Chapter 1

Socioeconomic Factors Influencing Housepit Assemblages

Brian Hayden

Introduction

This chapter synthesizes results from the lithic, faunal, and botanical analyses of housepit floors in order to develop conclusions about the social and economic organization that existed within the pithouses at Keatley Creek. There are considerable differences between housepits in terms of artifact contents and features. This chapter also describes these differences and proposes explanations for them. Due to the large amount of time and effort required for the excavation and analysis of these housepits, the sample size involved in this analysis is necessarily small and conclusions must be provisional. However, the patterns and differences that have been observed are striking enough to warrant some confidence that the broad outlines sketched below will stand the test of time.

At the outset of this research, I had a number of expectations. I expected there to be patterned variation. On the basis of previous work (Hayden and Cannon 1982, 1984; Lightfoot and Feinman 1982; Wilk 1983; Netting 1982; Maugher 1991:133) I expected house size to be generally related to relative wealth and political power, with small houses being significantly poorer than large houses. I also expected that there would be more constraints on the variability of large houses than on small houses due to the increased logistical, economic, and social requirements of maintaining large numbers of people in coherent groups, whereas individual families could behave in much more idiosyncratic fashions. Furthermore, on the basis of ethnographic accounts (Teit 1909:576) I expected differences in wealth and privilege between domestic groups within large houses, with as much as one half to two-thirds of the domestic groups displaying high levels of wealth or status. I hoped that wealth items would clearly indicate which houses and which hearths were occupied by rich families. This expectation proved largely unrealistic due to the deposition of wealth objects primarily in burials and their rare and fragmentary occurrence in housepits. Moreover, the deposition location of rare prestige objects could be affected by many fortuitous factors. A similar rarity of prestige items at residential sites has been noted for even more complex cultures such as Celtic chiefdoms (Cunliffe 1986:151). Thus, the identification of socioeconomic distinctions at Keatley Creek was largely based on differences in storage capacity, size and intensity of hearth use, differential faunal use, evidence for specialization, and overall economic intensity. Because of their rarity in floor deposits, prestige items only proved to be useful when comparing entire housepit assemblages. I also expected specialized activity areas to exhibit major differences in assemblage composition as well as potential differences in associated features. Domestic areas, on the other hand were expected to display largely repetitive assemblage compositions and features.

In order to examine the preceding expectations, I and other project analysts relied on ethnographic

analogies, cross-cultural and general principles of behavior, taphonomic or site formation principles, and common sense. Before examining the variability apparent within given living floor assemblages, I will briefly review some of the differences between overall housepit assemblages.

Overall Differences Between Housepits

Housepits at Keatley Creek vary dramatically in all basic aspects: size, storage facilities, hearth development, architecture, stone tools, stone raw materials, faunal remains, botanical remains, and prestige items. Trying to explain this variability is one of the major goals of our work at the site. The most obvious socio-economic factors capable of explaining this variability include: 1) occupation of pithouses during different prehistoric time periods (e.g., one housepit being used in Shuswap times with another being used in Kamloops times) or variable periods of reoccupation; 2) different lengths of occupation of specific pithouses; 3) differential involvement of residents in activities such as trading, hunting, fishing, mat making, basket making, and shamanism; 4) the size and composition of residential groups, e.g., the formation of large residential corporate groups vs. small nuclear or extended families; 5) differential wealth and access to resources. Causes of differences in housepit assemblages due to variable abandonment behavior are discussed in Volume I, Chapter 17. I assume that all pithouses were occupied during the winter season. There is no evidence that housepits were used in any season other than winter, although it is conceivable that the elderly, the very young, and/or the infirm may have used them intermittently in any season. As indicated later in the discussion, other more minor factors may also play important roles, such as the presence of dogs, varying standards or techniques of house cleaning, and the mode of abandonment. The discussion of house differences can be carried out in terms of the three basic size categories of structures that have been investigated: small, medium, and large housepits.

Variability Among Small Housepits

Three small housepits were extensively excavated and analyzed: HP's 9, 12, and 90. All three are on the perimeter of the site (Vol. I, Chap. 1: Figs. 9 and 11) since we were unable to locate easily interpretable Kamloops horizon small housepits in the center of the site. As it turned out, there was a greater apparent temporal difference between the three excavated housepits than was hoped for. Housepit 90 appears to have been a short Plateau horizon occupation. The bottom occupation of HP 9 was clearly Plateau in age while the upper occupation was clearly early Kamloops. The HP 12 occupation appears to be transitional between the Plateau and early Kamloops horizon. What is striking about these three small housepits (representing four occupation floors), is their extreme variability, even within the same period (e.g., the Plateau occupations), a variability which seems too extreme to be due to temporal changes. On the one hand, HP 9 exhibits numerous signs of relative wealth and specialized status although the frequency of any given prestige artifact type is often low. The indicators of wealth or status in this housepit include: the greatest number of dentalium shells from any structure at the site, a large ground piece of marine mussel shell, the second largest number of freshwater shell fragments and beaver teeth from any housepit at the site, the only occurrence of loon and bald eagle bones at the site, the largest number of worked elk and deer antler pieces of any housepit (including the only digging stick handle from the site and an unusual bark peeler of split antler 40 cm long), the largest number of bighorn sheep remains from any housepit, very high densities of fish bones on the floors especially compared to the other small housepits, large fragments of a nephrite adze, several soapstone pipe fragments, a very large storage pit unique among small housepits so far investigated, and well developed hearths (for faunal details see Vol. I, Chap. 10; Vol. II, Chap. 7).

Previous ethnographic work among households had demonstrated that the diversity rather than the total frequency of wealth objects in a household is a much better indicator of actual wealth levels (Hayden and Cannon 1984:109, 194; Cannon 1983). All of the above factors occurring together in a small housepit are highly unlikely to be due to the vagaries of loss and deposition or unusual house cleaning behavior, even given the fact that some of these objects were spread over two distinct occupations. Nor does their presence appear to be due to unusual or hurried abandonment since all stored food had been removed from the cache pit and almost all the tools left behind were in a broken or heavily used state. The occurrence of so many trade and status items together indicates an unusual degree of wealth compared to most other housepits, and probably a specialized status for one or more of the residents, such as a hunter or a shaman. Lillooet shamans were known to have had private dwellings where they kept their symbols of power (Nastich 1954:52). Shamans among the Thompson and Shuswap had loons as guardian spirits and wore necklaces of loon bones (Boas 1900:381; Teit 1909:606–607). In light of these observations, the fact that HP 9 is

the only structure to yield loon bones at Keatley Creek seems particularly significant. Moreover, elsewhere in the Northwest, shamans were wealthy and belonged to the elite (Kamenskii 1985:86; Goldman 1940:365–366, 370) and thus, it does not seem unusual to find indicators of shamanistic activity associated with wealth at Keatley Creek.

While the rest of the HP 9 lithic assemblage is sparse and unremarkable (except for the accumulations of dense clusters of unmodified rocks in some parts of the floor), the remainder of the faunal assemblage is one of the most remarkable at the entire site in that it consists of extremely high densities of thousands of fish bones in all occupations, especially very thin spines and ribs which tend to be much rarer elsewhere especially in the other small housepits of this period.

At the other extreme is the penecontemporaneous occupation of HP 90. There are only six faunal remains associated with the floor (two of which were fish and three of which were simple modified artifacts) and an additional 33 bones from the roof deposits and pits. There are few unusual faunal or lithic items other than two pieces of antler and one broken maul, adze, and palette; there is no clear indication of hideworking (Vol. II, Chap. 12), there are no storage pits, and there is no fire reddening to indicate a hearth. In general, the occupations of small housepits appears to have lasted only one or a few generations, probably much less than 50 years, although some depressions were occupied several times. While occupation of HP 90 may not have lasted as long as HP 9, discoloration and mixing of roof deposits indicate that residents stayed there for at least a number of seasons and may have even stayed long enough to reroof the structure. Even if the remains that were recovered from HP 90 represent few seasons of occupation, they still indicate a much more impoverished and more generalized existence for HP 90 residents compared to HP 9 residents.

Housepit 12, occupied in the transition period between the Plateau and Kamloops horizon, is much closer in overall character to the poor profile represented by HP 90, although it is not as extreme. There is a small storage pit with exclusively low quality (pink) salmon vertebral columns in its bottom; there is evidence for a small ephemeral hearth associated with some fire cracked rock; there are 31 fish bones from the floor (all from pink salmon) and 90 mammal bones including 3 beaver teeth; and there are some indications of hideworking, the presence of a dog, and the use of a pipe. In recent times pink salmon was considered famine food by Interior groups, but was the easiest type of salmon to catch (Kennedy and Bouchard 1978:39, 1992:275). No unusual fishing sites are required to catch these fish and it is highly unlikely that procurement sites for obtaining pink salmon would have been owned or access restricted to them. Based on the degree of discoloration and mixing of roof sediments, occupation does not seem to have been much longer than the occupation of HP 90, perhaps a few decades at most.

The overall impression is not one of wealth or specialized status, but not one of abject poverty either. In both HP's 12 and 90, mammal bone dominates fish bone in the floor assemblage; however, it is important to recognize that the mammal bones in HP 90 could have resulted from the fragmentation of the bones from a single joint of a single deer procured just once during the entire occupation. The bones from HP 12 represent some increase, but not a great deal.

At this point, it is not clear why salmon bone is so rare in these two houses, especially in comparison to HP 9. Certainly residents must have been eating something during winter months. Perhaps all available edible material was consumed in these poorer houses, including fish bone cooked in occasional soups, whereas such bone material would more likely be discarded or wasted in richer households. Cooking or boiling salmon bone adversely affects preservation (Wheeler and Jones 1989; Lubinski 1996).

Testing of other small housepits in various areas of the site supports the notion of highly variable wealth and specialization characteristics between small housepits occupied during Plateau and early Kamloops times. Both faunal and lithic analyses display this variability (see Vol. I, Chap. 10; Vol. II, Chaps. 5, 12, 14). For instance, test excavations of the early Kamloops occupation of HP 101 revealed an unusually diverse faunal assemblage including several bone and shell artifacts, and an emphasis (like HP 9) on bighorn sheep. It also has a remarkable lithic industry consisting of thousands of high quality chert flakes buried in a pit and derived from a massive reduction event. Housepit 110 has a similarly rich and diverse faunal assemblage in each of its two Plateau horizon floors and in its Kamloops horizon floor (including squirrel, bird, beaver, bighorn sheep, and a partially burned dog). Like HP 101, the lithics are also unusually rich and diverse, emphasizing high quality cherts.

In contrast, HP 108 on the southern extreme periphery of the site is impoverished in all respects and probably does not represent an occupation of very long duration, perhaps an occupation during early Kamloops times. Housepit 107 exhibits only slightly greater faunal richness, but has a very distinctive assemblage of lithic sources and appears to have been occupied for a short period during the Plateau horizon.

There are also four, more enigmatic, small structures which I initially thought might have served specialized

feasting or ritual functions or at least been the residences of specialized individuals. Housepit 104 high above the rest of the site on the highest eastern terrace, contained unusual, thick deposits of ash with calcined bone covering the center of the floor. These deposits contained few lithics or bone, 96% of which was burned. Excavations of other parts of the floor of this structure yielded relatively abundant ungulate and salmon remains, a bone gaming piece, a long bone spatula, but few lithics (except for abrading stones). HP 104 was also unique among the small housepits in having four very substantial main posts all of which were burned in place. This structure turned out to be protohistoric in date. Housepit 106 was only a few meters to the south and was also protohistoric in date. It was even more extreme than HP 104 in its lack of associated lithic materials. Faunal materials were also almost completely lacking.

Housepit 105 was also on the highest eastern terrace and intersected HP 106. Only the last protohistoric occupation deposits were in tact, but a large storage pit dated to the Plateau horizon contained an unusual bone point with a central hole and 72 bone "buttons" at the bottom, the largest collection from the Plateau. The last occupation floor was littered with small, delicate salmon remains as well as larger mammal remains, resembling the floor assemblage from HP 9 in terms of the density and dominant proportion of the finer fish elements. Thus, all three structures on this high terrace appear to have constituted an isolated protohistoric occupation occurring long after the majority of the site was abandoned although the use of one structure (HP 105) extends back to the Plateau Horizon.

Finally, HP 109, the only housepit on the next lower eastern terrace, is highly unusual in the depth of its deposits and in terms of contents, including the lower vertebrae of a dog wrapped in birch bark, a lithic assemblage composed almost entirely of chert and chalcedony debitage, and the largest single concentration of red ochre found at the site. The upper floor may be protohistoric, whereas the lower floor appears to be a late Shuswap occupation. Determining whether any of the structures on these high terraces had non-residential, specialized uses will require more extensive excavation. Since our main goal was to examine variability between households during the main site occupation period, we did not extend investigation of these structures beyond testing or pursue the excavation of protohistoric structures.

In sum, it appears that small housepits during both the Plateau and Kamloops horizons were occupied either by groups that were relatively wealthy having access to trade items, high quality cherts, and abundant fish and mammal resources, or that they were occupied by economically marginal groups with little access to any of these materials. The full implications of this pattern will be explored after discussing medium and large housepit variability, but here it can be emphasized that there is clearly a great deal of variability in small housepit assemblages and it seems possible that some of this variability is due to non-residential functions of some of the structures.

Architecturally, except for HP 104 and 106, small housepits differ from larger ones in having few or no structural postholes in the floors (Vol. II, Chap. 15). Some oral accounts also describe pithouses as lacking interior posts (Kennedy and Bouchard 1977:Tape 1). Shallow basins or depressions filled with unmodified rocks (e.g., in HP's 9 and 90) or rock concentrations laying directly on the floor (HP 9) also appear to be much more prominent floor features in smaller housepits (presumably for drainage of poorly sealed water vessels or for drying wet materials), although one such pit does occur in HP 7. Hearths appear to have been much more ephemeral and smaller in poorer small housepits with only small amounts of fire cracked rock associated with these houses.

