Chapter 7

What the Bones Had to Say

Together with stones, bones constitute the meat and potatoes of most prehistoric archaeological analyses. Bones preserve relatively well, are generally easy to see and to recover during excavation, and clearly play key roles in the survival of prehistoric peoples over numerous generations. Many archaeologists are content with listing the species that are found at sites and indicating their relative importance, assuming that the economic importance of the remains speaks more or less for itself. However, when we begin examining the bone remains in detail, and try to understand the formation processes that are responsible for a particular assemblage, then things become more complex and less clear. If we try to probe the social and economic organization of past communities by looking at the bone remains, the quest becomes more involved. One topic where there is a lack of validated theories to link material remains to specific human behavior is the interpretation of faunal remains. However, let us see how far we can get. I will start with assemblage formation processes to establish a baseline of understanding.

Formation Processes

I have already discussed some important contributions that the study of bones has made to our understanding of the formation processes of the floor and roof deposits (chapter 3). In that case, Karla Kusmer, who was the specialist analyzing the bone remains from Keatley Creek, found that bones had been exceptionally well-preserved in sediments identified as floor deposits, whereas bones were frequently weathered and fish bones were less numerous in the roof deposits. Now, it will be interesting to find out how those bones got to the site and what Kusmer's analyses revealed about past life at the site.

Two types of bone remains, salmon and deer, dominate the entire collection of bones collected at Keatley Creek (Table 7.1). Small numbers of mountain sheep, elk, dogs, beaver, hare, and bird bones occur, as well as some rarer species. To begin with, we will concentrate on salmon and deer since they are the two most important food species.

Salmon are born in inland freshwater streams and lakes. In their first year they migrate to the ocean where they feed and grow fat over the next few years. When they are ready to lay eggs, they gather together from vast reaches of the ocean in enormous schools and migrate up the rivers and streams to the places they were born. There, they spawn and die. Indians intercepted the salmon during these massive migrations. Today, when salmon are caught by Indians in the Lillooet region, the heads, tails, fins,

Table 7.1.
Faunal Remains Recovered From Three Housepits Floors at Keatley Creek

Scientific Name (Common Name)	*Frequency*			*Primary Use*‡
	Large HP (HP 7)	*Medium HP (HP 3)*	*Small HP (HP 12)*	
Unidentified freshwater shellfish	5	2		T
Dentalium sp. (dentalium)	3			T
Hinnites giganteus (purple-hinged rock scallop)	1			T
Margaritifera falcata (freshwater shellfish)	2	-		T
Nucella sp. (dogwinkle)	1			T
Oncorhynchus sp. (salmon)	1344	314	31	F
Accipiter sp. (hawk)	2			T
Tetraonidae (grouse)	4			F
Bird				
Lepus americanus (snowshoe hare)	19			F, T
Castor canadensis (beaver)	16	4	3	F, T
Peromyscus sp. (deermouse)	1			
Microtus sp. (vole)	9			
Canis familiaris (domestic dog)	1	41 (MNI = 1)		
Uulpes vulpes (red fox)	1			T
Ursus arctos (grizzly)	1			T
Artiodactyl	27	12	3	F, T
Cervus elaphus (elk)			2	F, T
Odocoileus sp. (deer)	42	5	1	F, T
Ovis canadensis (bighorn sheep)	1			F T
Unidentified large mammal	176	35	10	
Unidentified mammal	751	147	71	
Total NISP	2407	561	121	

Note. ‡ F = food; T = technology; see Lepofsky *et al.,* 1995, for more detailed accounts of taxa.

guts, and backbones are removed and thrown in the river or near the fish-processing structures by the river, sometimes forming huge piles in narrow ravines (Figure 7.1). In contrast, the nearby processing and drying areas, where literally thousands of fish are processed every year, remain virtually bone free. The resulting dried fillets are taken back to the villages bone free. However, these are modern practices and people apparently did things differently in the past for we do find fish bones in village sites.

We know from early ethnographic records that many bones were retained in more traditional butchering practices. A considerable amount of meat is always left on the backbones. Therefore, when food was scarce, the backbones—referred to humorously as "neckties"—were also dried and stored in bundles for use as snacks or in soups. The fins were frequently given to dogs (Albright, 1984, p. 63; Desmond Peters, personal communication). The oil-rich heads could be split and dried for winter soups, or boiled

Figure 7.1. *Top: Salmon butchering and drying structures (seen from the air in Figure 2.3) where literally hundreds of salmon are butchered each season. Interestingly, not a single salmon bone can be found in or around most of these structures. Bottom: Instead, salmon remains are systematically removed from the butchering and drying areas and either dumped in nearby ravines, such as this one, or thrown back into the river. If archaeologists excavated only the butchering structures, they might never know that these areas were used for processing enormous amounts of salmon. In order to correctly infer the use of these areas, they would have to also excavate dumps such as this one, but these dumps occupy such a small area that finding them archaeologically would be like looking for a needle in a haystack.*

with other discarded parts to extract the precious oil that could keep people warm in the winter by producing calories and body heat.

Given this butchering and processing scenario for salmon, what bones might be expected to end up at a winter village? There might be bundles of sockeye and spring salmon backbones destined for snacks or soups. These bone bundles would probably have been placed at the bottom of the storage pits since they were of much less value compared to the dried fillets. If these backbones had been used in soups, then we might never have found them since cooking salmon bones softens them and makes them more susceptible to decay and disintegration, although we do not know precisely how much cooking is required for this to happen. Therefore, it is possible that none of the salmon bones found archaeologically were actually cooked. We require some detailed experiments to determine this possibility.

People may have gnawed off all the meat from the backbones and simply dropped the remaining bones on the floor where they would eventually separate and scatter. Archaeologically, we found these backbones were sometimes left, still articulated, in sleeping areas-probably remains of bedtime snacks. It seems likely that the vast majority of these discarded bones were gathered up and thrown on the roof periodically where dogs consumed most of them and the elements wore them down. We also found some bundles of bones left in the bottoms of pits, perhaps having gone rancid, or at least of such little value that they were not considered worth the effort of removing before the pit was filled in. Other less articulated bones may have broken off the bundles in removing them from the storage pits and fallen to the bottoms of the pits, or they may have been scattered over the floors.

