
6

What Remains

Species Identification and Bone Histology

Gwen Robbins and Kelsey Gray

with contributions by Guy L. Tasa, Ryne Danielson, and Matt Irish

Microscopic problems of historical research can and should be made macroscopic—capable of reflecting worlds larger than themselves. It is in this reflected flicker of truth, the revelations of the general in the particular, that the contribution of the historical method to social science will be found.

M. M. POSTAN

1939

Thousands of bone fragments were recovered during excavation of the Donner family camp site at Alder Creek (figure 6.1). Determining what animals were present in the assemblage was a priority, but it was not an easy task. Simply distinguishing human from nonhuman bone was challenging because of the extensive fragmentation, butchering, and burning that took place during entrapment, in addition to physical and chemical changes that occurred after burial. Fortunately, other archaeologists and forensic scientists have developed molecular, genetic, and histological techniques that can be used to discriminate small, burned fragments of human bone from those of other large mammals. In circumstances like those at Alder Creek—where the organic component is almost completely destroyed—microscopic study of the bone tissue (histology) is the simplest and most effective technique for identification.¹ We used this technique to identify the largest and best preserved bone fragments

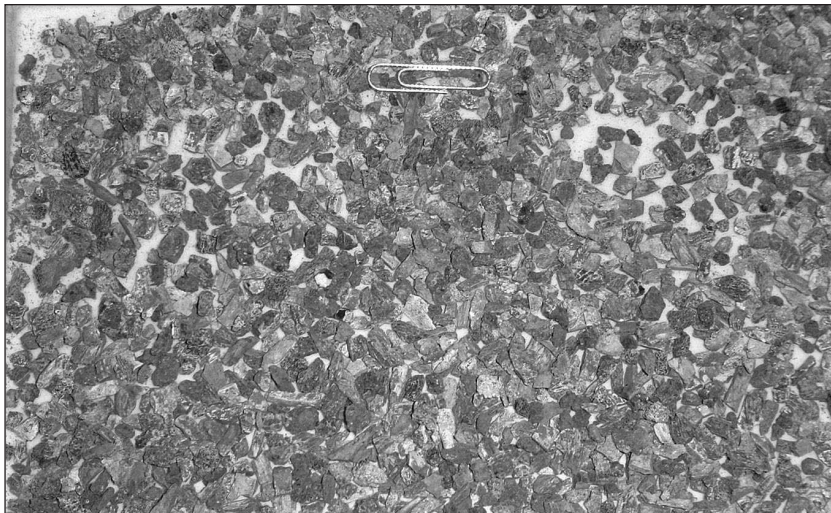


Figure 6.1. Fragments of bone recovered from the Alder Creek site.

from the Alder Creek assemblage with the goal of understanding some of the strategies employed for survival by members of the party. We begin by explaining quantitative (based on measurements) and qualitative (based on observation of qualities) methods for differentiating human bone from that of other animals, emphasizing large mammals likely to be present in the Donner assemblage—cattle (*Bos*), horses (*Equus*), and deer (*Odocoileus*). After presenting the results of our study, we compare the findings to previous bone chemistry analyses from the Donner Lake site and to historical accounts of dietary adaptations at Alder Creek. The identification of bone fragments from the campsite hearth at Alder Creek can be used to understand not only the species utilized for food but also the strategies employed for survival by members of the party.

Macroscopic Osseous Analysis (contributed by Guy Tasa)

The first step in the analysis of a large collection of fragmentary burned bones is to roughly characterize the bone assemblage by counting and weighing the material.² In total, 16,204 bone fragments (2,281.45 grams, or 5.03 pounds) were recovered from the 2003 (1,085 fragments, 249.69 grams) and 2004 (15,119 fragments, 2,031.76 grams) excavations at

Table 6.1. Mammalian size classes

Size class	Weight	Examples
Class I	<100 g	Meadow mice, shrews
Class II	100–700 g	Squirrels, chipmunks, gophers
Class III	700 g–5 kg	Rabbits, hares, skunks
Class IV	5–25 kg	Coyote, bobcat, dog
Class V	25–225 kg	Deer, bear, sheep, antelope, humans
Class VI	>225 kg	Elk, horse, cow, bison
Class X	N/A	Unidentifiable

Source: After Thomas, “Great Basin Hunting Patterns”; Schmitt, “Zooarchaeology of Times Square Rockshelter.”