Medium and Large Housepits

Unfortunately, due to the great amount of time and effort involved in excavating these larger housepits, there is only a single extensively excavated example of each from the Keatley Creek site. However, four other large housepits were tested (HP's 1, 2, 5, and 8), and these initial test excavations are quite consistent with results from the more extensive excavations in HP 7 in terms of the general nature of the lithic and faunal assemblages, the occurrence of large storage pits and the presence of perimeter hearths. These results encourage me to propose that there is much less variability in the larger housepits than in the smaller ones. This is probably due to the substantially increased constraints involved in maintaining a large group of people together in a cooperative social and economic corporate group such as those represented by the larger housepits (see also the general discussion by Hayden and Cannon 1984:192). Large corporate groups must be able to provide suitable inducements and rewards for families or individuals to remain affiliated with the group, to settle disputes within the group and defend group members' interests from outside threats, as well as to advertise wealth and power in order to recruit productive new members (as spouses or client members). All these requirements necessitate substantial economic control, the production of surpluses, consumption of prestige goods, and the establishment

of hierarchies, without which large groups would disintegrate. Thus, from a theoretical point of view the larger the residential corporate group, the less variability can be expected.

As part of a moderate sized residential corporate group, the residents of HP 3 (occupied from Shuswap to early Kamloops times when the last floor was in use) could be expected to exhibit considerably more evidence of wealth and food surplus than poor residents of small housepits. This is clearly so in terms of the overall density and quantity of fish and mammal bone remains (7.2 per square meter for floor deposits in HP 3 versus 3.1 per square meter in HP 12—see Tables 3 and 4 in Vol. II, Chap. 7), storage pit capacity (Table 1), the occurrence of specialized fauna (short- and long-tailed hawks, freshwater shells, and dog), and prestige lithic items (e.g., a nephrite adze fragment, a copper sheet fragment, pipe fragments, a graphite "crayon," obsidian, and substantial indications of hideworking (both endscrapers and spall tools). In contrast to poor small households where fish remains are rare, fish bones in HP 3 constitute over half of the faunal assemblage on the living floor. In contrast to poor small housepits where almost 100% of the salmon remains are from low-status pink salmon, there is much more variability in the HP 3 floor assemblage (47% of the salmon bones from the floor were pink salmon with 53% from 3 to 4 year old salmon, although inclusion of the dense concentrations of pink salmon vertebrae at the bottom of one large cache pit (see Vol. I, Chap. 10, Appendix III) would decrease the overall proportion of 3 to 4 year old salmon species to only 5% for the entire household). This indicates that there was significant access to the better fish procurement locations and perhaps ownership of moderately productive fishing spots by HP 3 residents. Considerable stability of this moderate sized corporate group is indicated by the long accumulation of rim midden beginning in Shuswap horizon times.

Table 1. Storage Capacity of Large Storage Pits by Housepit

	Feature No.	Depth	Diameter	Estimated Volume	
HP 12	P–2	70	94		485.78
	P–3	35	65		116.14
	P–5	35	40		43.98
	P–9	35			126.00
				Total storage volume	771.91
				Estimated floor area	38.50
				Liters storage per square m of floor	20.05
HP 3	HP 3-89:2	76	114		775.73
	P–1	44	58		116.25
	P–2	145	114		495.90
	P–3	44	102		359.54
				Total storage volume	1,747.42
				Estimated floor area	78.50
				Liters storage per square m of floor	22.26
HP 7	P–4	65	156		1,242.37
	P–2	120	113		1,203.45
	P–25	100	130		1,327.32
	P–31	115	135		1,646.10
	89-5	130	101		1,041.54
	P–36A	75	81		386.47
	P–34	55	80		276.46
	P–4	60	87		356.68
	P–36	60	72		244.29
	P–35B	32	90		203.58
				Storage volume: large pits	6,460.78
				Estimated floor area	113.10
				Liters storage per square m of floor	57.12
				Storage volume: large & medium pits	7,928.26
				Estimated floor area	113.10
				Liters storage per square m of floor	70.10
HP 9		82	126		1,022.46
				Estimated floor area	20.50
				Liters storage per square m of floor	49.88

These characteristics are even more pronounced in the floor deposits of HP 7, the largest housepit to be extensively excavated. The occupation span of this housepit is similar to HP 3 with the last occupation also occurring in the early Kamloops horizon. Faunal remains are even more abundant and denser in all classes of deposits (21.2 per square meter for floor deposits), and much more diverse (including grizzly bear, lynx, hawk, grouse, hare, beaver, muskrat, fox, fisher, moose, dogs, dentalium shells, and coastal rock scallop and whelk). In fact, the faunal diversity in HP 7 exceeds all other excavations at the site combined. Storage capacity is much greater (Table 1) as is the development and the number of hearths compared to HP 3. Lithic materials indicate a greater reliance on high quality cherts (HP 3 = 3%, HP 7 = 9%) and substantial processing of hides. There is only one jade fragment, but this appears to be from an ornament or from a fine woodworking tool or knife, rather than a heavy duty adze. In addition, the only copper tubular bead, zoomorphic sculpted stone, complete maul, cache of spall scrapers, eccentric chipped stone, and other stone pendants found at the site are from HP 7. Overall lithic assemblage characteristics are quite similar between the HP's 3 and 7 floors, including basic types and densities (Vol. II, Chap. 11). However, there is a significantly greater diversity of wood species, of seed remains, and a greater density of seeds in HP 7 than HP 3 paralleling the trends in faunal densities and diversity in these housepits (Vol. II, Chaps. 4 and 7). Housepit 12 has even lower taxa diversity and densities as do the other small housepits (Vol. II, Chap. 5). With the exception of small wealthy/specialized housepits such as HP 9, these results indicate that the relative intensity and range of plant and animal use increases (in a statistically significant fashion, independent of sample sizes) as housepit size increases. The fact that HP 7 faunal remains are three times as dense as HP 3, but that the lithic density is less than twice as great indicates that something more is involved than simple length of occupation (assuming little variation between these houses in stone tool consumption per person). Minimally, it would seem that at least part of the increased density of floral, faunal, and lithic artifacts in HP 7 may be due to greater economic ability to bring technological, prestige, and food resources into the pithouse and process them more intensively. Part of the differences in density may conceivably be due to a longer use of the last floors of the larger houses (from the last reroofing and floor cleaning event to the abandonment of the pithouse). However, it would be an unusual coincidence for the length of use of the three housepits to vary exactly in tandem with their size. Moreover, statistical analysis of botanical remains clearly indicates that some factor other than sample size or length of occupation played an important role (Vol. II, Chap. 4).

Remarkable stability is demonstrated in the use of different chert sources by the residents of large housepits (HP's 1, 5, and 7) from the initial occupation of these structures to their last occupation (Hayden et al. 1996; Vol. I, Chap. 16). This indicates stability in corporate access to specific chert resources over more than a thousand years, together with continued ownership (and use) of the same house site by the same corporate group over the same period of time. Similar stability is displayed by the unchanging position of hearths, large storage pits and large postholes over the lifetime of the larger structures.

Analysis of the salmon remains from the floor of HP 7 indicate a significantly greater access to a greater variety of salmon species and a higher proportion of more valuable fish than either in HP's 3 or 12. Over a third of the salmon vertebrae on the floor of HP 7 were from 3- to 4-year-old fish, i.e., most likely sockeye or spring salmon. In other culture areas such as Micronesia, specific species of fish also were preferentially used by elites as prestige foods (Ayres et al. 1992). The HP 7 salmon remains appear to represent substantial control and probably ownership over some of the more productive fishing locations in the area. Analysis of salmon vertebrae from test trench excavations in other large housepits such as HP 1 supports the indications from HP 7 that larger housepits had greater access to more valuable salmon. Analysis of rim profiles, together with posthole and storage pit patterns indicates that there has been very little change in the dimensions of HP 7 during the length of its use. The same appears to be true of other large housepits (HP's 1, 5, and 8) as far as can be determined from test excavations. Thus, these large residential corporate group structures were also contemporaneous with smaller Plateau horizon houses, such as HP's 12, 90, 101, 110 (at the transition between horizons) and the lower occupation levels of HP 9.

Sources of Variability Between Housepits

From the above observations, it is clear that major differences between smaller and larger housepits are not due to temporal changes (e.g., as suggested by Richards and Rousseau 1987:32) nor to different abandonment conditions (Vol. I, Chap. 17). On the basis of organic discoloration of floor and roof deposits, it also seems unlikely that any of the housepit floors being considered were in use for less than 5–10 years while roofs may not have lasted much more than 10–20 years, especially if pine posts were used (Vol. I, Chap. 17). This observation combined with earlier observations on artifact density, make it seem unlikely that the length

of occupation of the floors (between the first and last season of use under the last roof) can account for the dramatic differences observed between various housepit floor assemblages. I would estimate that all floors that we extensively excavated were used for over 10 years on the basis of discoloration of the matrix.

The major factors that do seem associated with variability between households are: the size of the residential corporate group (affecting the size of the structure, amount of storage, diversity and density of faunal, floral, lithic, and prestige remains, intensity of hearth development, and relative wealth), and specialization. Ethnographically, it is clear that specialized hunters were unusually prestigious and wealthy (Teit 1900:295; Romanoff 1992b:478–480). There were other specialists in the Lillooet communities as well, including shamans, chiefs, warriors, runners, police, and spokesmen for chiefs (ibid.; Ray 1942:229; Vol. II, Chap. 17). Some of these specialists may also have been accorded unusual status and wealth for their services. All such specializations probably required considerable wealth for proper training (Teit 1900:317–318) and validation, thus largely limiting these occupations to wealthy families. While many specialists such as spokesmen and runners may have been closely tied to the heads of powerful corporate groups, others like shamans and hunters may have sought a greater degree of independence either out of personal preference or to enhance their specialist image. These individuals in particular may have sought out more isolated residences on the periphery of the settlement and supported themselves in comfort on the basis of the additional economic advantages their specialized services provided or on the basis of economic support of their original patron corporate group. Among both northern Coastal and Interior groups a shamanistic vocation was an important means of acquiring wealth (Goldman 1940:365–366, 370; Kamenskii 1985:86).

Certainly, on the basis of the faunal analysis of salmon (Vol. II, Chap. 8), mammals (Vol. II, Chap. 7), and the lithic resources (Vol. I, Chap. 16), it appears that the large residential corporate groups were the major economic powers at Keatley Creek, controlling prime fishing locations, prime hunting and root collecting areas, and access to lithic sources. It was the surplus and wealth produced by the control over these resources that probably made it possible for specialists to exist who could become relatively wealthy and also live in their own independent small houses whether affiliated with a larger corporate group or not. While many poor families became common support personnel within the powerful corporate groups (see the following analysis in this chapter of variability within larger houses), other disenfranchised families apparently preferred to follow independent, relatively impoverished lives in small marginalized pithouses. On the Coast, such poor families had to wait until owners of resources or land had finished procuring resources for themselves, after which the poor could procure what was left for a fee (Swanton 1909:71). Similar ownership and use arrangements may well have characterized the Classic Lillooet communities. This model not only explains the substantial differences between households within the small range, but also accounts for changes in assemblage characteristics as the size of residential corporate groups increased. As will be seen subsequently, it also explains variations between households in the degree of hierarchical organization. In all cases, small independent households seem to have been very unstable and occupations of small housepits typically are ephemeral (Vol. II, Chap. 14; Vol. III, Chap. 11), lasting only a generation or less before they either ceased to exist or were reabsorbed back into larger corporate groups and their larger residences.

One trend which merits further attention is the relative abundance of fish versus mammals as well as the intriguing variability of the fish elements that dominate floor assemblages. The scarcer occurrence of fish bones in the poorer small housepits may well be due to the more complete consumption of fish, including bones used in soups which would not be preserved due to cooking. Fish bones occurring in larger houses may thus best be viewed as wastage of low value elements. Explaining why a few rare houses like HP's 9 and 105 have extremely high densities of fish bones dominated by spines and ribs is more difficult. One possibility may be related to the presence or absence of dogs. Desmond Peters indicated to me that fins were often given to dogs. Similar customs were common among other fishing groups with dogs (e.g., Albright 1984:63; Shnirelman 1994:174, 181). Fins contain the largest number of spines, and it may well be that other elements with little food value were also given to dogs. In other culture areas of the world, dogs are strongly associated with high status households, and at Keatley Creek, dogs were certainly part of the major households such as HP's 3 and 7 but appear to be absent in many small housepits (Vol. II, Chap. 10). Dogs presumably would have been fed the less desirable fish elements or stored fish that had spoiled (O'Leary 1985:79). In fact, fish bones were recovered from dog coprolites in HP 7. In contrast to this, there is no indication of the presence of any dogs associated with HP 9 where fish remains and especially spines are more abundant than anywhere else in the site. A comparable density of fish remains and spines occurred in HP 105, where some canid remains were recovered; however, the canid remains are from pit and roof deposits and may not have been contemporaneous with the last occupation in

which the dense salmon bones occur. The only other obvious explanation for this unusual pattern of fish remains is that the occupants of HP's 9 and 105 for unknown reasons preserved fish fins while other households did not, or that they used different butchering techniques.

Variability Within Housepits

In addition to examining overall differences between housepits for indications of social and economic organization, one of the main goals of the investigations at Keatley Creek was to examine possible indications of socioeconomic organization within housepits. In order to investigate the full range of this socioeconomic organization, small, medium and large examples of housepits with clearly identifiable living floor deposits were chosen for excavation (see Vol. I, Chap. 1). The following discussion synthesizes the various lithic, faunal, and botanical indications of social and economic organization within small, medium, and large housepits. In general, it is apparent that as housepit size increases, indications of increasingly distinct and hierarchically arranged households appear, as well as evidence for internal specialization of domestic units.

