would certainly benefit from a more probing and critical examination, one not limited by the tenets of evolutionary ecology. Gero (1991) discusses the inordinate attention paid in the literature to tools that are presumed to have been made by men for the specific purpose of killing large game animals. Such fixation on

the dispatch phase of hunting is part of a Western recreational "sport hunting" model that distorts and grossly simplifies life and livelihood in hunter-forager economies (Jarvenpa and Brumbach, in press). In turn, the fascination with large, dangerous game animals has also affected, indeed compromised, archaeology's approach to the manufacture of tools.

Hunting Methods and Technologies

Archaeology's long-standing preoccupation with the dramatic confrontation of man and beast is strongly suggestive of the lurid cover art seen on some men's magazines. If hunting is to be interpreted as "male macho drama" (Gero 1993), women are excluded since a female protagonist would spoil the fun for the real men. But is this how hunting was carried out in prehistory?

More attention needs to be paid to the methods and techniques actually used by hunters of both large and small game animals. While the "man the hunter" mythos emphasizes dramatic confrontation with the large and dangerous, ethnographic and ethnohistoric accounts reveal the importance of other methods such as drives, ambushes at river crossings, poison, snares, nets, dogs, clubs, and many other techniques not characterized by direct confrontation (Casey 1998; Kehoe 1990; Kent 1998; Wadley 1998).

Kehoe (1990) notes that objects of organic materials like ropes, strings, thongs, or others she terms "lines" play pivotal roles in the harvest phase of hunting. In support of this, she cites research carried out by others, including J. E. Lips (1947), a field ethnographer among the Montagnais-Naskapi who studied critically appropriate hunting techniques. According to Kehoe (1990:27), Lips "knew that using a projectile—whether it be one pointed with stone or bone or a bullet—is the last and sometimes omitted stage of hunting, the climax after the hunters have managed to place themselves in close proximity to their prey." The devices for attaining proximity include a variety of traps, nets, and snares constructed with string, thong, and rope, that is, Kehoe's "lines." The production of ropes and lines requires the use of implements such as awls, netting shuttles, and mat and netting needles, among other tools, generally employed by women.

To illustrate the kinds of tools and implements made with the use of lines as well as tools used to manufacture the lines, Kehoe draws on Osgood's (1940) study of Ingalik material culture. More than 200 items, or almost two-thirds of the Ingalik material culture inventory, include lines in their manufacture (Osgood 1940:435; cited in Kehoe 1990:26). Kehoe believes this technology has great antiquity and demonstrates similarities between European Upper Paleolithic bone tools and the Ingalik implements described by Osgood for stripping and sewing

bark and for making nets, baskets, and mats. No doubt, more awareness and study of lines would elevate women's "visibility" in the archaeological record while recognizing a larger repertoire of hunting methods and techniques employed by prehistoric peoples.

Stone-Tool Use by Women

Although fragmentary in places and often written from a male perspective, ethnohistoric and ethnographic accounts of hunter-gatherer societies document a variety of tools and materials made and used by both women and men. In societies where hunted animals make up a large part of the diet, women have been observed using large knives, hatchets, pounding stones, and other tools of hard material to butcher, pulverize, and otherwise process animal carcasses and products (Jarvenpa and Brumbach 1995, 2006). That women would attempt to butcher an animal the size of a caribou or moose, not to mention a walrus or whale, with only a utilized flake is absurd fantasy, although such tools are suitable for tailoring skin garments and other fine work. For primary butchering, large knives, hatchets, and hammerstones are far more efficient.

Bird's (1993:26) review of ethnoarchaeological studies in Australia reinforces this point. For example, Gould (1980, cited by Bird 1993:27) observes that flake knives are used by women at least as much as by men. In a related vein, Gero (1991) reviews Gould's Australian research to reveal how ethnoarchaeology can impose a male bias on stone-tool production. Thus, while Gould (1977) acknowledges use of flake knives by both genders, only males and male tasks are systematically observed.