One of the small houses had thousands of small bones from salmon fins in its floor sediments; these elements were rare in the larger houses. Obviously, when Keatley Creek was occupied, some people kept and used the fins for food. Others used them much less. Perhaps the richer houses fed the fins to their dogs, whereas smaller houses without dogs saved the fins for their own soups or snacks. Thus, the butchering, storage, processing, consumption, and discard of salmon is quite varied and complex even within a single village. Food scarcity, local butchering and discard traditions, the size and fat content of salmon, the extraction of oil, cooking, and the presence of dogs, all seem to play important roles in the understanding the formation processes of deposits with fishbones.

Formation processes associated with deer bones are somewhat more straight forward. Most deer were killed high up in the alpine meadows of the Clear Range Mountains that rise immediately behind the Keatley Creek village. These animals would have been completely butchered in the mountains, their meat cut into thin slices and dried over smokey fires for transport back to the winter village. Only the dried meat, dried skins, and perhaps a few selected pieces of bone or antler for tools would have been brought back to Keatley Creek due to the long, difficult transport and the need to carry other materials such as flaking stone, dried roots, infants, extra clothing, and camping materials.

The vast majority of the deer bones recovered from Keatley Creek were smashed into small pieces. James Teit reported that this was done to extract the marrow and to

boil the grease out of the bones. It is highly unlikely that bulky and heavy bones were brought back from the alpine meadows to extract small amounts of grease from them. Thus, the fragmented bones at Keatley Creek probably represent fewer than one or two deer killed during any given winter by the hunters of a particular house as they roamed within a few kilometers of the Keatley Creek village.

Major deposits of dog bones occurred in two large storage pits in the largest house we excavated. Because of the unusual nature of these deposits, I will discuss them later.

Basic Distributions

While we have excellent evidence that domestic groups occupied almost the entire perimeter of the largest excavated house (HP 7), the distribution of salmon and deer remains is puzzling. The vast majority of the salmon bones recovered from the floor were found on the right side of the house (Figure 7.2). Does this mean that everyone on the left side of the house went over to the right side of the house to eat their meals, or at least their salmon? This seems impractical and improbable, especially if the fish was stored in pits on the left side of the house and if the largest, most frequent fires were on the left side of the house. Nor does it seem likely that more affluent families with large stores of food and large hearths would cross the house floor to sit and eat with commoners lacking such basic comforts. But what other possibilities could account for this strange distribution? There are several likely suggestions.

First, it is possible that families on the right side of the house ate different types or portions of salmon from their housemates on the left side of the house. Well-to-do families might consume almost exclusively the dried fillets of salmon, just as the most expensive and desirable cuts of meat today are boneless. The backbones of fish might have been relegated to the poorer families in the house since there was less meat on them and it was more difficult to remove from the spiny bones.

Second, it is possible that much of the daily food preparation was conducted by the poorer or slave residents of the great house. Food preparation was one of the duties of slaves and servants both in the Interior and on the Coast (Teit, 1912a, p. 242; Jewitt, 1974, p. 65; Oberg, 1973, p. 87; Garfield, 1966, p. 29).

Third, it is possible that only the families with large hearths regularly cooked their salmon backbones, thereby reducing the ability of the bones to survive archaeologically in these domestic areas. Families that did not, or could not, make fires on a regular basis might be forced to pick the meat off the backbones without cooking them, and simply discarded the bones afterward.

Fourth, it is possible that poor families in the house were not as conscientious in cleaning up their food wastes as the richer families. Such differences were vividly documented by explorers on the Coast. For instance, Mozino (cited in Samuels, 1991, p. 202) noted the following observation in 1792:

> Inside … of their house they make large fires, clean their fish, and remove shellfish and snails from their shells, leaving a large part of the remains thrown upon the floor where

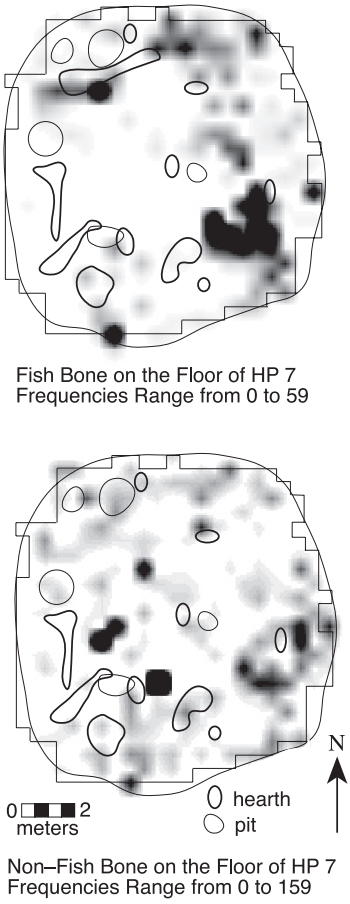


Figure 7.2. *The distribution offish bones (top) and non-fish bones across the floor of Housepit 7. All of the identifiable fish bones are salmon and the overwhelming majority of non-fish bones are probably deer. As discussed in the text, these distributions are some of the more curious that were encountered. From Lepofsky et al. (1995).*

> it rots. This causes an unbearable repugnance to anyone who has not grown up in the midst of such stench. The filth is incomparably greater in the houses of the *meschimes* (commoners), both because they are all generally found to be sordid and also because the women do not show the least vestige of what we call cleanliness.