Small Housepits

Housepits 9, 12, and 90 represent the most completely analyzed of the smaller housepits and represent the poorer and richer end of the spectrum respectively. With a floor area of 38 square meters, HP 12 probably accommodated 15–25 people divided into about 4–5 nuclear families (Vol. II, Chap. 11; Spafford 1991:24). Yet, in the spatial distributions of all materials recovered from the floor there is not the slightest hint of the

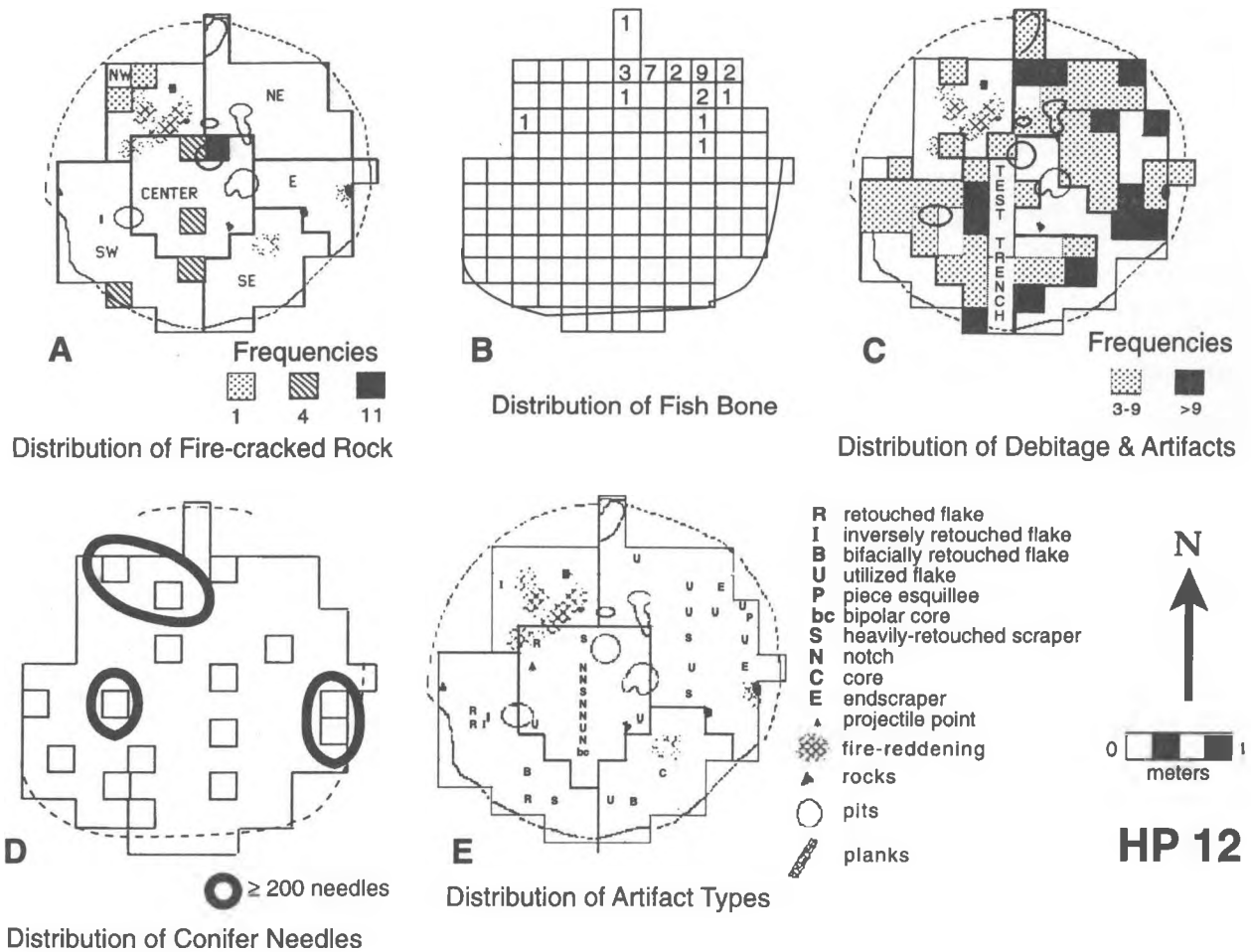

Figure 1: (A) Housepit 12 floor plan and distribution of fire-cracked rock; (B) distribution of fish bones; (C) distribution of debitage and artifacts; (D) distribution of conifer needles; (E) distribution of artifact types.

division of space according to independent domestic units. Instead, all activities seem to have been performed communally in designated activity areas. There is only one area of developed fire-reddening and the only real concentration of fire cracked rock is associated with it in the northwest (Fig. 1A). Similarly, there is only one concentration of fish and mammal bone on the floor (Fig. 1B), and it too is adjacent to the hearth whereas almost no chipped stone remains occur in the immediate vicinity of the hearth (Fig. 1C). Most botanical remains appear to be randomly scattered over the floor except for conifer needles (Fig. 1D) which tend to be most concentrated within 1–2 m of the house walls, as in other housepits. These conifer needle concentrations probably represent domestic unit bedding and sleeping areas. Lithic using activities seem to have been confined to two clearly separated areas (Figs. 1C and E) the northeast sector where the vast majority of utilized flakes and debitage occur, and to the southwest where pressure retouched cutting tools (expedient knives) together with debitage are concentrated. Notches form a third discrete activity area in the center of the floor.

Thus, while people may have slept in separate groups around the perimeter of the floor or together in one sector of the housepit which Alexander (Vol. III, Chap. 7) argues was the general case in small housepits, it appears that they conducted other activities in specialized, communal activity areas. They cooked and ate in the north, made sharp tools to cut up things in the southwest, worked on wooden shafts in the center, and made flakes for other activities in the northeast part of the floor. There are ethnographic accounts describing the "kitchen" being in one quadrant of the house with storage of meat, water, roots/berries, and firewood along the wall ledges of separate sides of pithouses (see the following chapter in this volume; also Condrashoff 1972; Teit 1909:492; 1912a:222). These accounts seem to correspond most closely to the interior communal organization of activities in small housepits although other oral accounts indicate that at lease wood was stored outside houses (Teit 1917:26; Kennedy and Bouchard 1977:Tape 4) and that there were no "rooms" with special functions (see following discussion). In our archaeological examples, there is no evidence of independent, competing, or hierarchically arranged domestic units. The economic activities and social organization appear to be consistent with what one might expect of a generalized hunter/gatherer group of affiliated nuclear families with no special access to, or control over, resources; and who cooperatively built a small earth-roofed shelter to maximize body warmth during the winter occupation. It is always possible that the local and comparative ethnographically documented densities for pithouses are misleading and that only a single nuclear family occupied HP 12, however, such an argument would have to be extended to the entire class of small housepits, and this scenario seems highly unlikely.

Material patterning on the floor of HP 90 seems fully consistent with the observations derived from HP 12. Although residents of HP 9 may have had a special status or may have been wealthier than residents of HP 12 and 90, the spatial artifact patterning is very similar to HP 12, with almost one half of the floor area used for sleeping, a condition that appears typical of small housepits (Vol. III, Chap. 7).

Medium Size Housepits

Housepit 3 is the only extensively excavated medium sized housepit at Keatley Creek. The floor area is twice that of HP 12 (78.5 square meters), and the number of occupants was most likely between 25 and 40, divided into about 6–8 nuclear families. In general, like HP 12, there is a strong indication that particular areas within the house were used for specialized activities and that space and activities were often viewed from a communal perspective. However, there are also some important indications that domestic units (comprised of nuclear or extended families) were much more independent and used the space around their sleeping areas in at least partially exclusive fashions.

Domestic Units

In detail, the four major support posts in the floor of HP 3 probably served to divide the interior space naturally into four peripheral zones (sectors) plus an open central area that probably served as a common zone for various activities (Fig. 2A). One of the strongest indicators that each of the peripheral sectors was occupied by an independent domestic group is the concentration of debitage and artifacts that occurs within each peripheral sector and appears to be separate from adjoining sectors (Fig. 2B). The fact that artifacts usually associated with male activities (billet flakes and projectile points—Spafford 1991:68,80) occur in all peripheral sectors in significant quantities, also indicates that these sectors were used by groups with similar compositions. About 50% of all the tools found in each sector occur in the same proportions (Vol. II, Chap. 11) indicating a fairly high level of activity redundancy in each peripheral sector which is also consistent with separate independently functioning domestic units. Each of the peripheral sectors also has an anvil and an abrading stone (Vol. II, Chap. 11, Fig. 2; Spafford 1991:122) each of which might be expected to be used by an independent domestic group. The high concentration of conifer needles around much of the periphery of the floor (Fig. 2C) is a further indication

that people slept along the walls in each sector, presumably together with other members of their domestic group.

These interpretations are consistent with stories, myths, and oral histories that refer to houses having sleeping benches extending out 4–6 feet from the wall around the entire inside with individual sections for each family created by mats hung dividing the periphery into "rooms" (Teit 1898:59; Kennedy and Bouchard 1977:Tapes 1 and 2; Condrashoff 1980; Laforet and York 1981:120). Some of these accounts clearly state that there were no special function or named rooms in pithouses, only family sleeping areas (Kennedy and Bouchard 1977). From our archaeological results, such descriptions seem most applicable to medium and large housepits.

Communal Activity Areas

Despite the basic spatial independence of domestic units in HP 3, there are a number of indicators that the residents used portions of the floor in a communal fashion and cooperated in some basic activities. Coastal ethnographers observed that much food was prepared by slaves (Jewitt 1974:65; Oberg 1973:87; Garfield 1966:29) and shared communally (Oberg 1973:30), which may account for the communal patterning of food remains. Slaves also performed the most onerous and mundane tasks. On the basis of observations made during the excavation of HP 3, there appears to have been only one main hearth (in the south) regularly used during the terminal occupation, although the distribution of both charred seeds, charcoal, fire-reddened earth, faunal remains, and phosphorous on the floor

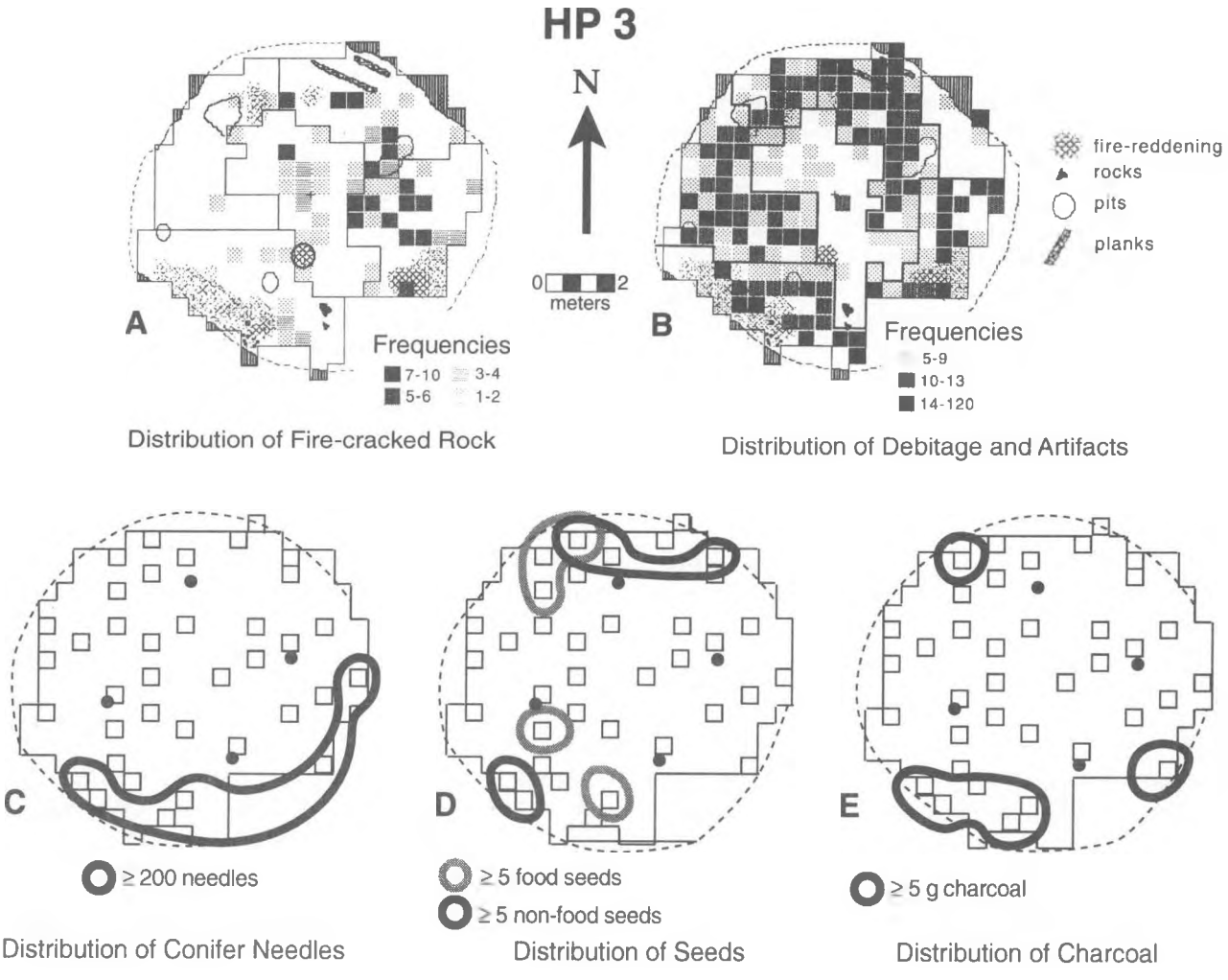

Figure 2: (A) Housepit 3 floor plan and floor distribution of fire-cracked rock; (B) floor distribution of debitage and artifacts; (C) floor distribution of conifer needles; (D) floor distribution of charred seeds; (E) floor distribution of charcoal (in g).

(Figs. 2D and E) strongly indicate that a second hearth in the northwest was also being used at least occasionally, thus implying some degree of differentiation within the pithouse. Even more ephemeral hearths seem to have been used at two other locations, near the southwest wall and the southeast wall. All three of the minor hearths near the house walls are characterized by concentrations of charcoal, some food seeds, utilized flakes, expedient knives, and debitage. The lack of association with fire cracked rocks and the relatively superficial degree of fire-reddening may indicate that these were hearths primarily used for warmth in exceptionally cold weather as described by Hill-Tout (1978a:58). There is only a single substantial concentration of fire cracked rock (Fig. 2A) which may be related to the communal use of the central hearth for most cooking, although two minor concentrations of fire cracked rock occur near the hearth in the northwest. A similar pattern of small clusters is much more apparent when the distribution of mammal bones is examined (Fig. 3A). Fish bones (Fig. 3B) can also be divided into 2–4 clusters corresponding in part to separate sectors although they tend to cluster around the central common zone.