Ethnoarchaeological research in arctic and subarctic societies demonstrates women's direct involvement in tool use and manufacture, although few stone tools are part of contemporary toolkits. Large game animals are frequently butchered by women, who use metal knives and hatchets as the tools of choice for disarticulating large sections and joints. Chipewyan women have special purpose tools for preparing animal skin hides. Today, these tools are made of wood, bone, metal, string, and leather thong (Jarvenpa and Brumbach 1995:66). Hide-making tools are wrapped in bundles of canvas, duck, or heavy cotton tightly wrapped with cord or cloth strips and stored for safekeeping.[8] The moose and caribou long bone hide scrapers in these kits are similar in form to the Old Crow Flats caribou bone flesher discussed previously. Chipewyan women also maintain log smoking and storage caches where they keep large pounding stones for pulverizing dried meat and fish and hatchets used to break up animal long bones for bone grease (Jarvenpa and Brumbach 1995:62–65).

Women in warmer, low-latitude environments also manufacture and use tools of stone and other hard materials that would be recoverable archaeologically. Gorman (1995) discusses the Andaman Islanders' interesting reversal of "traditional" sex roles in that women make stone tools, although these are used for non–food quest purposes, namely, head shaving, tattooing, and scarifying. By contrast, Andamanese men's hunting tool kits are made without lithic material but rather include implements of bamboo, wood, shell, bone, and iron.

Bird (1993:23–25) and McKell (1993) detail accounts of Australian Aboriginal women making and using tools of rough and chipped stone as well as wood. These implements were employed in a variety of tasks: cutting meat, making stone hatchets, and shaping and finishing wooden implements such as bowls, digging sticks, and fighting sticks. The hatchets were multipurpose tools used for collecting foodstuffs like honey, edible grubs, and small game. Moreover, Bird (1993:24–25) notes reports of Australian women making stone points for spears and of Tasmanian women not only making stone tools but also quarrying the stone, a toolmaking activity rarely attributed to women. Ellender (1993) describes an ossuary burial of a woman in Australia where dry conditions helped preserve organic mortuary items and other tools including a bark-fiber net bag, emu bones fashioned into split-bone knives, a quartz core, and two flakes.

A Tiwi woman on Bathurst Island used a ground edge ax while hunting that she had made herself. After describing women's use of stone tools to make digging sticks, McKell (1993:116–17) concludes, "If these stone axes were to be excavated in Australia today the archaeologist would almost always assume that they were used by men as primary tools and again by men to make secondary tools for women." As noted previously, the desire to prescribe stone tools as male is a powerful bias.

No Place Like Home: Activity Areas and Household Organization

In hunter-gatherer populations, the household is more than a reflection of society. One might argue that it *is* society. For most hunter-gatherers, the household is the center of resource production, and male–female relations form the core of economic, social, and political arrangements linking communities of households. Gender-related household or activity area analysis has been a productive research strategy for archaeologists working in arctic and subarctic contexts, for example.

Gendered Households

Reinhardt (2002) offers a statistical reanalysis and reinterpretation of a prehistoric Iñupiat subterranean dwelling destroyed by an ice override in Barrow, Alaska.

While the remarkable preservation at this well-documented site permits detailed studies of artifactual remains and architecture, Reinhardt is self-contemplative in discussing the decisions, problems, and contradictions he grappled with in converting excavated objects into quantifiable "data." He argues that the spatial distribution of artifactual material does not support earlier ideas of a clear partitioning of the dwelling into female and male "sides" or sitting areas (Newell 1984). Rather, women and children may have used most of the house floor area, with men and boys returning from a *qargi*, or men's house, to the family dwelling essentially to sleep, a pattern consistent with the ethnography of this region. Ultimately, Reinhardt urges caution in assigning gender usage or ownership to tools and residues.

In a related vein, LeMoine's (2003) analysis of Late Dorset household architecture in the eastern Canadian arctic reveals significant parallels and differences in gender roles as compared with those known from historic or ethnographic Inuit culture. In both contexts, arguably, women were the souls of the house and significant intermediaries between hunters and the animals they pursued. In the Late Dorset period, however, women may have participated more intensively in direct harvesting of small game, in sharing of labor in larger dual- or multifamily households, and in maintaining community ties during pronounced seasonal aggregations. Particularly important in this interpretation are axial features and associated hearth rows in dwellings, loci of women's activity. In LeMoine's view, women were integral to a reoccupation of the high arctic during Late Dorset times.