At this point, it is difficult to determine which of the above possible explanations is likely to be correct. However, I would put money on the first one. In this explanation the wealthier families ate mainly fillets from the larger, fatter sockeye and spring salmon while the common families ate fillets from less desirable smaller, younger, leaner salmon, or picked off meat from dried sockeye and spring salmon backbones. Intuitively, this seems consistent with the other previously made observations and with present-day rich versus poor eating patterns. Modern Indians of the region, who are

no longer faced with starvation, do not even bother to keep the backbones. They are simply thrown away as undesirable food.

The clusters of deer bone fragments in Housepit 7 exhibit another pattern that is perhaps more puzzling (Figure 7.2). We can be relatively certain from the synthetic culture analogy of the area that meat and fat were particularly valued food items, much more highly valued than the abundant salmon. Thus, it might be expected that remains of deer bones would have been concentrated in the left half of the house. However, the actual pattern of deer bones neither corresponds to this expectation, nor to the pattern of fish remains. Instead, there are about five clusters of broken deer bones in various places within the house associated with some hearths, anvils, and concentrations of fire-cracked rocks. Are these clusters the product of differential housecleaning habits of the various families? To answer this, we examined the distribution of small bone fragments on the floor from the bulk soil samples used to collect botanical remains. The small bone fragments almost identically matched the distribution of larger bone fragments (Figure 7.3). Therefore, we were fairly certain that we were monitoring real bone reduction areas, rather than patterns created by cleanup activities. The same, incidentally, is true of the fish bone distributions.

Why should these bone clusters occur around some hearths but not others, and why should these clusters occur on both the right and the left sides of the large house? It may have been due to two or three different domestic groups gathering together around a single hearth to prepare the meat from a newly killed deer. A fresh deer kill must have been an important occasion for celebrating, since it would have occurred rarely during the winter. In Coastal houses, such as those recovered at Ozette in Washington State, a similar pattern of three to four concentrations of faunal remains occurs (Figure 7.4), even though there is evidence for twice that number of domestic groups residing within the structure (Samuels, 1991). Perhaps there was frequently more cooperation in cooking large game between closely affiliated families than we imagine.

Although, ethnographically, the best hunters were considered rich-and frequently obtained special training because they were from rich families-more common families were not barred from hunting and might accompany the trained hunters. Any game killed was reportedly divided among all the participating hunters. This, too, may account for the limited number of bone clusters on both sides of the house. Perhaps only men from these domestic groups participated in the winter hunts, and therefore returned back with bones to process. Marrow was almost certainly highly valued, and it seems possible that the highest ranking hunters would have claimed the main marrow bones for themselves. However, once these bones had been broken open and the marrow extracted, the remaining bone material might have been given to lower ranking families to extract grease through the more laborious technique of smashing and boiling. In a similar fashion, it appears that plantation owners in the southern United States systematically gave their slaves leftover bones from meals, presumably for use in soups (Crader, 1990).

At this point, these explanations are somewhat speculative. In order to understand exactly what the clustering of bone fragments means within the housepits at Keatley Creek, it will be necessary to excavate other large houses and to develop ways to test

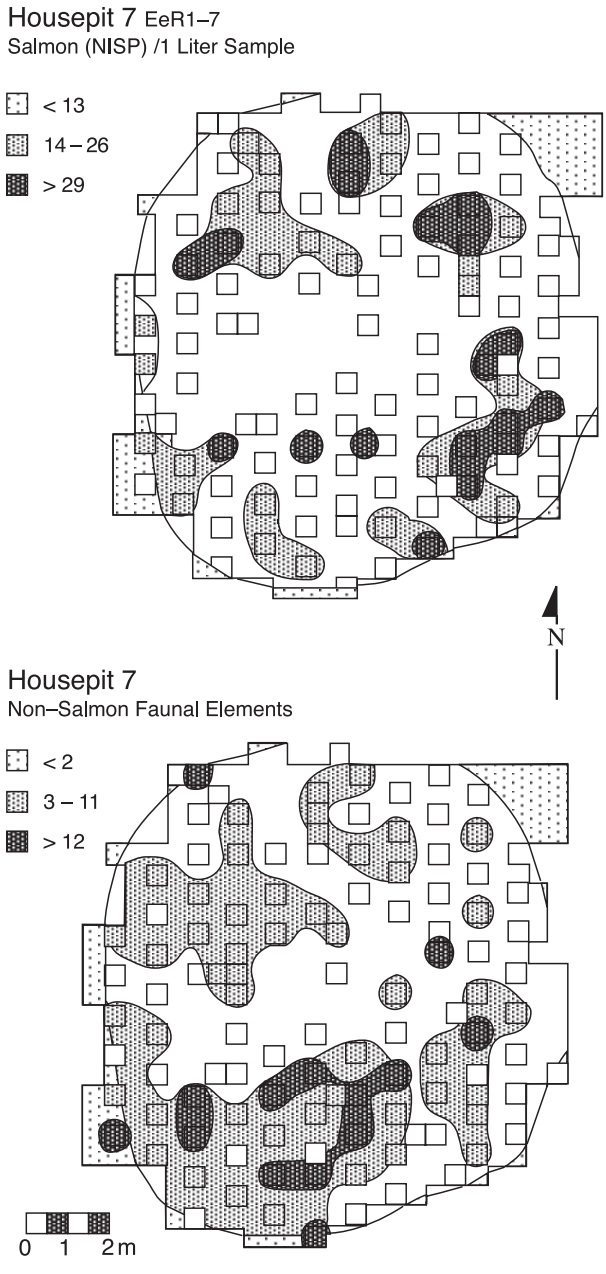


Figure 7.3. *In order to test the accuracy of the fish and non-fish bone distributions obtained through standard screening techniques using 6 mm mesh screens, we examined the small fractions of bones that were contained in the heavy residue of the flotation samples using a 1 mm mesh screen. There is, in fact, a very high degree of correspondence between the two distributions indicating not only that the results of the larger mesh screen provided reliable results, but also that housecleaning or scuffage that generally affects larger wastes had not significantly altered the distribution of bones on the floor.*