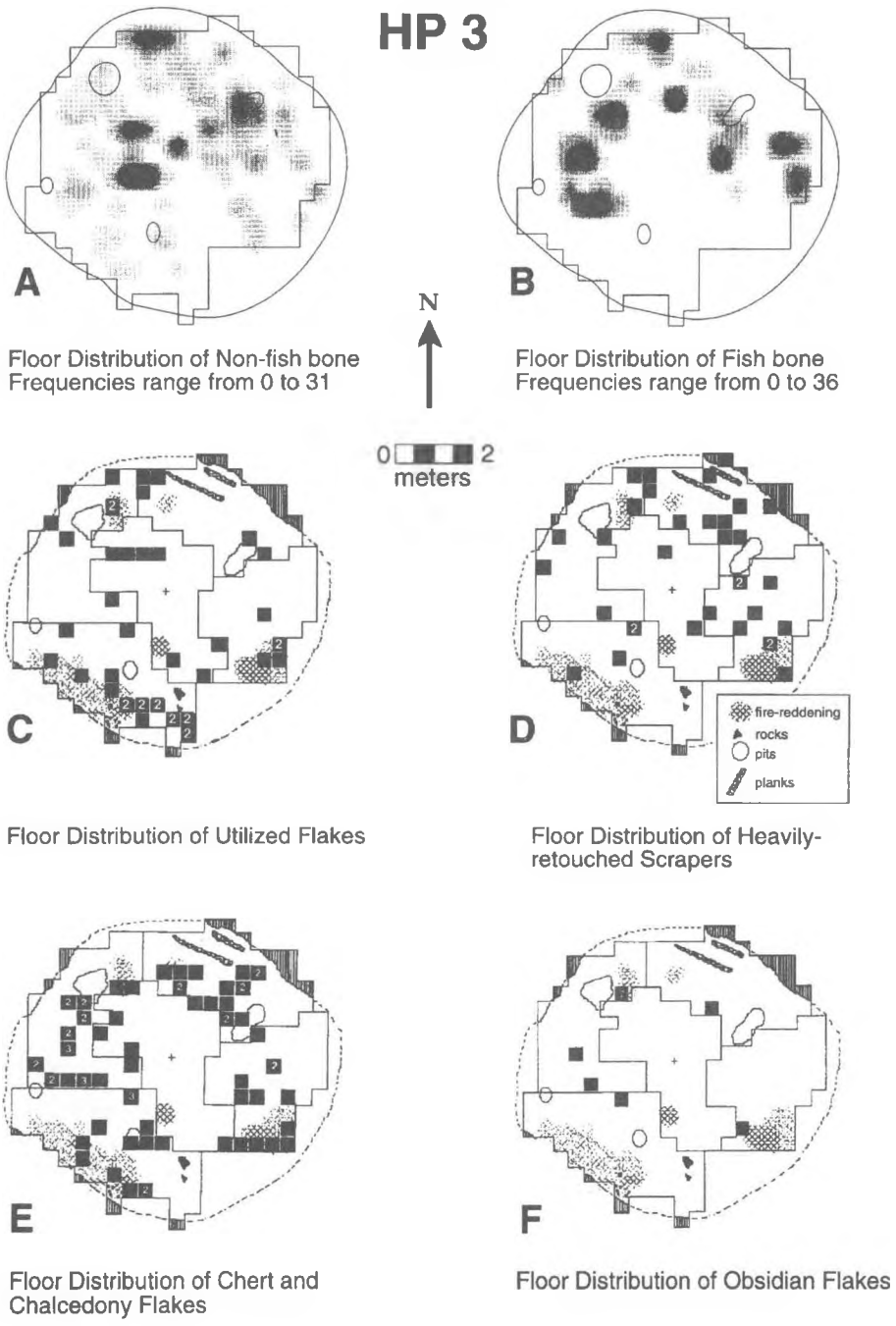

Figure 3: (A) Housepit 3 floor distribution of unidentifiable mammal bones; (B) floor distribution of fish bones; (C) floor distribution of utilized flakes; (D) floor distribution of heavily retouched scrapers; (E–F) floor distribution of chert, chalcedony, and obsidian flakes.

The concentrations of charred seeds is very discrete and occurs primarily adjacent to the south and north hearths. Whether these concentrations simply reflect the fact that seeds close to hearths are likely to be charred while seeds not adjacent to hearths will not be charred, or whether these concentrations reflect use of these hearths areas by one or more domestic units for processing seed plants is difficult to determine in this housepit, although the concentrations of some chemical elements such as phosphorous may indicate real activity differences involving plants. The complementary distribution of seeds and animal/fish bones is interesting—indeed, it is not clear why the concentration of fire cracked rock, debitage, fish bone, and mammal bone in the eastern sector is not closer to any hearth unless it served as a dumping or

storage area for FCR and other provisionally discarded items such as occurs near doorways.

The distribution of large storage pits displays a north-south dichotomy (Fig. 3), while the storage pit in the east may have been used during an earlier, Plateau horizon, occupation based on the presence of a Plateau style projectile point in its fill. Chemical analyses of floor samples indicate prominent food preparation or consumption activity in all of the peripheral sectors except a small part of the east periphery (based on concentrations of P and Ca), with especially strong values near the north and south hearths.

A closer examination of the distribution of stone tool types and material across the floor also reveals some communal use of space. As with HP 12, the central area is generally devoid of artifacts and bones, but within and immediately adjacent to this area there is an unusually high concentration of notches indicating that the working of wooden shafts probably took place here—possibly due to the need for space or due to the amount of debris that might be produced. Another strong pattern involves the complementary distribution of utilized flakes versus scrapers in opposing (northeast versus southwest) sectors of the floor (Figs. 3C and D). These impressions are reinforced by the distribution of some of the rarer types of tools such as piercers, small billet flakes, and bifacial knives which occur exclusively or predominantly in the southwest; whereas hammer-stones occur exclusively in the northeast and are associated there with unusually high debitage densities (Vol. II, Chap. 11). Chemical concentrations of potassium in the floor sediments mirror these stone tool distributions almost exactly (Vol. II, Chap. 6). Spafford has suggested that the northeast may have been used preferentially for making stone tools since the light would be best in that sector, perhaps constituting an occasional congregation area for males. Kusmer's observations that the fish bone in this sector is highly pulverized and indicates an unusual amount of foot traffic is supportive of the idea of periodic congregations of people here also. Similar arguments can be made for the debitage concentrations in northeast sectors on the floors of HP's 7 and 12. In contrast, the southwest may have been an occasional congregation area for women working on hide clothing, basketry, or other crafts, thereby accounting for the presence of piercers, utilized flakes, and other types of chipped stone with sharp cutting edges.

If some areas were used as occasional congregation and work areas for men and women during the day, the underlying distribution of general debitage, artifacts, and food remains seems to indicate that they were also used as residential areas for domestic units at other times. The presence of food remains and the carbonized remains of conifer needles and wood planks along the wall in the northeast are strong indications that this sector was not simply a workshop area, but the residence area of a domestic group.

Specialization and Status Indicators

There is also some indication of specialized behavior and possible status differences in the floor assemblage of HP 3. The occurrence of only two regularly used hearths at opposite ends of the house each of which is associated with a storage pit, indicates possible centers of somewhat higher status. The heavy concentration of chert, chalcedony, and obsidian flakes as well as Kamloops points in the northwestern sector (Figs. 3E and F—see also Vol. II, Chap. 11) strongly suggests an emphasis on hunting and traveling not present in any other sector. The statistically significant concentration of cherty raw materials in the northwest cannot easily be accounted for in terms of a special activity area since the tool types there are much the same as in the other domestic sectors. The unusual concentration of cherts is much more readily explained as the result of specialized economic roles of some house residents. As Teit (1900:295) and Romanoff (1992b:478–480) stress, hunters were much richer and more prestigious than most other people and presumably would have had greater access to high quality raw materials both in their hunting trips and in their exchanges.

The only other apparent location for a domestic group of unusual status or specialization is in the south where there are no fish or bone remains, but where the main hearth, a storage pit, and a high concentration of conifer needles occurs. Other than this, there is not a great deal to indicate substantially different status of residents in the south sector, although an analogous situation occurs in the much larger floor of HP 7, where it is clear that something different is taking place. The position of a tentative specialized hunter in the northwest sector of HP 3 in opposition to a possible domestic group of high status in the south is also interesting because the same opposition also seems to occur in HP 7, the largest housepit to be analyzed. It is also interesting that the concentrations of phosphorous in the floor deposits of HP 3 displays a similar bilocal distribution centering on these two opposite sectors.

Medium-Sized Housepit Summary

While not every sector of HP 3 or every domestic group may have used their own hearth, cooking rocks, or food preparation/consumption area on a regular basis (contra the ethnographic pattern reported by Nastich 1954:23), there do appear to be three areas near the walls where these activities intermittently took place and which can

be related in a general fashion to the peripheral sectors. Thus there are some indications of independent domestic groups within HP 3, but also indications of more regular cooperation between domestic groups and a moderate communal ethic as might be commensurate with a corporate group controlling resources of only moderate value. Only the most modest indications of status differences or domestic specialization are discernible from the floor remains, although it is clear from the overall assemblage that residents were investing in some prestige items (copper sheets, graphite crayons, nephrite adzes, soapstone pipes, dogs, obsidian). Whether these objects were owned by the most important members of the household, or were more communally owned and used for group displays cannot be determined. In all of these characteristics, the social and economic organization displayed in HP 3 is clearly intermediate between the communal organization of small poor housepits and the highly individualized, hierarchical organization displayed in the larger housepits, to which we now turn.

Large Housepits

Housepit 7 is the only large housepit that was extensively excavated. It has a floor area of 113 square meters which is about one and a half times larger than HP 3 (and three times larger than HP 12). An estimated 40–55 people resided in the house constituting about 9 nuclear families. The patterning of material remains on the floor of this structure is quite complex and apparently affected by a number of different factors. Nevertheless, there are several very strong patterns which will be discussed first, followed by a discussion of minor patterning.

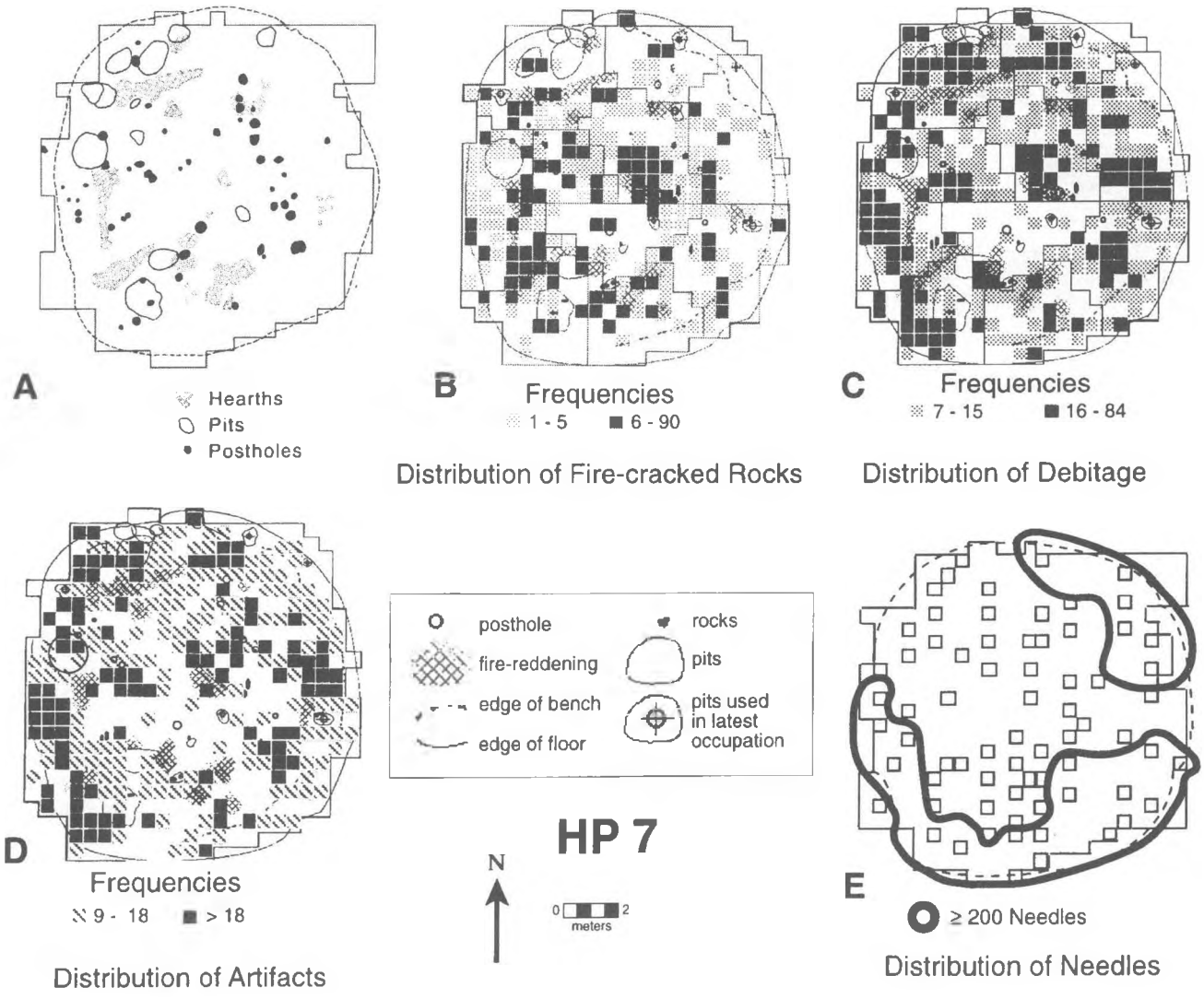

Figure 4: (A) Housepit 7 floor plan; (B) floor distribution of fire-cracked rock; (C–D) floor distribution of debitage and artifacts; (E) floor distribution of conifer needles.