Whitridge (2002:172) also identifies examples of gendered space in a Classic Thule whaling village. His interpretation of the archaeological site of Qariaraqyuk, Somerset Island, identifies a detached kitchen wing he characterizes as "concealing and marginalizing a major locus of women's activities" and a *qargi* (men's communal house) that "replaced the family dwelling as the major architectural locus of men's activities." It is not entirely clear why specialized male space is interpreted as evidence for higher status while female space is interpreted as a decline in, or at least a realignment of, women's status and authority. Our own work on transformations in hunting and use of domestic space among the subarctic Chipewyan in the nineteenth and twentieth centuries indicates that increased specialization and separation of male and female economic roles does not necessarily lead to marginalization of women (Brumbach and Jarvenpa 1997a).

Asymmetries of Power?

Whitridge assumes that men derive prestige from whaling as well as from the trade goods obtained from the exchange of surplus whale products. But he makes

several assumptions that need to be examined, including the notion that only men participated in the actual whale "hunt." If men indeed dominated the direct harvest phase of whale hunting, can we assume that women controlled much of the processing phases of hunting—that is, converting the carcasses into both subsistence products and valuable trade items as well as storing, managing, and distributing food? The possibility of the latter scenario gains support from ethnographic evidence from Yup'ik Eskimo communities where women not only directly harvested half the community food supply but also were regarded as the owners of the food as they dominated its storage, preparation, and distribution (Ackerman 1990). Moreover, regarding matters of domestic space, the Yup'ik men's houses actually may have contributed to men's isolation and marginalization by dispersing and separating men from their kin of both genders (Bogojavlensky and Fuller 1973).

Even so, Whitridge's work at Qariaraqyuk reminds us that the distinction between complementary gender differences and emergent asymmetries of power can be subtle. As he notes, Thule "women and men deployed their preciosities in different discursive genres, competing in effect for different kinds of cultural capital" (Whitridge 2002:190). Although this sounds like complementary gender equality, his argument about the prominent position of men in interregional systems of exchange of exotic metals points to growing differences in power and status. Whether one prefers to view this as emergent "complexity" or emergent "social asymmetry," we concur that as a fundamental structuring principle in all foraging and hunting societies, gender has been largely overlooked as a starting point for intensification and specialization in labor. We will return to the thorny issue of power and status in the concluding section of this chapter.

Somewhat different interpretations are reached in Hoffman's (2002) study of Unangan Aleut bone needles recovered from houses, among other archaeological contexts. His experiments on the production of both eyed and grooved needle forms spurred his conclusion that a change over time to grooved needles resulted from the desire of women seamstresses to produce exceptionally fine decorated clothing and gut-skin parkas. From this perspective, the garments became important status items in aboriginal trade networks and were exchanged for prestige goods like iron and amber.

Hoffman's excavations reveal concentrations of sewing needles in *large houses*, providing the connection between craft production and high-status households and, in turn, women's pivotal role in sociopolitical organization. This perspective contrasts with Whitridge in that women are seen as taking an active and conscious role in the design and production of useful tools and the crafting of high-status trade goods. In Hoffman's view, Unangan women actively participated in

trade networks and gained prestige and exotic goods for themselves and their families and households.

Historical Archaeological Approaches

Other scholars have probed hunter-gatherer household organization and gender dynamics via historical archaeology and ethnoarchaeology. In such research, complementary data sets drawn from historical documents and/or native consultants' behaviors and testimony may be used to enhance interpretations of archaeological residues. Shepard's (2002) study of nineteenth-century Kuskokwim communities in Alaska analyzes changes in household social organization and division of labor triggered by European missionization. She argues that in nonstratified societies, house structures provide the clearest expression of "materialized ideology," their generalized design and layout reflecting the community's social values and ideals, a perspective shared by LeMoine (2003).