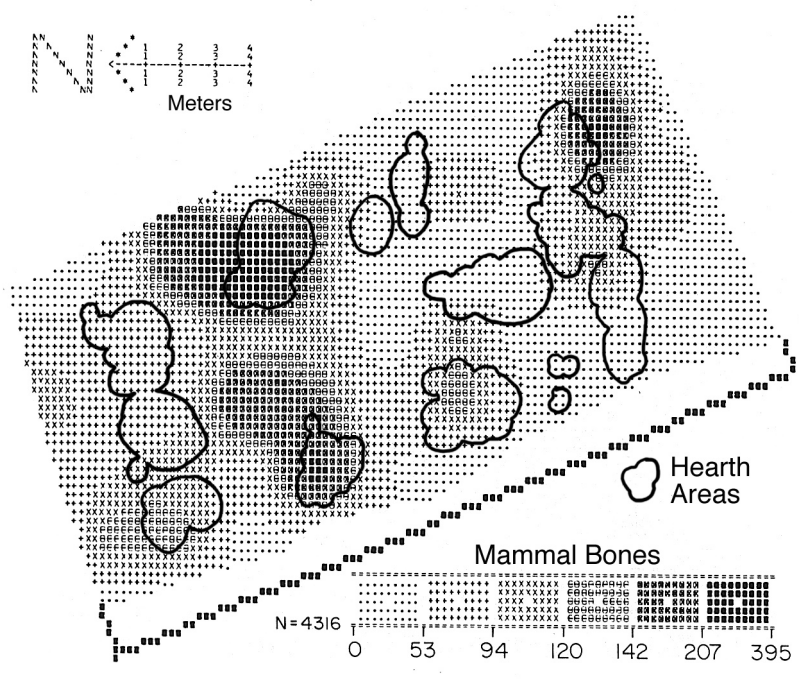


Figure 7.4. *While there are clearly 6 to 8 domestic groups in Housepit 7 based on the number of hearths associated with clusters of fire-cracked rock, debitage, and artifacts, there are only about half that number of bone concentrations on the floor. This represents one of the puzzling aspects of the bone distributions on the floors. However, this same pattern has also been documented by David Huelsbeck (1994) in the floors of some Coastal houses such as this high-status house floor at Ozette. These patterns may indicate that although each domestic group had and used its own "kitchen" on some occasions, for most daily meals, several domestic groups may have joined together for meal preparation, perhaps in order to conserve fuel or for other reasons.*

the various possible explanations of bone distributions. The same is true for the understanding of the clustering of salmon remains.

The Mystery of the Dogs

There is another, more intriguing, enigma that has not been solved. It involves the remains of nine dogs buried at the bottom of two large storage pits in the largest housepit we excavated (HP 7). Some of the dogs were represented only by skulls or jaws; some of the dogs had been dismembered; and one of the dogs was put in the pit intact (Figure 7.5). Why had these dogs been buried in such a fashion? Ethnographic information recorded by Simon Fraser and James Teit offers several suggestions. When Simon Fraser passed through the Lillooet region in 1808, his men were repeatedly given dogs to eat by the chiefs they came in contact with. Thus, dogs may have been used as a spe-

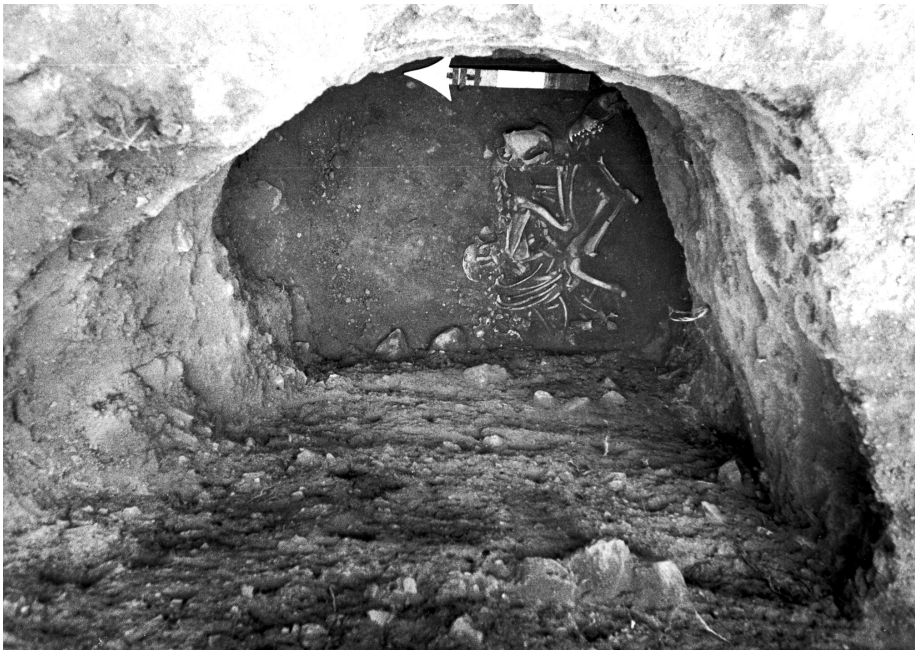


Figure 7.5. *Two of the large storage pits in Housepit 7 contained the remains of numerous dogs at the bottom including this entirely intact skeleton of a dog that had been used for packing heavy loads. Some dogs were represented only by their skulls (one is visible at the upper right), others were disarticulated into leg and back segments. Clearly, these are very unusual deposits most probably representing special rituals.*

cial feasting food, just as on the Great Plains and among various other groups in North America (Kerber, 1995) and elsewhere. James Teit (1909) also recorded accounts of a Dog Dance society ritual in which members worked themselves into a rabid frenzy and then attacked a living dog, tearing it to pieces, much as Dionysian maenads were reported to have done to animals in classical Greece. Similar societies existed on the Northwest Coast, while other Pacific Coastal groups such as the Koryak in Northeast Asia sacrificed dogs particularly during the winter, putting their bodies on poles outside their pithouses.