Domestic Units

To begin with, the most striking aspect of the HP 7 floor is the concentric ring of hearths that occur 1–3 meters from the wall. It is interesting that on the Coast, domestic hearths occur about a similar distance from the house walls (2–4 m) and also form a concentric pattern, oblong in shape since the houses are rectangular (Samuels 1991:204). In HP 7, there are six to eight of these hearths in addition to one or two minor hearths in the central area (Fig. 4A). Most of these hearths, with the possible exception of that in the northeast sector, are associated with their own discrete cluster of fire cracked rock (Fig. 4B). As previously noted, Nastich (1954:23) observed that ethnographically, each family had their own cooking rocks and presumably their own hearth. Each hearth is also associated with its own discrete cluster of debitage and modified tools occurring between the hearth and the adjacent wall (Figs. 4C and D). As an initial assumption, it can be postulated that each of these hearths was used by a separate domestic group. This idea is supported by the occurrence of one or two abrading stones in almost every sector containing a hearth as well as anvil stones spaced between hearths. There is also a basic background similarity of artifact type frequencies in all peripheral sectors accounting for about 50% of the lithic tool variability similar to the pattern observed in HP 3 (Vol. II, Chap. 11; Spafford 1991:119). Among other hunter/gatherers, simple grinding stones or mortars similar to the Keatley Creek abraders are owned or used by separate families (Peterson 1968).

Further support for viewing each peripheral hearth as the locus for an independent domestic group is provided by the distribution of conifer needles which concentrate heavily in the zone between the hearths and the wall (Fig. 4E). Interestingly, high densities of both food remains (salmon and mammal bone) and chemical elements that reflect food processing or consumption (especially phosphorous) only occur around a few of the hearths, probably indicating the cooperative use of hearths by 2–3 domestic groups for most meals although each domestic group also had the facilities to prepare their own meals for special or other occasions. I will return to this topic below. Most of the artifact associations of the peripheral domestic areas also characterize one of the hearths in the center northeast sector of the floor, indicating another possible domestic unit located in the central area of the floor, possibly the residence of a low class or slave domestic group.

Class Differences

In addition to the basic pattern of independent domestic groups arranged around the periphery of the floor, there is a dramatic division in the character of the floor between the western half of the floor and the eastern half. This division is apparent in terms of features, stone artifacts, and faunal remains. The hearths in the west are all unusually large and well developed, with fire-reddening typically extending at least 8 cm into the sterile till (Fig. 4A). In contrast, hearths in the east are nearly all small and poorly developed extending 2–3 cm into the till at most. The major hearths in the west are all associated with one or more large storage pits, whereas no large storage pits occur in the east. Instead, an unusually high density of small pits and postholes occurs in the east part of the floor (Vol. III, Chap. 4). There is also a distinctive ledge or "bench" cut into the till along the eastern wall, whereas no such feature is apparent in the west.

Except for a small concentration of fish bone in the northwest, fish bone is overwhelmingly concentrated in the eastern half of the house (Fig. 5A). Although fragmented mammal bones (Fig. 5B) are more uniformly distributed around hearths on both sides of the house (except in the southwest sector), burned bone concentrates almost exclusively in the west half of the house. This may indicate little more than the fact that hearths in the west were more frequently used and scrap bone was therefore burned more frequently by accident; or it may indicate more roasting of meat with bones in the west half of the house.

In terms of lithics, most tasks seem to have been undertaken by residents on both sides of the house; however, there are some strong indicators of differential use and access roughly following the east-west division of hearths. Nearly all the cores are concentrated in the western sectors, together with a statistically significant preponderance of cherts, chalcedonies, primary flakes, and most large billet flakes in the west (Figs. 5C and D; Vol. II, Chap. 11; Spafford 1991:99–100, 109–110, 142–143). Teit (1909:645) recorded that "arrowstone" was a rare material, and therefore would presumably have been kept by those in control of house resources. Prentiss (Vol. I, Chap. 13) also observes a distinctive debitage pattern occurring only along the walls of the western part of the house involving a combination of bifacial and prepared core debitage. Finally, although only lithic tools from the Western sector of the floor were analyzed for use-wear, a surprising proportion of these tools displayed wear related to ochre preparation and the carving of soft stone materials (Vol. II, Chap. 3). While we have not been able to extend this analysis to other domestic areas, it seems highly unlikely that these activities would dominate the entire floor assemblage or even many sector assemblages. Both ochre preparation and soft stone carving (for pipes and sculptures) are likely elite activities and it even seems unlikely that they would occur to any significant extent in small, poor households.

How are these observations of differences between the east and west sides of the house to be interpreted? One suggestion is that special areas in the east constituted special activity areas for eating fish (although they were stored in the west) and that people preferentially kept cores and primary flakes in the west (although they were used everywhere). While there is at least one relatively good case to be made for a specialized activity area in one of the eastern sectors (to be discussed shortly), the explanation for the overall differences between the east and the west on the basis of specialized activities is unsatisfactory for several reasons. First, the basic similarity between all hearth areas on both sides of the house in terms of their associations with cooking rocks, anvils, abraders, conifer needles, debitage and artifact concentrations, simply is too strong to represent special activity areas. These similarities make much more sense in terms of domestic groups each with their own economic and food processing materials. Second, among all hunter/gatherers and tribal groups that I am familiar with, food is principally consumed around hearths (e.g., Bartram et al. 1991; Hayden 1979:147, 160). In HP 7, it seems clear that the largest and most frequently used hearths occur in the west, together with the storage pits where large amounts of salmon were kept. To explain the fish bone distribution pattern on the basis of activity areas would mean that everyone in the house stored and cooked their fish in the west and then that they *all* moved over to the east side of the house (where fires seem to have been seldom lit) in order to eat their fish. Moreover, this would contrast with their pattern of processing mammal bone which took place around most hearths.

Such a scenario seems highly improbable. A far more plausible explanation would involve several domestic groups congregating for most meal preparation and consumption in a few locations within the house and/or the preparation of meals by slaves or very low status members of the household as documented ethnographically in the discussion of HP 3. From this

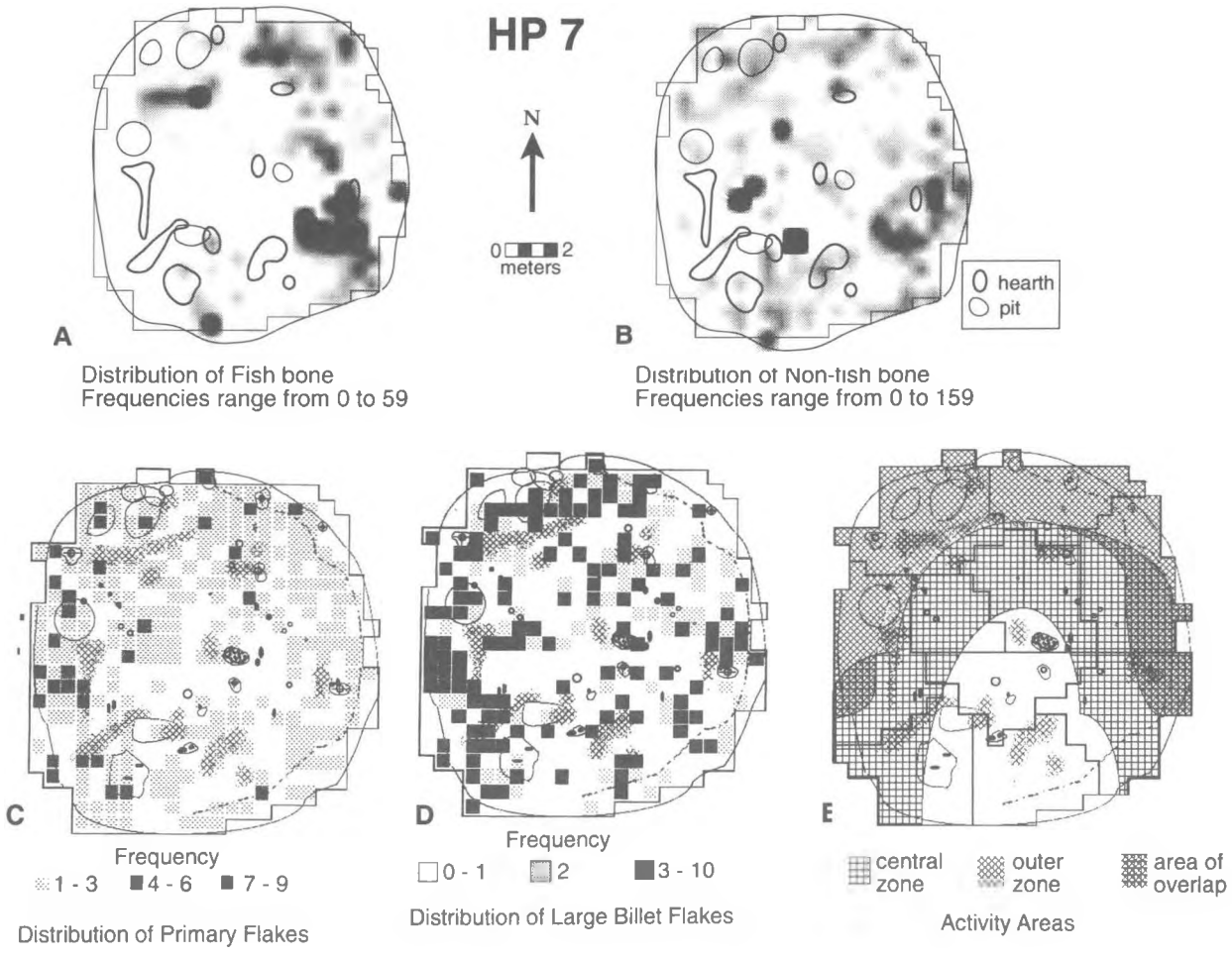

Figure 5: (A) Housepit 7 floor distribution of fish bone; (B) floor distribution of mammal bone; (C) floor distribution of primary flakes; (D) floor distribution of large billet flakes; (E) the division of the floor of HP 7 into basic lithic zones.

viewpoint it is not only interesting that archaeological houses in the Coast display a remarkably similar pattern of 2–3 loci with heavy food fauna concentrations in houses with six or more domestic hearth locations, but also that low ranking domestic groups on the Coast had more bone remains than the higher ranking ones (Samuels 1991:262–266; Huelsbeck 1994:53–58, 81). This last observation seems to parallel observations within HP 7 where the highest densities of fish bone and much mammal bone is associated with domestic groups that appear to be low ranking on the basis of other indications. While there is no simple explanation capable of accounting for all the patterning involved, the notion that most hearths on both sides of the floor were sleeping and activity areas for separate domestic groups and that there was a fundamental socio-economic division in the status of the domestic units on each side of the house seems to account for far more of the patterning observed than any alternative scenario.

In the first place, ethnographically, both on the coast and specifically in the Lillooet region of the Interior, there were separate social classes consisting of hereditary elites, commoners, and slaves. Secondly, ethnographies, stories, and myths of the Lillooet clearly refer to slaves and servants as living in the same house as their masters and undertaking menial house chores such as cooking, bringing firewood or water, and hideworking (Teit 1900:268; 1912a:242; 1912b:318, 320; Nastich 1954:23). Slaves also lived with their masters on the Coast where they could constitute half of a house's residents (Jewitt 1974:65). In the same vein, Drucker (1951:279–280) reports that at least some low ranked tenants or retainers occupied the same houses as elite families, while Bolscher (1989:50) reports that nobles always outnumbered commoners. These observations are remarkably similar to Teit's (1909:576) observation that one half to two thirds of some Interior groups were elite families. Ray (1942:228–229) also reports that slaves lived in the same house as their masters for *all* Plateau groups, although commoners sometimes lived apart from nobles. While it may not be entirely justifiable to infer prehistoric socioeconomic organization only on the basis of early historic behavior, the existence of such patterns in early historic times certainly makes it seem likely that the same type of basic organization could have occurred prehistorically especially when supported by archaeological patterning.

A third reason for accepting the interpretation that half of HP 7 was occupied by elites and half by low ranking families is that the same pattern has been documented in longhouses excavated at the Tualdad Altu and Meier sites on the Coast (James Chatters 1989:176–177; Ken Ames, personal communication). Given the strong contacts of the Lillooet region with the Coast and the overall similarities in economy and other aspects of social organization, these well documented Coastal occurrences lend support to the notion that similar basic residential and socioeconomic arrangements could have existed in the larger, more powerful, Interior corporate group houses.

Thus, the existence of privileged and disadvantaged domestic groups in the same house seems amply documented by the archaeological remains in HP 7, with the hearths in the west constituting the domestic areas of the families with inherited rights to the control of corporate affairs in the group, and in particular with inherited ownership rights to the best fishing locations (as ethnographically documented at The Dalles—Spier and Sapir 1930:175). If families residing in the west part of HP 7 had greater economic and social control within the pithouse, this would explain why their hearths were larger and more developed (assuming firewood was generally difficult to procure due to deforestation in the immediate vicinity of the site for winter fuel and house construction), why their domestic areas contained the only large storage pits in the house, why cherts and chalcedonies concentrate in the west, and why cores and primary flakes also concentrate in the west (assuming that lithic materials of all types were limited in supply and therefore valued).

The poorer status of the east may also explain why dart points occur predominantly in the eastern half of the house, assuming that bows and arrows were relatively recent introductions used initially by elites while the older, simpler, atlatl technology would have persisted longer among poorer residents (Vol. I, Chap. 3). Similar technological differences between the privileged half and the poorer half of large houses on the Coast have been documented by Chatters (1989: 176–177) and Ken Ames (personal communication). In both cases, the newer technologies (harpoons in one case, metal blades in the other case) are restricted to the privileged half of the houses while earlier hunting technologies characterize the poorer halves of the houses.