Men's and women's activities on the Kuskokwim prior to missionization were segregated into large *qasgi* (men's dormitory, communal center, and bathhouse) and small separate houses for women and children. One impact of missionization was the gradual abandonment of the *qasgi*, with the mission church becoming the focus of ceremonial life. In turn, men and women began to occupy the same domestic space, ultimately leading to a modification of dwellings and a reorientation of the spatial dimensions of activity performance.

Shepard notes that more archaeological study of mid- to late nineteenth-century houses, including the poorly documented *qasgi*, or men's house, will be needed to assess whether women's and men's living, work, and storage spaces indeed became smaller and more commingled through time. Nonetheless, Shepard's work poses a provocative question well worth pursuing in the archaeology of hunter-gatherers at large: do changes in ideas (missionization) produce changes in behavior (gender relations) that are identifiable archaeologically?

In the case of the Chipewyan of northwestern Saskatchewan, historical changes in the hunting economy, involving increased settlement centralization and logistical organization, were accompanied by a proliferation and specialization in processing and storage facilities by gender (*loretthe kwae*, or women's log smoking caches, and *t'asi thelaikoe*, or men's log storehouses)—changes that made women's special-purpose structures more visible archaeologically (Brumbach and Jarvenpa 1997a; Jarvenpa and Brumbach 1999). From this perspective, and allowing for cross-cultural differences in architecture, divergence in female and male spaces and facilities may imply increasing gender specialization but *not necessarily* marginalization of women.[9]

Household studies do not always yield clear or coherent interpretations. Shepard, for example, noted some of the unexpected patterning of faunal remains in the nineteenth-century Koyukon houses excavated by Clark (1996). In Koyukon magico-religious thought, premenopausal women are tabooed from contact with spiritually powerful bears, thus requiring an explanation for the presence of bear remains in house floors that presumably once accommodated families with women present. Aside from invoking exceptional circumstances, such as inhabiting the houses with female shamans or Iñupiat occupants, there is also the possibility—as in most societies—that some degree of behavioral flexibility operated in spite of or in contradiction to ideal norms and proscriptions.

Ambiguities and Subtleties

Indeed, the latter point is nicely reinforced by Janes's (1983) ethnoarchaeological investigations among the Willow Lake Slavey of northern Canada. While a division of labor with men as hunters and women as food processors and preparers is emphasized in Slavey ideology, *behavioral realities* are another matter. Across thirty-eight major categories of subsistence activities, nearly 35 percent of the tasks are performed by children and adults of both sexes. These include small mammal hunting, setting and checking fish nets, plucking and gutting fowl, and processing furs, among others. This flexibility and mastery of a wide range of skills by women, men, and children is highly adaptive in a demanding subarctic environment. Yet the archaeological implications may be less encouraging, at least at the intrahousehold level. As Janes (1983:79) notes, "The fact that activity areas are all nearly multifunctional at Willow Lake precludes the existence of sex-specific spaces."

In a rather novel approach to domestic space, Cooke (1998) uses hypothesized travel routes and contour lines for inferring women's and children's presence at large open prehistoric campsites in a seasonally occupied mountainous region of the Cooleman Plain of Australia. She argues that women with small children and elderly people negotiated the gentler gradients linking camps characterized by their large size and artifact diversity. While younger men may have been present at these camps, Cooke suggests they were also traversing the country via steeper routes and using camps characterized by smaller size and lesser artifact diversity.

Kent (1998) grapples insightfully with "invisibility" or lack of clear gender patterning in the spatial arrangement of residues at Late Stone Age and Early Iron Age sites in southern Africa. In the former case, she argues that early foragers simply may not have organized their culture by gender. While gendered spaces

may have been of greater significance for Early Iron Age people, however, they remain elusive to the archaeologist because artifacts and features have not been provenienced with sufficient detail to allow such analysis. Kent notes that the reality of changing gender relations over time requires flexible cross-cultural ethnographic or ethnoarchaeological models for interpreting the past. Her proposition "that a consistent relationship exists between the rigidity of a division of labor that influences the use of space and objects by gender and a society's sociopolitical complexity" is an exemplar of such modeling (Kent 1998:40–41).