Were the dogs at Keatley Creek buried as part of a feast or ritual? There were other indications that dogs might have a special ritual status. In the middle of the floor of Housepit 7, a dog skull had been left prior to the burning of the structure. In the middle of a medium-sized housepit, most of the body of an immature dog had been left in the center of the floor before that structure had been burned. In another smaller housepit, the charred bones of a dog occurred in the center of the floor. Elsewhere, at Bridge River near Lillooet, in a substantial housepit, a large storage pit was discovered to contain the remains of about four dogs (Langemann, 1987, p. 156–158). At Monte Creek, along the Thompson River, in the oldest housepit discovered in British Columbia (ca. 4500 B.P.), the remains of a complete dog were left in the center of the floor (Wilson, 1992, p. 132–133). At Wildcat Canyon, Oregon, near The Dalles, six

complete dogs had been carefully arranged and buried in a large pit, apparently as part of a sacrifice (Dumond & Minor, 1983, pp. 115–116). Ethnographically, dog sacrifices were also common on the British Columbia Plateau, but usually as part of their owners' funerals (Teit, 1906, pp. 269–270; 1909, p. 593). It is interesting that when sacrificed ethnographically, dogs were often suspended from poles.

David Crellin undertook a special and thorough analysis of all dog remains from Keatley Creek. There was no doubt that the dogs involved were domesticated, rather than wild. The dog at Monte Creek was also domesticated, even though it was over 3,000 years older than the dogs at Keatley Creek.

One of the first things Crellin observed were a number of deformities in the spines of two dogs. These corresponded to the kinds of deformities common in pack animals, and, in fact, there are ethnographic accounts and photographs of dogs being used to carry up to 80 pounds on their backs. There can be no doubt that some of the dogs at Keatley Creek were being used for hauling heavy loads. They were later replaced by horses, which became known as "dog-deer." Ethnographically, other dogs were valued for hunting, while still others were probably of little practical use and were treated as vagrants. Crellin discovered another important feature: A very large percentage of the dog bones had been chewed and gnawed by other carnivores, presumably by other dogs living at Keatley Creek. The evidence was indisputable, but how could this have happened? Crellin thought it would have been improbable for people to have left sacrificed dog remains in their houses for the time necessary to have resulted in the extensive degree of gnawing that he observed. He therefore began to explore the possibility that the dogs may have died naturally after having entered the houses when people left them in the spring.

Before interpreting archaeological remains as evidence for rituals or any unusual behavior, it is first necessary to rule out possible natural occurrences. As Crellin subsequently noted, there are several indications that the dogs in these pits did not simply move in after residents left, then die, and undergo cannibalization by the remaining dogs.

First, there are no identifiable dog bones in the rest of the floor deposits, except for the skull in the center. If dogs had gnawed and broken their comrades' bones while on the floor, a few fragments should certainly have escaped the cleanup crew.

Second, while a high percentage of the dogs' bones showed clear evidence of gnawing, virtually none of the hundreds of deer or other bones on the house floors showed evidence of gnawing. If dogs had penetrated the houses to scavenge scraps of food as well as to cannibalize their comrades, they certainly should have gnawed the deer bones left behind. The lack of gnawed bones on the floor is consistent with Interior tales and myths which describe the dogs as being kept outside the pithouses rather than inside (Teit, 1912a, p. 250, 256, 307; 1912b, p. 325; 1917, p. 46).

Third, if the dogs had been left behind because they were unwanted and worthless, and if people discovered dog remains on the housepit floors when they returned several months later, it seems logical to expect them to throw out the gnawed dog remains together with all the other materials they removed when cleaning up the house before reoccupying it in the fall. As we saw in chapter 3, housecleaning remains were generally thrown on the rim. Yet, these dogs were dealt with in a very different fash-

ion; they were buried in storage pits. Moreover, the dirt matrix which contained the dog bones contained little else-no other kinds of garbage one might expect from the floor, just a large number of dog bones.

Fourth, the soil matrix in which the dog remains were found was not like the black soil so typical of floor deposits. Instead, it was brownish and had little else in it. Where had this soil come from, if not the floor?

None of these observations is consistent with a naturally occurring, scavenged death assemblage originating inside the housepit. Moreover, at least one of the skulls shows clear evidence of a killing blow to the head, and one or two of the skulls were more weathered than the others, indicating exposure over time outside of the house. The bulk of these observations indicate the dog remains had been outside for at least a period of some months. This is shown by the degree of scavenging and gnawing; the weathering; and the soil matrix which is typical of soils around the housepits, but not of housepit sediments themselves. There is also evidence of possible sacrifice or killing of dogs, indicated by the blows to the dogs' heads, the burial of an entire dog, and a number of articulated limbs. It is therefore possible that some of the dog remains in the pits represent dogs that were sacrificed and then displayed on poles outside the pithouse, much as the Koryak did, or as the historic Interior Salish did over graves. Outside the houses, they would have been subject to disarticulation from decay and predation by dogs that roamed the village. Perhaps at a Dog Dance ceremony, one or more additional dogs were sacrificed. Periodic collection and burial of all sacrificed dog remains may have been a part of the ritual. Many tribal groups in China and Southeast Asia display the jaws, skulls, or horns of the most valuable domestic animals (buffalo or pigs). They place these bones on their houses in ways resembling what may have happened at Keatley Creek (Kim, 1994, p. 121; Leach, 1954, p. 118; Junker *et al.* 1994, p. 321; Hayden, 1996, field notes). These displayed pig and buffalo bones were also gathered and disposed of periodically, especially when houses were rebuilt.

In the British Columbia Interior, ethnographers point out that people disposed of animal bones in water so dogs would not chew them and offend the animal spirits. Archaeologists are fond of pointing out that despite these idealized cultural values people often threw their bones in the most convenient places as evidenced by the many thousands of animal bones at sites like Keatley Creek. Thus, what people say they do is sometimes quite different from what they actually do. But in any event, the frozen ground and water at this site during the winter may have precluded disposing of spiritually important dog bones in any other way than gathering them together to bury in a pit inside the houses.