In addition, elite families would have had by far the greatest access to deer meat (Romanoff 1992b). In this respect the curiously elongated hearths in the southwest, west, and northwest sectors may well have been occasionally used for the drying of deer meat which was critical for the holding of potlatches (ibid.). Even today, as Desmond Peters demonstrated to me, elongated hearths are built under long meat drying racks for the jerking of deer meat (Fig. 6). Teit (1900:234) probably refers to these types of racks when he states that meat was dried on poles above fires inside lodges. Similarly elongated meat drying racks and hearths are also reported among other hunter/gatherers (Fisher

1993:257). As the least valuable part of any game brought into the house during the winter, many bones might be shared among all the domestic units in the house, elites, commoners, and favored slaves alike. Because of the rarity of winter kills, elites might also be expected to use some of the bones for soups. The sharing or recycling of bones from even the choicest cuts of meat with slaves was certainly practiced in colonial America (Crader 1990) and on the basis of the indications in HP 7, may have been a common strategy of elites to maintain the interest and loyalty of supporters without giving away the most desirable benefits of elite status. This may explain why all the identifiable artiodactyl remains occur in the east and central sectors. Given a similar low density of mammal bone in high ranking Coastal households, Samuels (1991:202) and Huelsbeck (1994:53) suggested that low ranking domestic habits may have left much more food refuse on housefloors whereas high ranking domestic areas may have been more meticulously cleaned. Samuels cites ethnographic support for this interpretation. Thus, status related cleanup behavior may also account, at least in part, for the differences in bone densities between the two sides of the HP 7 floor. On the other hand, these authors also suggest that bony portions of fish and meat may have been largely given to the poor.

Similarly, I have observed that there is a significant amount of meat which remains attached to the backbones of salmon after filleting. These backbones, or "neckties" are bundled up separately from the boneless fillets (Kennedy and Bouchard 1992:292, 294; Romanoff 1992a:235). Most people today do not even bother keeping the backbones since they are no longer essential for survival. Backbones were probably considered less desirable as food than the fillets undoubtedly because of the small amount of food on them and the effort necessary to extract the dried flesh. Thus, given the abundance of dried salmon in most years, it does not seem surprising that elite families would prefer to eat only the dried boneless fillets and would pass on most of the less desirable backbones to lower status members of the household. Nastich (1954:46) records that Lillooet slaves were given only "leftovers" to eat. Even in contemporary industrial society elites tend to eat prime boneless cuts while lower classes eat cuts with large amounts of bone and even buy soup bones (William Rathje, personal

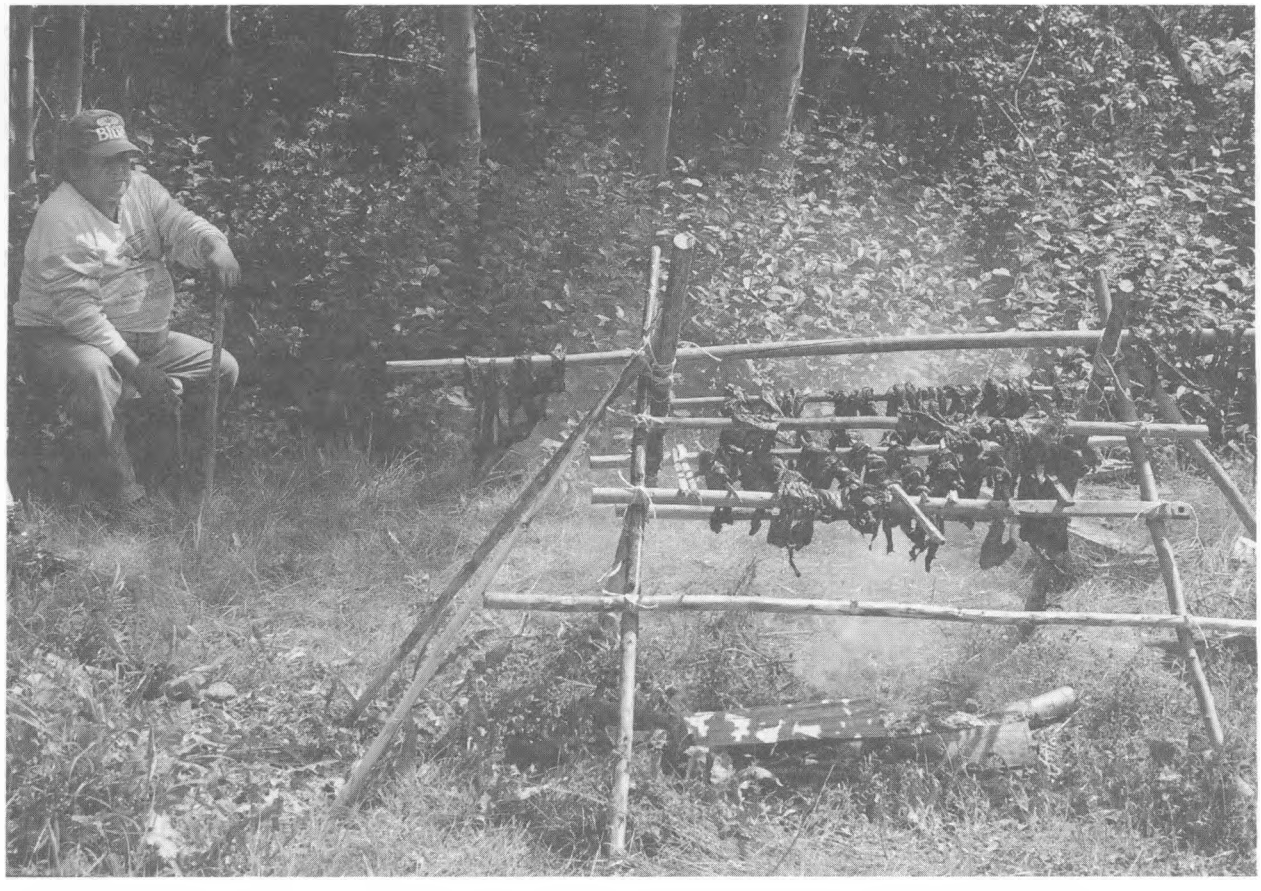

Figure 6: A traditional wood frame made by Desmond Peters, Senior (in photo) for drying and smoking deer meat. Note the elongated form of both the frame and the hearth. Similar elongated hearths occur on the floor of HP 7 (see Fig. 4A).

communication). Ironically, this would mean that for salmon the absence of bone might indicate either extreme wealth (because only boneless fillets were consumed) or extreme poverty (because everything, even the bones, was consumed). On the basis of the floor distribution of salmon bones in HP 7, it appears to have been largely commoners and slaves in well-off households which ate the meat adhering to the salmon backbones, but felt satisfied enough (and were careless enough) to discard some of the remaining bones without boiling them up in soups. Most such bones were undoubtedly gathered up periodically and thrown on the roof for dogs to eat, however enough random pieces escaped housecleaning to provide striking distributional patterns across the floor of HP 7.

One of the duties of slaves was to cook for the families in the house of their owners (Teit 1912a:242), and the dense concentrations of salmon bones in the eastern sectors of the HP 7 floor may also represent general cooking or food preparation activities on the part of slave or low ranking families for general household consumption although the small and weakly developed hearths in the east half of the house argue against this interpretation. An alternate possibility might be that the vertebrae on the floors which are dominated by pink salmon, represent fish caught and eaten during the late fall pink runs by the commoner residents of the houses while the higher status families traveled into the Montane Parklands for the most productive and valuable hunt of the year.

Finally, because the eastern half of HP 7 is actually dug out of the side of a terrace slope, it was most susceptible to water seepage and even some roof collapse as revealed in the strata (Vol. III, Chap. 4). This provides a good practical reason why the eastern half of the HP 7 floor might be a less desirable location for domestic residences, and why elite families would have avoided the area. It also may explain why an earthen bench was created (i.e., to reduce seepage problems).

Specialized Activity Areas

These considerations are also potentially relevant in considering possible specialized activity areas. There are three of these: the northeast sector, the western floor center, and the southern floor center. In addition, different kinds of activities characterize the areas between the hearths and the walls versus the areas between the hearths and the center of the house.

Perhaps partly due to seepage and roof problems, but perhaps largely due to lighting considerations, the northeast sector of HP 7 (like the northeast sector of HP's 3 and 12) appears to have been a periodic place where people would congregate for craft activities. This may also have been the sector in which a side entrance could have been located. Whether or not it was also the residence of a lower status domestic group is difficult to determine, but the low incidence of fire cracked rock (Fig. 4B) associated with this hearth and the unusually low incidence of unidentifiable mammal remains (indicating, as does the analysis of heavy fractions of flotation samples, that little bone reduction occurred here—see Vol. II, Chap. 9) together with the high fish bone concentrations (possibly from snacking), the unusually high concentration of beaver incisors (associated with woodworking), and the emphasis on primary flakes to the almost complete detriment of billet flakes (Vol. I, Chap. 13; Spafford 1991:110), all make this sector appear unusual enough to warrant the suspicion that it was used as a special activity area. Prentiss (Vol. I, Chap. 13) also thinks that the neighboring, eastern sector may have been used as a corridor zone, but there are few other supporting indicators for this interpretation. Although the possibility of a family engaged in specialized craft activities associated with their domestic area in the northeast sector cannot be definitively ruled out, the suspected similar specialized activity areas in the northeast sectors of HP's 3 and 12 make this seem less likely.

Sometime before the abandonment of the house, a large amount of roof soil evidently collapsed down onto the floor of this sector and was never removed, but seems to have simply been left as a sloping intrusion onto the floor from the wall. While the roof was undoubtedly repaired, this made the northeast sector unfit for much besides refuse accumulation or storage, which may also explain some of the artifactual and faunal characteristics of the sector. The intrusion of the roof into the northeast sector may also explain the presence of what otherwise appears to be a relatively normal domestic hearth and associated artifactual suite in the northeast center of the floor. That is, a small domestic group being unable to occupy the northeast sector due to the accumulation of roof collapse may have simply set up residence somewhat further toward the center of the floor, away from the collapsed roof material.

The west central sector of the floor seems like an unlikely location for a domestic residence, and may have been simply an extension of the use of the floor by residents of the west and northwest sectors since it falls entirely within Spafford's "central zone" (Fig. 5E) as does the east central sector. In fact, the entire central area of the floor exhibits a distinctive debitage profile which Prentiss interprets as debitage from a combination of prepared core and bipolar reduction (Vol. I, Chap. 13).

The south central sector is perhaps the clearest example of a special activity area, but this is due to the

extreme paucity of all classes of archaeological remains. The only obvious explanations for such a stark contrast with the rest of the floor involve high degrees of foot traffic as might occur at the bottom of a ladder, or a special ritual space such as the heads of Mandan pithouses systematically established (Wilson 1934). Although the loam that occurs primarily in this sector is probably a naturally occurring deposit within the till gravels, it may well have helped determine the house location. Grant Keddie (personal communication) informed me that at Canoe Creek, Jack Koster and his wife reported that "clay" was traditionally put on floors for dancing and that only larger houses were used for dancing. Given the absolute rarity of clay in the Interior, Koster may have been referring to fine loam or silt. Teit (1909:610, 669) also states that large houses were used for dancing and feasting, which would also make sense if they were the richest houses. The Pomo also put clay on dance areas in pithouses (Barrett 1975:49). In this respect, it is probably more than coincidental that HP 1, one of the largest houses at Keatley Creek, also has a loam floor in its south central sector, and in this case the loam may have been introduced or at least been displaced laterally.

While the identification of specific sectors as specialized activity areas is difficult and ambiguous at best in HP 7, it is more clearcut in HP 3, and still more apparent in HP 12. On the other hand, in HP 7, for each domestic area there is quite clear evidence for the use of the wall area (between the hearths and the wall), versus the central areas (on the opposite side of the major hearths (i.e., toward the house center) for different activities. Conifer needles, grass and chenopod seeds, debitage, cores, expedient knives, large billet flakes, primary flakes, projectile points, and heavily retouched scrapers all concentrate largely in the outer zone between the hearths and the house walls. Some of these occurrences appear to represent sleeping and storage activities. Ethnographic accounts from many groups report the use of raised wooden platforms for sleeping or the placing of a log parallel to the wall with the space between the log filled with boughs (Teit 1906:213; 1909:676; 1909:678; Laforet and York 1981:120; Bouchard and Kennedy 1973; 1977:64; 1985:35; Kennedy and Bouchard 1977:Tape 1; 1978:36). Platforms might be made of poles or planks (such as those recovered in HP 3). It seems highly likely that poorer small houses might only use mats placed directly on the ground for sleeping as described by Isaac Willard for the Adams Lake region (Kennedy and Bouchard 1987:262). It is difficult to tell how widespread each of these practices may have been prehistorically since raised sleeping platforms generally do not seem to leave clear archaeological indicators.

There is considerable evidence that the areas under the sleeping platforms and/or behind them, along the walls, were used for storage as a general practice throughout western North America (Hill-Tout 1978b: 109; Barrett 1975:39; Binford 1983:164, 180). These areas contained both food and personal effects. Other storage areas for more bulky items and food soon to be consumed, existed in the form of pole shelves or series of hooks that ran around the house or were at least part of every domestic area (Teit 1906:213; 1909:688; Laforet and York 1981:120; Kennedy and Bouchard 1987:262). In the largest houses, it is possible that some shelf-like constructions became substantial platforms or lofts which were also used as landings for entrance ladders. Such a feature could account for the line of large posts near the center of the floor in HP 7.

Binford reports that Eskimos used their sleeping areas as work and eating areas where significant amounts of refuse were left. On the Coast, Maugher (1991:72) ethnographically and archaeologically identified wall benches as used for sleeping and work. This is precisely the pattern that occurs at Keatley Creek where, as is clear from the concentration of debitage near the wall areas, active manufacturing and use of objects also took place, perhaps while seated on bedding materials (Vol. I, Chap. 13; Vol. II, Chaps. 2, 7, 9, 11).