In a similar vein, Wadley (2000) cautions against the temptation to impose San ethnographic models on spatial patterning at Stone Age sites in South Africa. In examining the distributions of ostrich shell beads, bone points, hearths, grindstones, scrapers, flakes, and animal bone fragments, she argues that there is no compelling reason to view such spatial patterning as the product of a gendered division of labor. Rather, Wadley recommends recognition of the possibility that activities in the past may have been organized along lines of age, ability, or status, with gender distinctions playing a comparatively minor role.

Afterlife: Skeletal and Bioarchaeological Analysis

Differences in the lives of women and men often can be assessed from analyses of human skeletal remains. Cohen and Bennett (1993) summarize a range of such studies that shed light on gendered patterns of labor, physical injuries and trauma, infection and disease, nutrition, childhood stress, reproduction, and mortality, among other processes. Nonetheless, gender differences can be difficult to interpret by such means. Not enough is known about "natural" patterns to confidently differentiate between the effects of gender constructs and biological patterns. For example, there is uncertainty about how the sexes absorb nutrition, how they respond to stress, the manner in which stress is recorded, differential nutritional needs between males and females, and the confounding influence of greater stresses on women due to pregnancy and lactation (Cohen and Bennett 1993:283–84). However, despite these challenges, skeletal analysis may be a productive and insightful way of comparing the lives of women and men.

Gendered Patterns of Arthritis

Gender-specific patterns of degenerative arthritis and/or robusticity of the skeleton is one method of determining the presence and rigidity of a division of labor (Cohen and Bennett 1993). The pattern or location of degenerative joint disease

may also allow inferences concerning the nature of the activities that a person engaged in while living.

Because of the difficulties of distinguishing "natural" patterns from gendered and/or cultural patterns, many studies compare skeletal health of hunter-gatherer populations with that of later agricultural peoples in the same area. According to Cohen and Bennett (1993), degenerative joint disease (DJD) and osteophytosis (arthritic changes in the spine) have been shown to increase through time as agriculture is adopted and intensified, suggesting that agriculture led to an increase in workload and physical stress when compared to the work regime of hunter-gatherers. At Dickson Mounds, Illinois, rates of both DJD and osteophytosis increased over time with the adoption of agriculture and was found to be more severe for males than for females (Goodman et al. 1984, cited in Cohen and Bennett 1993:277–78). However, a different pattern was observed at sites in Kentucky. While males from the Archaic period Indian Knoll population exhibited more pronounced vertebral arthritis than males from the later Mississippian period Hardin site, rates for females remained similar over time or increased (Cassidy 1984, cited in Cohen and Bennett 1993:278). These data suggest that not all hunter-gatherer populations were subjected to similar work stresses and that the sexual division of labor was not structured similarly across all hunter-gatherer populations.

A series of sites in Illinois dating from 6000 B.C. to A.D. 1200 indicate increased severity of arthritis for women in later populations than for the earlier Archaic populations, although the *pattern* of arthritis on the skeleton did not change. Males from these sites did not display an increase in severity, but the pattern of arthritis changed. These data suggest that women performed the same kinds of activities but in intensified form with the transition to agriculture, whereas men's work tasks changed without necessarily intensifying (Cook 1984, cited in Cohen and Bennett 1993:278). The transition to agriculture appears to have contributed to increased rates and severity of degenerative arthritis for some but not all populations as well as to changes in the patterns of arthritis (Cohen and Bennett 1993:278).

Hollimon (1992) compared skeletal populations of the fishing-collecting Chumash and the agricultural Arikara and found different patterns of DJD in both populations. Hollimon attributes these differences to divisions of labor according to gender in both populations. The percentage of Chumash men and women displaying degenerative changes was roughly equal, while Arikara males displayed almost twice the rate of DJD as Arikara females. The latter statistic may be due to a roughly seven-year difference of average age at death between Arikara males and females, with the males living longer. Among the Chumash,

Early Period women had more severe arthritis in their knees and spines than did Early Period men, while the men had more severe arthritis in their shoulders, elbows, and hands. These differences are attributed to a sexual division of labor among the Early Period Chumash where women used digging sticks and grinding implements to procure and process plant foods, while men used other tools to hunt and fish. Late Period (after A.D. 1150) women and men had similar patterns of DJD, suggesting more flexibility in gender roles. Ethnographic information from the historic period indicates that women and men were members of guilds of specialists, the membership of which cross-cut age and sex categories (Hollimon 1991).