We still do not know exactly what the many dogs in Housepit 7 represent in terms of actual behavior. The issue is more complex than we had originally anticipated, but we have uncovered some of the most important clues necessary to deciphering this riddle. If a ritual ceremony was involved, as I think it probably was, then it may have been performed in certain houses either because of their clan totemic history, or because of membership in a special canid secret society, or because of the different abilities to display wealth and success using dogs and large feasts. I feel certain that whatever practical roles some of the dogs filled, the keeping, feeding, breeding, and even

the killing of dogs must have been a form of prestige display that only the wealthy could have afforded on a sustained basis. In their roles as beasts of burden, as hunters, and as live sacrifices, dogs were probably the original slaves of these complex hunters and gatherers. They were also the only animal to have been domesticated throughout most of North America. It seems likely that their initial domestication began among complex hunter-gatherers throughout the world because these people had the surplus food to sustain feeding and breeding these animals (costs which were substantial), and because only complex hunter-gatherers had the motivation to use such animals for prestige display purposes. Generalized hunter-gatherers sometimes captured pups of wild dogs to keep as pets or even aides in hunting, but there were few costs involved since the wild dogs foraged for themselves and did not have to be kept on a sustained basis (see Hayden, 1975). In contrast, as Kerber (1995) has also observed, domesticating dogs requires the keeping and breeding of dogs in an unbroken chain of generations. Domesticated dogs do not forage for themselves. They must therefore be fed by people. Wild dogs may have been used as pets for many thousands of years before they were domesticated, but it was only the economic and social conditions of complex hunter-gatherers that led to their feeding, breeding, and domestication.

Prestige Creatures

As can be seen from the example of dogs, members of the animal kingdom were not used just for food. They also played important roles in displaying wealth, prestige, and power. Furs, feathers, and fine leathers were all valuable animal prestige items that would not preserve very well. However, we can infer their presence from the recovery of claw bones left attached to furs (Teit, 1906, p. 257), wing bones that were part of feather displays, and from the specialized stone tools that were used to make buckskin. Thus, it is clear that some residents in Housepit 7 had at least bear, lynx, beaver, and red fox skins. Wing bones from hawks were also recovered. And a cache of spall scrapers used in producing buckskin was found against the wall on the northwest (left) side of the house.

However, there are also remains of animals used more directly for display. From a storage pit in one house, we recovered a set of 72 bone buttons that apparently had been sewn onto a skin. Pieces of bone had also been thinned or smoothed and then decorated with carved or incised lines, undoubtedly for wearing as jewelry (Figure 7.6). Two antlers had been cut and tapered, possibly for use in a headdress. There was also a surprising array of marine animals represented, including numerous dentalium shells, a piece of a bracelet made from a purple-hinged rock scallop, and a shaped piece of mussel shell. At the nearby and contemporaneous Bell site, a club made of whalebone, a pectin shell rattle, a number of bone carvings, and over 200 dentalium shells were recovered. These were associated with the single burial encountered at the site, that of a child. All of these must have been prestige items and required substantial amounts of surplus wealth to obtain. They either required great effort to make or had to be brought many hundreds of kilometers over the mountains from the coast. These objects were

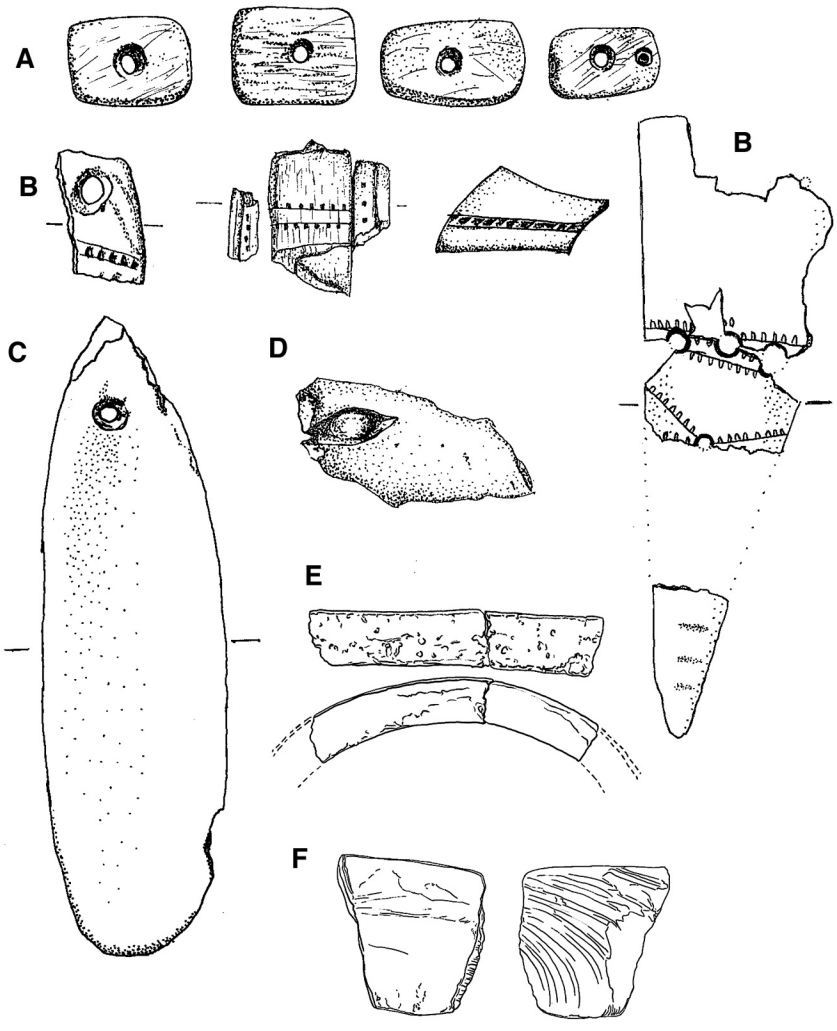


Figure 7.6. *Some of the prestige bone artifacts that were recovered from Keatley Creek include 72 bone buttons that were probably all sewn onto a single garment for decoration (A), shaped and incised, pendants probably used as jewelry (B), a bullroarer (C), an eye that was part of a larger sculpture (D), part of a bracelet made of purple-hinged rock scallop from the Coast (E), and part of a mussel shell adze from the Coast (F). The antler digging-stick handle and bark peeler in Figure 2.2 were probably prestige items also.*