A very different suite of objects clusters on the other side of the hearths facing the center of the floor. In this zone, the greatest concentration of non-food seeds, fire cracked rocks, utilized flakes, biface fragments, notches, drills, perforators, small piercers, and spall tools occurs. Many of these tools appear to be associated with activities that generate messy wastes (boiling, butchering, defleshing or stretching wet skins [Teit 1900:185], shaving wooden shafts) or which probably involved the working of cumbersome objects requiring more free space. Many of the activities carried out in the "central zone" may have been carried out by women (especially food preparation, boiling, and hide working) and thus the central zone could constitute a sexual division of work space similar to that described for the Eskimo by Binford (1983:180). However, other central zone activities, represented by unusual numbers of notches and bifaces, were more likely carried out by men (Vol. I, Chap. 12). It seems reasonable to assume that men did most woodworking, and manufacturing of items used in hunting and fishing and warfare, while women processed most food, hides, and made mats and baskets (Vol. II, Chap. 2; Teit 1900:182, 185, 297; Turner 1992:425, 433). Hides were dressed inside houses during cold weather. There also appears to be a mixture of male and female activities represented in the outer zone, or wall area, assuming that most debitage was generated by men and that expedient knives were used

by women for cutting or tailoring buckskin. The possibility that many of the items in this outer zone were stored rather than used here makes activity inferences involving many tools and primary flakes less certain. Nevertheless, given all of the above observations, it might be suggested that there is a basic sexual division of space represented in the artifact distributions. I would suggest that cooking rocks and anvil stones are likely to be strongly related to a major female activity locus, while the sleeping and lounging activity area near the wall were occupied by males during meals and used by them for the performance of many activities due to the relatively higher status of males in the households (Vol. II, Chap. 16). Traditional stories indicate that women generally occupied areas *opposite* from men across the hearths and that the men reclined on mats (Teit 1909:674; 1912a:237; 1917:23). These accounts seem to be reflected in the concentration of fire cracked rocks on the sides of the HP 7 hearths opposite the sleeping areas. Thus, the archaeological interpretations of the sexual division of space seem reasonably well grounded.

Domestic Status and Specialization Differences

In addition to the most striking material patterns that seem to be associated with domestic groups, class differences, and activity areas, there are also other differences between floor sectors where separate domestic groups seem to have resided. These differences seem to be most easily explained in terms of varying economic aptitudes, preferences, and relative socioeconomic positions within the household hierarchy.

One of the aspects of Australian Aboriginal life that I found most interesting during my ethnoarchaeological work there was the striking variability in individual craft preferences and abilities (Hayden 1979). Within the egalitarian Aboriginal communities, not everyone performed the same tasks or did them with the same frequencies. Some individuals were better hunters, some were better at stone knapping, some were better at woodworking. Generally those who were best at a specific task did most of this kind of work for their close kin and friends, and everyone shared what they could produce. This did not mean that individuals who were less gifted at stone tool production never engaged in stone knapping or could not produce tools that would work, but they did significantly less of this work than those who were good at such tasks. I observed similar idiosyncratic variability in abilities and material patterning between households in my ethnoarchaeological work among Highland Maya Indians (Hayden and Cannon 1982, 1984). I believe that the vast majority of the residual variability in debitage and artifact types between floor sectors within HP's 7 and 3 (i.e., variability beyond the underlying 50% similarity in tool types between floor sectors) is due to just such idiosyncratic factors as well as the vagaries of chance in determining what tools are lost, discarded, not removed with refuse, displaced, mixed with other strata during excavation, recognized as artifacts during excavation, and consistently (as well as accurately) classified.

However, beyond the idiosyncratic and randomizing noise that can be expected to occur between domestic groups, there are indications of more pronounced differences that cannot be as easily explained by such factors. Clearly, personal preferences and idiosyncrasies grade imperceptibly into economic specializations, and it is not always possible to recognize the dividing line, but examination of the issue is worthwhile.

As in HP 3, the strongest case that can be made for specialized economic or socioeconomic roles involve the southern sector and the northwestern sector. As in HP 3, the southern sector of HP 7 stands out primarily due to the lack of materials. In HP 3, this involved a lack of fish bone; in HP 7, there is a general lack of everything except hearths and fragmented mammal bone, and a fragment of nephrite ornament or tool in the sector's storage pit. This lack of objects extends to the center of the floor. The presence of dense conifer needles and some tools in the southern sector make it appear that some domestic activities were occurring here, but much less of the banal work that typifies the rest of the house seems to have taken place there. In fact, the entire pattern of complementary activities on the wall vs. central sides of the main hearths breaks down and disappears in the southern sector (Fig. 5E). Similarly, in our chemical analyses, the high calcium soil values that characterize the other hearth areas are absent around the southern sector hearth, leaving a conspicuous "hole."

To explain this material patterning, it is worth noting that one general cross-cultural trend which emerges with increasing concentration of political power is that political leaders and their families spend increasing amounts of their time in organizing and administrative activities and much less of their time in mundane subsistence activities. In fact, they generally try to distance themselves from commoners by avoiding such work (Krause 1956:109; Arima 1983:69–70; Oberg 1973:25, 30, 87; Swanton 1909:50; Garfield 1966:16; Romanoff 1992b:490, 497). The chiefs of most ethnographic Plateau groups, including the Lillooet, even had a special spokesmen that served them as heralds and orators, presumably so that they would not have to address commoners directly (Ray 1942:229). I suspect that this special status of the house chief and

his exemption from common work may be the reason that there is so little material in the south sector.

Some people have suggested that because pithouses are round there should be no preferred orientation by which internal hierarchies could be arranged. However, in the case of HP 7, seepage along the east wall may have provided one such structuring principle. Moreover, before any excavations had begun at the site, we had postulated that the southern sectors might be the preferred domestic areas within pithouses because the roof and soil of the south would be warmed by the winter sun rendering the southern spaces inside the pithouses slightly more comfortable in winter. Notable differences in ambient temperatures occur in adobe rooms according to their orientation to the sun (Thomas 1988:576), and it seemed probable that similar variation could occur inside pithouses.

In addition, as analysis proceeded, it became apparent that lighting might also play an important role in structuring relative residential positions within pithouses. Winter light would certainly best illuminate the north and especially the northeast sectors inside the pithouses, leaving the southern sectors in relative obscurity. This factor might make the south most desirable for two reasons. First, the most desirable area for people to congregate to carry out craft activities would be in or around the northeast. Chiefs or elites who wanted to distance themselves from commoners might not want to reside near such activity areas. Second, it appears to be a cross-cultural pattern that individuals of highest status in a household reside farthest from the entrance to the house (e.g., Arima 1983:62; Sproat 1987:93–94; Kan 1989:90; Emmons 1982:78, 80; Frayser 1985:166; Wilson 1934:363; Deal 1987:77–78; Loude and Lievre 1984:58). The same locational pattern also seems to characterize sacred areas in houses, which are frequently also the places where the most important families reside. This is probably for defensive and security reasons, but is also undoubtedly related to the innate feeling that those of most importance should not be readily accessible to any friend or foe. I assume that the best place to enter a pithouse would have been with the ladder descending in the north or east where, again, the lighting would have been the best. This would allow those entering to see better, and it also allowed residents in the southern shadows to determine more easily who was entering the pithouse and what their intentions were without having to reveal themselves. From these perspectives, the south would have been the best place to reside. Thus, if side entrances were present in HP's 3 or 7, they could be expected to occur in the north or northeast sector. Such an entrance might be related to the roof slump in the floor of HP 7 in the northeast sector.

If the south sector was the domestic area of the house chief, with a possible ritual and dancing or performance area in front of him that utilized the large naturally occurring patch of glacial loam forming the center floor, it might be expected that the hearths immediately flanking him on either side would be occupied by fairly high ranking families to the west and special status commoners or slaves to the east. Given the strong oral and ethnographic traditions of multiple wives for the most wealthy and powerful men in Lillooet communities (Teit 1900:326; Romanoff 1992b:479; Nastich 1954:61), the southwest sector and the southeast sector may have well been occupied respectively by a high-ranking elite wife and a concubine or slave or a family of slaves. In fact, Teit (1898:59) recorded an account in which multiple wives resided on either side of their husband in a housepit. Slaves were primarily women (Teit 1930:277) and slave women were frequently taken as secondary wives (see Kennedy and Bouchard 1977:Tape 4; Kamenskii 1985:49). Slaves could be expected to occupy the least desirable locations within a pithouse, however, favored slaves or slave wives might be expected to reside immediately adjacent to chiefs to protect them or to act as a buffer. Such favored status may explain the unusual concentrations of fish bones and spall tools in the southeast. As noted in the discussion of HP 3, slaves performed all the most onerous tasks including food preparation. On the other side of the suggested chief's domestic area, the southwest sector is remarkable in terms of its general absence of fish and mammal bone (although analysis of heavy fractions of flotation samples indicates that these remains were consumed in the sector and concentrations of potassium and phosphorous indicate that it was one of four major food preparation or consumption areas in the house (Vol. II, Chaps. 6 and 9) accompanied by one of the few real concentrations of charred seeds away from the wall (Vol. II, Chap. 4). A similar concentration of seeds occurred in the southwest sector of HP 3. One of the few charcoal concentrations occurs in this sector possibly indicating that it was one of the few hearths to be used on a more regular basis. Two of the largest storage pits are also found in this sector. In Pomo multi-family houses, a single hearth was used by all women in the structure for jointly baking a large bread which was then shared (Barrett 1975:39). The communal use of the Pomo hearth was due to the need for a large fire for baking. In HP 7, the concentrations of plant food seeds around only one or two locations (including the southwest sector) may represent a similar situation although there is no indication that bread *per se* was used at Keatley Creek. Interestingly, among the Pomo, the hearth used for baking reverted to normal floor use between bakings, a pattern that also seems common at Keatley Creek, especially in HP's 3 and 7.

Kusmer interprets the lack of large bones in the southwest sector in comparison to small fragments as evidence for intensive trampling; however the concentration of meso-sized bones (1–10 mm) found in the south and southwest sectors are denser and more wide-spread than those of other sectors (Vol. II, Chap. 9). Thus, meticulous idiosyncratic care in cleaning up food refuse may equally well explain the absence of bone remains in the southwest sector of HP 7. On the Coast, Samuels (1991:202) and Huelsbeck (1994:53) cite early historic accounts to the effect that commoner households were "incomparably" more filthy than those of higher status households. They suggest that greater cleanliness and more systematic removal of food refuse among higher status families may explain the lower density of mammal bone in the coastal high status houses.

The other likely location for a domestic area in HP 7 reflecting special status or involved in a specialized economic activity is the northwest sector, situated more or less opposite to the southern sector—similar to the suggested opposition of high status domestic areas in HP 3. As in HP 3, there is an indication that some of the occupants of HP 7 were more involved in hunting than other residents. Notably, the evidence for bone processing, the unusually large and numerous anvil stones, and the unusual variety of faunal remains associated with the northwest sector of HP 7 seem to reflect very successful hunting or unusual status. Faunal remains in this sector include: grizzly bear, deer, red fox, mussel shell, and sheep. Furthermore, the multiple large storage pits in this sector contained dentalium shells, copper, and a large collection of dog remains representing at least eight individuals, while storage areas along the wall contained a cache of spall tools. In addition, as in HP 3, the distribution of charcoal indicates that the hearth in this sector was one of the most intensively used hearths during the terminal occupation, if not the most intensively used, and it is associated with the only other concentration of burned seeds away from the walls besides the concentration in the southwest sector. In sum, one or more of the residents in the northwest sector seem to have been unusually active in economic activities in general, and hunting and trading and possibly ritual activities in particular. In terms of productivity, this appears to be the strongest domestic area in HP 7, and it is perhaps not inappropriate that it is situated in opposition to the other area that appears to warrant consideration as the residence of a high status domestic group. This may be comparable to the archaeological identification of separate administrative and executive roles for domestic groups in the houses at Ozette on the Coast (Gleeson et al. 1979). It is also worth noting that ethnographically, Jewitt (1974:50) observed that the next in rank to the house chief resided "opposite" the chief, "on the other side" of the house. Drucker (1951:279–280) recorded a similar opposing location of elites in Coastal houses, and this same arrangement may well have characterized Interior pithouses. Perhaps one or more residents in the northwest sector of HP 7 were specialized hunters or warriors or both, and as such were given the responsibility of protecting the base of the entrance ladder in the north of the house. As very high ranking families, they may also have had slaves or lower class concubines residing in the sector with them, which may account for the anomalously high density of fish bones in this sector compared to other sectors in the west part of the house.

Summary of Housepit 7

In sum, there are fairly sound indicators that 7–8 domestic groups resided in HP 7 arranged in a circular fashion around the periphery of the floor with another possible group residing in the center of the floor in the north. The west half of the house appears to have been occupied by hereditary elite families that held title to corporate group resources, while poorer commoner families and/or slaves occupied the eastern half and perhaps some parts of the north central floor space. In many respects this corporate group organization can be viewed as a kind of forerunner of modern corporate organization, especially family-based corporations. The hereditary elite occupied the roles of principal shareholders and decided corporate policies amongst themselves with the house chief being the principal administrator. Commoners occupied the roles of employees with varying amounts of economic and political leverage in corporate affairs depending on the circumstances.

The northeast sector and parts of the central floor are the most likely areas to have served as communal activity areas. Domestic areas were clearly divided into two complementary activity areas on either side of the hearth: the bedding areas against the walls being used for smaller, lighter crafts and storage, and for snacking on dried salmon backbones, while the more central side of the hearths were used for cooking and more waste-producing activities. Within the elite series of domestic groups on the west side of the house, the southern and northwestern sectors appear to be the most likely candidates for economically (the northwest) and politically (the south) specialized roles, with the possibility of multiple wives or slaves associated with each area.

From the distribution of artifact types such as bone awls, endscrapers, spall tools, projectile points, bipolar cores, perforators, bifaces, notches, scrapers, and expedient knives, as well as the widespread distribu-

tion of prepared core reduction debitage, bifacial reduction debitage, resharpening debitage, with the widespread culling of acute and steep edged flakes across the floor (Vol. I, Chap. 13; Vol. II, Chap. 11) it is apparent that certain basic manufacturing tasks were distributed more or less uniformly among all domestic groups throughout the household—except for those in the southern sector.

Overview

Combining all of the material patterning at our disposal, it has been possible to propose a number of interpretations about the socioeconomic structure of different sized housepits at Keatley Creek. I feel the basic interpretations are quite sound and are well supported by the data. These basic conclusions include the notion that residents of small housepits ranged from rich (probably specialists) to poor. The socioeconomic organization of the poorer households was relatively egalitarian with many activities conducted on a communal basis, similar to the socioeconomic organization of generalized hunter/gatherers. Material patterning on the floors of these housepits therefore reflects activity locations rather than social or economic groups or hierarchies.

In contrast, large houses were groups of hierarchically organized domestic units. Material patterning on the floors of large housepits, therefore, is dominated by repeated configurations representing individual domestic groups, and is further characterized by a two or three tier hierarchical division of domestic groups into hereditary owners, low ranking tenant groups, and possibly a household administrator or chief's domestic group. Medium sized housepits exhibit intermediate characteristics of both small (communal) and large (hierarchical) housepits. Given the stability in the position of large storage pits, large postholes, and hearths over time, the basic organization of large housepits seems to have been remarkably static for over 1,000 years.