Access to Food Resources

A common assumption regarding the consequences of a sexual division of labor among hunter-gatherers is that men and women have differential access to food resources (see note 6). It has been assumed that males, being hunters, have greater access to meat or better parts of meat because they might eat portions of the kill immediately or that women are excluded from consuming the best parts of carcasses or that women have greater access to plant foods. However, access to meat or plant foods by women and men varies considerably among different hunter-gatherer populations. Ethnographic and ethnohistoric accounts indicate that men frequently gather plant foods and that women may participate in hunts or have direct access to small game, fish, shellfish, birds, turtles, and other species that they snare or collect. Chipewyan women, who predominate in rabbit snaring, for example, often take a rest at the end of their snare line and cook one of the rabbits for a meal (Jarvenpa and Brumbach 1995:69–70). In many societies where women handle most of the processing, preservation, and management of stored foods, women may have greater access to a variety of food supplies than do men. While there does not appear to be any broad pattern of differential access to foods by gender, specific populations may demonstrate gendered differences. Some of the implications of such behaviors for nutrition in prehistory can be addressed by paleopathologists and bone chemists (Cohen and Bennett 1983).

Wadley (1998) discusses stable carbon isotope composition of human bone collagen as a marker of differences in diet, attributed to gendered work patterns and gendered access to foods. A study of skeletons from Western Cape, southern Africa, revealed few gender differences in the pre-3000 B.P. material. Stable carbon isotope compositions remained similar for both pre-3000 B.P. and post-3000 B.P. samples of female skeletons. However, the bone chemistry shifted for males of the later period. These data were interpreted to suggest that after 3000 B.P., labor became more gendered and that men ate more seal meat, fish, and other marine foods away from a home base (Sealy et al. 1992, cited in Wadley 1998:77).

Despite the previously cited changes in access to resources, studies of nutritional health among hunter-gatherer and agricultural women and men demonstrate better nutrition for the former. Cohen and Bennett (1993:281) summarize several studies of women's skeletal health that demonstrate that women in prehistoric hunter-gatherer societies suffered less from a variety of problems than did their counterparts in agricultural societies. Symptoms of anemia and other nutritional disorders, pathological bone loss, and premature osteoporosis were more pronounced in women in agricultural societies. A comparison between hunter-gatherer and agricultural skeletal samples in the Levant revealed premature osteoporosis among women in the agricultural populations (Smith et al. 1984, cited in Cohen and Bennett 1993:281). In contrast, women in the earlier Paleolithic and Mesolithic populations exhibited significantly less, if any, bone loss. Even so, such trends need to be carefully evaluated to assess the impact of increased fertility and its stresses on women in agricultural populations.

The transition to agriculture also witnessed an increase in the rates of dental caries, which were rare in earlier human populations (Cohen and Bennett 1993:281). Since diets high in carbohydrates yield higher rates of caries than diets high in fats and protein, frequencies of caries can provide dietary assessments. Walker and Erlandson's (1986) study of skeletal populations from the Northern Channel, California, uses frequencies of dental caries as an index of the ratio of proteins to carbohydrates in the diet. In earlier populations (3000–4000 B.P.), females exhibit higher rates of dental caries than do males. The authors attribute this difference to a sexual division of labor in which men had greater access to high-protein animal food through hunting while women gathered plant foods. The exploitation of plant foods is evidenced by the recovery of stone digging-stick weights used for harvesting roots and tubers. In the later part of the sequence (1820–450 B.P.), the rates of caries in men and women become more similar, a change the authors attribute to a decline in the dietary significance of plant foods and an increase among both sexes of protein, especially from small fish.

Discussion and Conclusion

Several significant generalizations about gender dynamics and the nature of work among prehistoric hunter-gatherers have emerged from the research and literature to date. The division of labor was highly variable and more flexible than com-

monly assumed, both within and across populations. There was no rigid or universally applicable "man the hunter/woman the gatherer" protocol, even with respect to the narrower scope of food procurement (i.e., ignoring food processing, storage, and distribution). Indeed, divisions of labor occasionally followed lines of age, ability, and experience, among other factors, rather than gender per se.