probably displayed prominently before invited guests during major winter feasts and ritual performances. In the energetic dancing and drumming, it is not surprising that a few items might have broken off costumes and been lost in the floor dust. The presence of these objects shows that the large Classic Lillooet communities were quite complex for hunter-gatherers and that considerable inequalities in wealth and power must have existed within these societies.

Bone Tools

Bones were also used for more practical purposes. The most common type of bone tool that we found was the bone awl. Ethnographically, these were used for puncturing skin or bark to sew clothing or containers, and for piercing ears and noses of high-ranking children. The sandstone abraders associated with each domestic area in Housepit 7 were undoubtedly used to sharpen these awls. A number of deer shoulder blades were also cut and sharpened along one edge, apparently to use as a knife or scraper of soft materials, but we do not as yet know how or on what material they were used.

The bases of large antlers were used as billets for making the large bifacial knives used throughout much of prehistoric North America. While antler billets are surprisingly rare archaeologically, we recovered two examples of these tools. Antler was also used to make digging-stick handles (see Figure 2.2). However, because of the rarity of antler and its hardness, most digging-stick handles were probably made of hard wood, just as they were up until recent times. This indicates that antler handles may have been used by high-ranking women as a display of affluence. Similarly, we recovered a bark peeler made out of antler, whereas all recorded ethnographic examples were made of hard wood. This may have also been a prestige item.

What is interesting are the tools we did not recover. Given the overwhelming importance of salmon fishing for the Lillooet communities, we expected to find abundant remains of fishing tools. However, out of the thousands of artifacts recovered in our excavations at Keatley Creek, there were only three fishing objects found. These were two barbed bone points and a possible net needle. It seems clear that either all the fishing tools were made of more perishable materials such as wood, or that all the fishing gear was left at fishing locations by the river. This does not accord well with Lewis Binford's models of collectors using "curated" tools. According to Binford (1973, p. 242, 249–250), curated tools used at resource procurement locations should have been returned to the main base camps for storage and repair, where they became part of the archaeological record. We have only the scantiest evidence this was done at all. The absence of fishing implements at Keatley Creek is surprising, but incontrovertible.

Differences Between Housepits

There are a number of important differences between housepits in terms of bone remains. The most important difference for understanding the social and economic organization at Keatley Creek involved the ages of salmon bones recovered. In a radiographic study of the salmon backbones found in the floor deposits and storage pits, Kevin Berry (2000) and Camilla Speller (Speller *et al.,* 2005) were able to determine that the small housepits used exclusively young salmon (2–3 years old). These were undoubtedly the smallest, weakest, and the easiest to procure in the region. They swim close to the riverbanks and have the least amount of fat. In contrast to the small houses, the larger houses had a mix of salmon of different ages extending up to four and even

five year old fish. Larger houses used a great deal of the younger salmon as well, but they also had substantial amounts of the more desirable and valued larger and older salmon (Fig. 7.7).

This finding meant several important things. It meant that not everyone had equal access to the best fishing rocks jutting far out into the Fraser River where the deep-swimming older and larger sockeye and spring salmon could be obtained with the help of platforms or scaffolds. Some form of ownership of resource locations must have existed. Such a conclusion demonstrated that there was an important continuity between prehistoric practices and the ethnographic observations of owned fishing locations (see Romanoff, 1992a; Kennedy & Bouchard, 1992). Berry's and Speller's analyses also demonstrated that there was a major difference in the economic foundations of the large versus the smaller housepits, with the larger housepits controlling the most important surplus-producing resource locations. This was a giant step in our understanding of the social and economic organization at Keatley Creek and, in fact, corroborated Lewis Henry Morgan's (1881) early opinion that members of residential corporate groups were motivated by economic reasons to act as a unit.

There were other differences in the bone remains between housepits. Karla Kusmer's analysis indicated the smaller houses had fewer fish and mammal bones, in lower densities on the floors, and there were fewer different types of animals being used in small houses than in the larger houses (Table 7.1). These results parallel the lower diversity of plants associated with small houses. These results indicate that occupants of smaller houses had less meat than occupants of the great houses, and that they used few if any animals for prestige or technological purposes. Residents of poorer, small houses probably concentrated on the most practical types of game that were readily available. The bones of fish may have been almost entirely consumed by people of these houses, either in soups or pounded up for other dishes.

In small housepits, such as Housepit 12 where probably four nuclear families lived, there is only one small, superficial hearth area, one concentration of fire-cracked rock, and one concentration of bone material near the hearth. In contrast to the large housepits where each domestic group seems to have had its own cooking, sleeping, and work areas, the residents of smaller houses seem to have done most activities in a single communal area. There is no sign of separate family areas, no indication of hierarchy in the smaller housepits, and there is no indication of surplus being stored or any other sign of wealth. The more limited resources that smaller housepits had to work with are certainly consistent with a more communal and egalitarian ethic as discussed in chapter 1.