Extending this interpretive exercise into a slightly more speculative realm, it seems likely that some material patterning reflects the specialized status of several domestic groups in the large household, including hunters (and/or warriors), household administrators and their secondary wives (and/or slaves). It also seems likely that residents of rich small households were specialists (hunters, or shamans) underwritten either directly or indirectly by large wealthy households.

After documenting these socioeconomic interpretations in more detail in the following chapters, it will be possible to proceed to examine the broader implications and interpretations of the FRICGA project results in the final chapters of this volume.

References

Albright, Sylvia
1984 *Tahltan Ethnoarchaeology.* Burnaby, British Columbia, Archaeology Dept., Simon Fraser University Publication No. 15.

Arima, E.Y.
1983 *The West Coast People. The Nootka of Vancouver Island and Cape Flattery.* British Columbia Provincial Museum Special Publication No. 6. Provincial Museum, Victoria.

Ayres, William, Osamu Kataoka, and Rufino Mauricio
1992 Dietary and Social Context of Prestige Fish, Pohnpei, Micronesia. Paper delivered at the Fifty-Seventh Annual Meetings of the Society for American Archaeology.

Barrett, S.A.
1975 Pomo Buildings. In R. Heizer (Ed.), *Seven Early Accounts of the Pomo Indians and Their Culture,* pp. 37–63. Archaeological Research Facility, Department of Anthropology, University of California, Berkeley.

Bartram, Laurence, Ellen Kroll, and Henry Bunn
1991 Variability in Camp Structure and Bone Food Refuse Patterning at Kua San Hunter-gatherer Camps. In E. Kroll and T.D. Price (Eds.), *The Interpretation of Archaeological Spatial Patterning,* pp. 77–148. Plenum Press, New York.

Binford, Lewis
1983 In *Pursuit of the Past.* Thames and Hudson, New York.

Boas, Franz
1900 Art. In The Thompson Indians of British Columbia by James Teit. *Memoirs of The American Museum of Natural History,* 2(4):376–386.

Bolscher, Marianne
1989 *The Curtain Within: Haida Social and Mythological Discourse.* University of British Columbia Press, Vancouver.

Bouchard, Randy, and Dorothy Kennedy
1973 Lillooet Stories. Manuscript on file with The British Columbia Indian Language Project, Victoria, B.C.

Bouchard, Randy, and Dorothy Kennedy
1977 Lillooet Stories. *Sound Heritage* 6(1):1–78.

Bouchard, Randy, and Dorothy Kennedy
1985 Lakes Indian Ethnography and History. Unpublished report prepared for The Archaeology Branch, British Columbia Ministry of Culture, Tourism, and Small Business, Victoria, B.C.

Cannon, Aubrey
1983 The Quantification of Artifactual Assemblages: Some Implications for Behavioral Inferences. *American Antiquity* 48:785–92.

Chatters, James
1989 The Antiquity of Economic Differentiation Within Households in The Puget Sound Region, Northwest Coast. In Scott MaCeachern, D. Archer, and R. Garvin (Eds.), *Households and Communities,* pp. 168–

78. Archaeological Association, University of Calgary, Calgary.

Condrashoff, Nancy
1972 House Types of The Shuswap—Ethnographic Information on the Shuswap Indians of British Columbia. Manuscript on file with The Royal British Columbia Museum, Victoria, B.C.

Condrashoff, Nancy
1980 The Pithouse. Manuscript on file with The Royal British Columbia Museum, Victoria, B.C.

Crader, Diana
1990 Slave Diet at Monticello. *American Antiquity* 55:690–717.

Cunliffe, Barry
1986 *Danebury: Anatomy of An Iron Age Hillfort.* B.T. Batsford, London.

Deal, Michael
1987 Ritual Space and Architecture in The Highland Maya Household. In Daniel Ingersol and G. Bronitsky (Eds.), *Mirror and Metaphor: Material and Social Constructions of Reality,* pp. 175–190. University Press of America, Lanham, Maryland.

Drucker, Philip
1951 *The Northern and Central Nootkan Tribes.* Smithsonian Institution Bureau of American Ethnology Bulletin 144. Washington, D.C.

Emmons, George
1982 The Whale House of Chilkat. In Andrew Hope, III (Ed.), *Raven's Bones.* Sitka Community Association, Sitka, Alaska.

Fisher, John, Jr.
1993 Foragers and Farmers: Material Expressions of Interaction at Elephant Processing Sites in The Ituri Forest, Zaire. In Jean Hudson (Ed.), *From Bones to Behavior.* Center for Archaeological Investigations, Occasional Paper No. 21, Southern Illinois University, Carbondale.

Frayser, Suzanne
1985 *Varieties of Sexual Experience.* Hraf Press, New Haven, Connecticut.

Garfield, Viola
1966 The Tsiomshian and Their Neighbors. In Viola Garfield and P. Wingert (Eds.), *The Tsimshian Indians and Their Arts.* University of Washington Press, Seattle.

Gleeson, Paul, Mark Fleischer, and G. Gamble
1979 Economic Roles of Nootkan Intrahouse Ranked Positions. Paper presented at the Annual Meetings of The Society for American Archaeology, Vancouver, B.C.

Goldman, Irving
1940 The Alkatcho Carrier of British Columbia. In Ralph Linton (Ed.), *Acculturation in Seven American Indian Tribes,* pp. 333–386. Appleton-Century-Crofts, New York.

Hayden, Brian, and Aubrey Cannon
1982 The Corporate Group as an Archaeological Unit. *Journal of Anthropological Archaeology* I:132–158.

Hayden, Brian, and Aubrey Cannon
1984 *The Structure of Material Systems: Ethnoarchaeology in the Maya Highlands.* Society for American Archaeology, Saa Papers No. 3, Washington, D.C.

Hayden, Brian, Edward Bakewell, and Rob Gargett
1996 The World's Longest-lived Corporate Groups: Lithic Sourcing Reveals Prehistoric Social Organization Near Lillooet, British Columbia. *American Antiquity* 61:341–356.

Hayden, Brian
1979 *Paleolithic Reflections: Lithic Technology of the Western Desert Aborigines.* Australian Institute of Aboriginal Studies, Canberra.

Hill-Tout, Charles
1978a *The Salish People. (Vol. 1): The Thompson and the Okanagan.* Talonbooks, Vancouver.

Huelsbeck, David
1994 Mammals and Fish in the Subsistence Economy of Ozette. In Stephan Samuels, (Ed.), *Ozette Archaeological Project Research Reports, Vol. 2: Fauna,* pp. 17–92. Washington State University, Anthropology Department, Reports of Investigations 66, Pullman, and National Park Service, Seattle.

Jewitt, John R. (Derik Smith, Ed.)
1974 *The Adventures and Sufferings of John R. Jewitt, Captive among the Nootka, 1803–1805.* McClelland and Stewart Ltd., Toronto.

Kamenskii, Anatolii
1985 *Tlingit Indians of Alaska.* University of Alaska Press, Fairbanks.

Kan, Sergei
1989 Why the Aristocrats were "Heavy" or How Ethnopsychology Legitimized Inequality among the Tlingit. *Dialectical Anthropology* 14:81–94.

Kennedy, Dorothy, and Randy Bouchard
1977 (transcript 1997). *Lillooet Ethnography Discussions,* Tapes 1–8. Discussions of Lillooet ethnography, with Charlie Mack, Sam Mitchell, Slim Jackson, and Baptiste Ritchie. Manuscript on File with the Xaxli'p (Fountain) Indian Band and the B.C. Indian Language Project, Victoria, B.C.

Kennedy, Dorothy, and Randy Bouchard
1978 Fraser River Lillooet: An Ethnographic Summary. In Arnoud Stryd and Stephen Lawhead (Eds.), *Reports of The Lillooet Archaeological Project,* pp. 22–55. Mercury Series, No. 73. National Museum of Man, Ottawa.

Kennedy, Dorothy, and Randy Bouchard
1987 *Notes on Sahhaltkum Ethnography and History.* Arcas Associates Report, Port Moody, B.C.

Kennedy, Dorothy, and Randy Bouchard
1992 Stl'atl'imx (Fraser River Lillooet) Fishing. In Brian Hayden (Ed.), *A Complex Culture of the British Columbia Plateau,* pp. 266–354. University of British Columbia Press, Vancouver.

Krause, Aurel
1956 *The Tlingit Indians.* University of Washington Press, Seattle.

Laforet, Andrea, and Annie York
1981 Notes on the Thompson Winter Dwelling. In Donald Abbott (Ed.), *The World is as Sharp as a Knife: An Anthology in Honour of Wilson Duff.* British Columbia Provincial Museum, Victoria.

Lightfoot, Kent, and Gary Feinman
1982 Social Differentiation and Leadership Development in Early Pithouse Villages in the Mogollon Region of the American Southwest. *American Antiquity* 47:64–85.

Loude, Jean-Yves, and Viviane Lievre
1984 *Solstice Paien: Fetes D'hiver Chez Les Kalash Du Nord-Pakistan.* Presses De La Renaissance, Paris.

Lubinski, Patrick
1996 Fish Heads, Fish Heads: An Experiment on Differential Bone Preservation in a Salmonid Fish. *Journal of Archaeological Science* 23:175–181.

Maugher, Jeffrey
1991 Shed-Roof Houses at Ozette and in a Regional Perspective. In Stephan Samuels (Ed.), *Ozette*

Archaeological Project Research Reports. Vol. 1: House Structure and Floor Midden, pp. 29–174. Washington State University Department of Anthropology Reports of Investigations 63, Pullman, Washington.

Nastich, Milena
1954 The Lillooet: An Account of the Basis of Individual Status. Unpublished M.A. Thesis, Department of Economics, Political Science, and Sociology, University of British Columbia.

Netting, Robert
1982 Some Home Truths on Household Size and Wealth. *American Behavioral Scientist* 25:641–662.

O'leary, Beth
1985 *Salmon and Storage: Southern Tutchone use of an Abundant Resource*. Government of the Yukon, Heritage Branch, Occasional Papers in Archeology No. 3.

Oberg, Kalervo
1973 *The Social Organization of the Tlingit Indians*. University of Washington Press, Seattle.

Peterson, Nicolas
1968 The Pestle and Mortar: An Ethnographic Analogy for Archaeology in Arnhem Land. *Mankind* 6:567–570.

Ray, Verne
1942 *Culture Element Distributions: XXII; Plateau*. University of California, Anthropological Records 8(2).

Richards, Thomas, and Michael Rousseau
1987 *Late Prehistoric Cultural Horizons on the Canadian Plateau*. Department of Archaeology, Simon Fraser University Publication No. 16, Burnaby, British Columbia.

Romanoff, Steven
1992b The Cultural Ecology of Hunting and Potlatches Among the Lillooet Indians. In Brian Hayden (Ed.), *A Complex Culture of the British Columbia Plateau*, pp. 470–505. University of British Columbia Press, Vancouver.

Samuels, Stephan
1991 Patterns in Ozette Floor Middens: Reflections of Social Units. In S. Samuels (Ed.), *Ozette Archaeological Project Research Reports: Vol. 1: House Structure and Floor Midden*, pp. 175–270. Washington State University, Department of Anthropology Reports of Investigations 63, Pullman.

Shnirelman, Victor A.
1994 Cherchez le Chien: Perspectives on the Economy of the Traditional Fishing-oriented People of Kamchatka. In E.S. Burch, Jr. and L.J. Ellanna (Eds.) *Key Issues in Hunter-Gatherer Research*, pp. 169–189. Berg Publishers, Oxford.

Spafford, Jim
1991 Artifact Distributions On Floors and Social Organization in Housepits at The Keatley Creek Site. Unpublished M.A. Thesis, Archaeology Department, Simon Fraser University, Burnaby, B.C.

Spier, Leslie, and Edward Sapir
1930 *Wishram Ethnography*. University of Washington Publications in Anthropology 3.

Sproat, Gilbert
1987 *The Nootka*. Sono Nis Press, Victoria, B.C.

Swanton, J.R.
1909 (Reprinted 1975). Contributions to the Ethnology of the Haida. *American Museum of Natural History Memoirs*, Vol. 5, Part 1. E.J. Brill (Ams) Leiden, New York.

Teit, James A.
1909 The Shuswap. *American Museum of Natural History Memoirs* 2(7):447–789.

Teit, James
1898 *Traditions of the Thompson River Indians of British Columbia*. American Folk-Lore Society & Houghton Mifflin & Co., New York.

Teit, James
1900 The Jesup North Pacific Expedition, IV: The Thompson Indians of British Columbia. *American Museum of Natural History Memoirs*, Vol. 2.

Teit, James
1912a Mythology of the Thompson Indians. *American Museum of Natural History Memoirs* 8:199–416.

Teit, James
1912b Traditions of the Lillooet Indians of British Columbia. *Journal of American Folk-Lore* 25:287–371.

Teit, James
1917 *Folk-Tales of Salishan and Sahaptin Tribes*. American Folk-Lore Society, New York.

Teit, James
1930 *The Salishan Tribes of the Western Plateaus*. Forty-Fifth Annual Report, pp. 25–396. Bureau of American Ethnology, Washington, D.C..

Thomas, David
1988. *The Archaeology of Monitor Valley: 3. Survey and Additional Excavations*. Anthropological Papers, Vol. 66, Part 2. American Museum of Natural History, New York.

Turner, Nancy
1992 Plant Resources of the Stl'atl'imx (Fraser River Lillooet) People: A Window into the Past. In B. Hayden (Ed.), *A Complex Culture of the British Columbia Plateau*, pp. 405–469. University of British Columbia Press, Vancouver.

Wheeler, A., and A. Jones
1989 *Fishes*. Cambridge Manuals in Archaeology, Cambridge.

Wilk, Richard
1983 Little House in the Jungle: The Causes of Variation in House Size among Modern Maya. *Journal of Anthropological Archaeology* 2:99–116.

Wilson, Gilbert
1934 *The Hidatsa Earthlodge*. Anthropological Papers, Vol. 33, Pt. 5. American Museum of Natural History.