The variability and flexibility in work roles noted previously is generally supported by skeletal evidence. While arthritis and other paleopathologies afflicted women and men differently within some populations, there is no consistent gender patterning in pathologies across populations that might suggest a universal or rigid separation of female and male workloads and behaviors. Moreover, the intensification and gendered patterning of some diseases accompanying the transition to agriculture only serve to underscore the more variable and fluid situation for hunter-gatherers.

Variability and flexibility in work roles is also supported by information drawn from activity area and household analyses. While female and male sitting areas, men's houses, women's kitchen wings, and other gendered spaces are occasionally decipherable in some archaeological contexts, there is also ample evidence for widespread commingling of men's and women's activities and work areas or, alternatively, organization of work and space along lines other than gender.

Assignment of static gender categories (e.g., "female" or "male") to archaeological artifacts may bear a misleading relationship to the way such materials were employed in the real world. At best, the assignments reflect normative patterns culled from ethnohistory and ethnography. At worst, they are a kind of "best-guess" gender stereotyping based on internalized assumptions from our own cultural background. Fine-grained ethnoarchaeological accounts of actual implements and facilities in living context, including scrupulous tracking of women's and men's behaviors vis-à-vis these use histories and processing cycles, are needed to interpret how gender dynamics generate the static residues in the archaeological record. As Whitridge (2002) notes, to say that a lamp is "female" and a harpoon "male" may reflect meaningful symbolic or iconic associations. Yet these associations may obscure rather than illuminate the myriad ways such materials were actually manufactured, utilized, curated, recycled, and discarded by both women and men.

Arguably, archaeological approaches to the tools and technologies of prehistoric hunter-gatherers deserve major rethinking. The pervasive view of large stone projectile points and blades as quintessential male tools for slaying big dangerous animals is tied too closely to the Western iconic "man conquers snarling beast" cover art gracing men's magazines. At the same time, the tendency to interpret "hunting" as the fleeting moment of dispatch, or the kill, seriously distorts the

complex behaviors and technologies in hunter-gatherer economies. Following Kehoe (1990), we recommend a renewed attention to "lines" and other nonlithic technologies involving preparations, travel, logistics, and management of animal movements that, ultimately, made the moment of dispatch possible. The full repertoire of procurement technologies and strategies, no doubt, required the complementary labor of women, men, and children.

If the preharvest procurement side of hunting has been seriously distorted, the postkill processing dimension of hunting has virtually been ignored by archaeologists. Ethnoarchaeological research is useful for demonstrating how postkill butchering, food processing, and storage arrangements for converting carcasses into useful food products, clothing, and implements made survival in adverse conditions possible for communities of hunter-gatherers (Jarvenpa and Brumbach 2006, in press). Much of the processing phases of hunting were managed by women. Indeed, the time investment of women's labor in such activity increases dramatically with the package size of hunted prey and is a compelling reason for decreased participation of women in the direct harvest phase of hunting in some high-latitude societies. Women were simply too busy converting carcasses into vital subsistence products. Facile arguments about women's "marginalization" and/or men's "high prestige" tend to wither in the face of such behavioral realities. Accordingly, we believe the archaeology of hunter-gatherers can come of age only with serious study of the material correlates of postkill processing, storage and distribution of food, and the implications of these dynamics for gender relations.

The last point cannot be overemphasized. Without compelling analysis of what women and men actually accomplished in their daily lives, questions about power, status, and prestige differences between the sexes cannot be addressed. Ideas about prestige hierarchies are particularly prone to contamination by gender stereotypes and biases from our own culture. Lest there be doubts on this score, one may recall how the "Man the Hunter" symposium "gerrymandered" women out of hunting by semantic manipulation of definitions. Similarly, archaeology has "downsized" or "redlined" women out of stone-tool manufacture by disassociating them from big formal lithic tools, purportedly the domain of male hunters only. Finally, the contributions of women's work in producing strings and cordage (or "lines," as noted previously) and the role these items play in hunting strategies are too often overlooked. As we have seen, the profession has a history of interpreting hunter-gatherer society in terms of women's marginalization and exclusion.