One small housepit (HP 9) was unique among the rest. This was a small structure located across the creek from the core of the site, almost isolated on the southern periphery. This house had an unusual amount of storage capacity for its size. It had the only stone-lined hearth discovered anywhere in the site, it had greater amounts of antler than in any other house (including the only antler digging-stick handle and bark peeler we recovered at the site), it had the greatest amount of dentalium and shell recovered from any housepit, it had the only loon and bald eagle bones recovered anywhere in the site, it had an abundance of articulated salmon fins and ribs (possibly

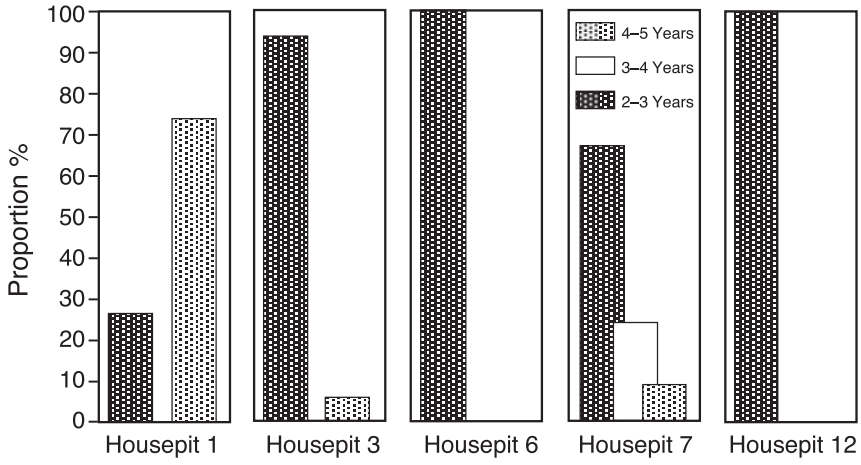
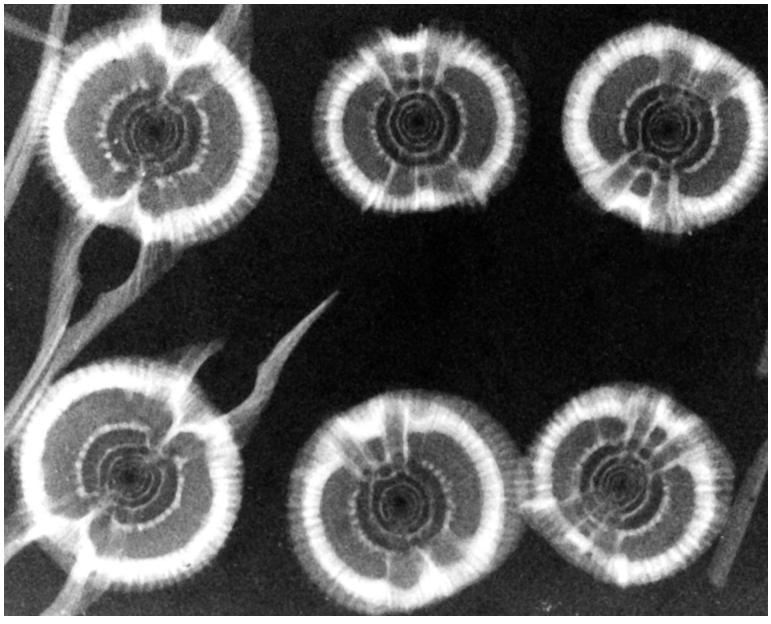


Figure 7.7. *Top: The proportion of different ages of salmon in each housepit reveals a great deal about its economic status. In his analysis, Kevin Berry (1991) found that small housepits such as HP 6 and HP 12 have only the youngest salmon. These are the smallest, and probably driest, and least desirable types of salmon. They can be caught in many locations along the river banks. Large housepits such as HP 1 and HP 7 have significant proportions of salmon that spawned at three and four years of age. These correspond most closely to largest, fattest, and most valuable sockeye and chinook salmon. They are accessible only from special jetties and platforms. Ethnographically, these special fishing spots were owned and the prehistoric distribution of salmon species among housepits seems to indicate that the same was true in the past. Bottom: The age at which salmon spawn and die can be determined by counting the annual growth rings in the vertebrae. In the x-rayed examples shown here, four growth rings are clearly visible.*



from special soups), and it had pipe fragments and parts of a nephrite adze. Loon bones were a special find, as they were used by shamans in some Interior Salish groups (Teit, 1900, p. 381; 1909, p. 607). All this indicates unusual wealth and prestige for those who used the structure. Was this the residence of a successful and wealthy hunter or perhaps of a shaman affiliated with one of the great houses? Was it the special meeting and feasting structure for a secret society? Why was the structure situated so far from the residential core of the site? Perhaps there are other examples of such structures at Keatley Creek and we will be able to answer these questions in the future. For the time being, it is clear that this was a structure with distinctive characteristics that has added another important dimension to our understanding of the social and economic organization of the prehistoric Keatley Creek community. We will discuss more of its role in the community in chapter 8.

Summary

Studying bones tells archaeologists what was eaten by the denizens of prehistory. It also provides important information about how people arrayed themselves to display their success, what the social and economic divisions and inequalities were within the communities, how tools were used in daily activities, and it also reveals some of the less understood facets of rituals and ceremonies. We have also seen how bones can add important information on formation processes and how complex the formation of bone assemblages can be.

In the realm of ritual, there are enough indications to show that some unusual activities involving dogs were taking place. It is extremely difficult, if not impossible, to account for all the dog remains left in the centers of housepits and all the dogs buried in large storage pits as primarily reflecting natural formation processes. However, the precise nature of dog rituals cannot be ascertained at this point. Further examples are necessary to make progress in unraveling the mystery of the dogs. I am convinced that dogs are pivotal in our understanding of domestication since they were the first domesticated animal in most parts of the world. They were domesticated among complex hunter-gatherers beginning about 10,000 years ago; and they were the only domesticated animal throughout most of North America. I suspect the ability to support dogs with surplus food and their role in status display is a key ingredient to understanding this development. Domesticated dogs are primarily associated with complex rather than generalized hunter-gatherers for this reason, and it is also among complex hunter-gatherers that feasting becomes economically and politically important for the first time. Like dogs, these feasts are intimately related to surplus accumulations and status displays, but this is a topic to be broached in the next chapter.