We submit that these interpretations have little resemblance to hunter-gatherer gender relations in the past or in recent history. If we inverted the logic,

one might well argue that men's "show-off" or "costly-signaling" kills of large game are neither inherently prestigeful nor displays of genetic fitness but rather attempts to avoid exclusion or marginalization by women and children who represent the nurturing epicenter and future of society. Conceivably, we could build models of women's "show-off" food processing or "show-off" storage. However, there is little to be gained by replacing one set of questionable assumptions with another. Surely, *both women and men* actively negotiated their existence in hunter-gatherer societies, strategizing, coping, and making numerous decisions that facilitated their lives and livelihoods. Until the discipline removes Western gender ideology from its analysis, there can be no compelling archaeology of hunter-gatherers.

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Notes

1. Our survey is selective rather than exhaustive, using key monographs, journal articles, and chapters from edited symposia that best illustrate several broad themes emerging in the published literature.

2. While archaeological research is the focus of this discussion, what is known of women's and men's lives and relationships from ethnography and ethnohistory will be used to highlight, reinforce, or question arguments, themes, and analogies in the archaeological literature. By the same token, fine-grained models of gender relations derived from ethnoarchaeological studies of living hunter-gatherers offer useful contexts for evaluating arguments about gender in the prehistoric past.

3. Arguably, a fifth question with more symbolic resonance could be added to this discussion: how are women and men identified, defined, or represented in prehistoric rock art, Upper Paleolithic cave paintings, "Venus" figurines, and other aesthetic forms? The gendered dimensions of hunter-gatherer society as expressed in art is a large and specialized area of scholarship beyond the scope of this chapter. However, see chapter 3 in this volume.

4. See Nelson (1997:86) for a discussion of the gender polarizing assumptions in Murdock's work.

5. Jochim (1988) also discusses the possibility of developing separate optimal foraging models for men and women based on their purportedly different genetic fitness goals, distinct foraging strategies, and divergent adaptive constraints. Such modeling views the individual rather than the male–female pair or some larger social form as the adaptive unit. From the vantage point of real-life hunter-gatherer families and communities, such exercises might appear oddly reductionistic. More troubling, perhaps, is that optimal foraging models fixate on energy capture, plain and simple, while ignoring the dynamics of energy flow in subsistence economies in toto, including the vast corpus of food processing, storage, and distribution activities generally handled by women.

6. See Walshe's (1998) critique of Bettinger and Baumhoff's (1982) model of Numic expansion into the Great Basin of California. She argues that their notion of a "male-rich" hunting society, marked by elaborate art and complex stone technology, being replaced by "female-rich" seed processors, with less impressive material culture, has less to do with archaeological data than with unanalyzed gender bias.

7. Similarly, Gleeson (1995) surveys ethnographers about Aboriginal Australian uses of fire with an eye toward archaeological implications. While women and men use fires somewhat differently in hunting, cooking, and toolmaking activities, the greatest gender specificity may occur in contexts involving initiation and the maintenance of large tracts of landscape defined as "female" or "male" via ritualized burning (or cleansing). In another insightful use of ethnographic evidence, Gorman's (1995) discussion of Andaman Island female stone knappers provokes a rethinking of rigid models of prehistory associating men with stone tools and meat.

8. Women in another Athapaskan-speaking group, the Tahltan of northern British Columbia, also make and use a variety of implements, including bone tools for hide preparation, which are curated as part of special-purpose "tool kits" (Albright 1999).

9. The Chipewyan historical trend toward specialized gender-segregated spaces reverses the pattern Shepard (2002) suggested for mainland western Alaskan Eskimo. The fact that the *qasgi* was not part of indigenous social structure in the central subarctic no doubt has some bearing on these divergent patterns. Even so, Whitridge's Thule kitchen and *qargi* complex could be interpreted as signs of increased specialization and separation of female and male economic roles but *not necessarily* marginalization of women.

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