Alder Creek. The vertebrate faunal material was sorted and quantified by visual inspection first. Based on the overall robusticity, shaft curvature, and bone thickness, each fragment was assigned to a very general bone/animal size class (table 6.1). This approach may be problematic for our assemblage, however, because bone is known to shrink with burning;³ as a result, larger animals may be classified into smaller size categories.⁴ Thus, the category assignments for the Alder Creek assemblage should be considered an initial approximation. The number of identifiable specimens per taxon (NISP) was established using reference materials and collections.⁵

Although extensive fragmentation precluded the identification of size class or skeletal element for most of the fragments in the assemblage (87 percent), 2,046 long bone shaft fragments, 18 tooth fragments, and 33 articular/other fragments could be identified (table 6.2). These identified pieces were among the largest and best-preserved fragments, largely derived from the half-inch and quarter-inch screens (table 6.3). They comprised 13 percent of the total number of pieces and 43 percent of the volume by weight (table 6.4). There was a single bone fragment in Class II (rodent-sized mammals), 3 fragments in Class III (rabbit-sized mammals), and 15 in Class IV (dog-sized mammals). The majority of identifiable bone in the assemblage was in Class V (deer-, human-, and bear-sized mammals), and there were 3 fragments in Class VI (elk-, cow-,

Table 6.2. Identified skeletal elements from Alder Creek Camp

Element	Count		Weight (g)	
	n	%	g	%
Unidentifiable	14,108	87.1	1,257.35	55.1
Long bone fragment	2,046	12.6	976.05	42.8
Tooth fragment	18	<1.0	2.43	<1.0
Articular/other	33	<1.0	45.60	2.0
Total	16,204		2,281.45	

and horse-sized mammals). A single bone was identified as *Bos taurus* (domestic cow) based on a nearly complete lateral malleolus (*os maleolare*). In addition, 15 fragments of mostly tooth enamel were consistent with the order Artiodactyla (even-toed ungulates including cow, deer, and sheep). Of these, 7 specimens were suspected to belong to the genus *Odocoileus* (deer). Macroscopic observations left some 13,562 bone fragments classified simply as “unidentified mammal,” and another 537 fragments remained entirely unidentifiable.⁶

Taxonomic Identification and Characteristics of Mammalian Bone

Because macroscopic analysis left much of the bone unidentified or broadly categorized, we turned to light microscopy in an attempt to identify species beyond the level of the size classes.⁷ We first sought to determine whether the hearth assemblage contained any human bones. Human bones can be discriminated from those of other large mammals using quantitative histological techniques to measure microarchitectural features of bone tissue, that is, the size of basic structural units of the bone.⁸

Once the human versus nonhuman question was addressed, we sought to understand more about the starvation diet during the winter of 1846–47. Our basic question was, what other animals can be identified in the osseous remains? Focusing on the nonhuman mammalian limb bone fragments, we identified taxa using a qualitative approach that is based on previously described ancestral or phylogenetic differences in the bone microarchitecture.⁹

This qualitative approach is not based on the presence or absence of

Table 6.3. Identified vertebrate species at Alder Creek Camp by screen size

Description	Common name	Mesh size		
		½" (G2)	¼" (G3)	⅛" (G4)
Order Artiodactyla				
Unspecified Artiodactyla			6	9
<i>Bos taurus</i>	Domestic cow	1		
Class II	Rodent-sized mammals			1
Class III	Rabbit-sized mammals		1	2
Class IV	Dog-sized mammals		5	10
Class V	Deer and human-sized mammals	56	1,419	592
Class VI	Elk and cow-sized mammals		3	
Class X	Unidentifiable mammals	1	696	12,865
Unidentifiable				537
#Total		58	2,130	14,016

Table 6.4. Summary of identified vertebrate species at Alder Creek Camp

Description	Common name	NISP		Weight	
		<i>n</i>	%	<i>g</i>	%
Order Artiodactyla					
Unspecified Artiodactyla		15 ^a	<1.0	4.10	<1.0
<i>Bos taurus</i>	Domestic cow	1	<1.0	4.83	<1.0
Class II	Rodent-sized mammals	1	<1.0	0.05	<1.0
Class III	Rabbit-sized mammals	3	<1.0	0.48	<1.0
Class IV	Dog-sized mammals	15	<1.0	4.01	<1.0
Class V	Deer and human-sized mammals	2,067	12.8	1,020.87	44.7
Class VI	Elk, horse, and cow-sized mammals	3	<1.0	5.96	<1.0
Class X	Unidentifiable mammals	13,562	83.7	1,228.87	53.9
Unidentifiable		537	3.3	12.41	<1.0
Total		16,204		2,281.45	

Note: All the identified vertebrate species are in the class Mammalia.

^aSeven specimens strongly suspected to be deer (*Odocoileus* sp.).

unique types of bone tissue; instead, variation occurs in the arrangement, distribution, and life history of bony tissue.¹⁰ These differences were first described in the early part of the nineteenth century,¹¹ and a basic review is provided here to explain the rubric we developed to identify the nonhuman bone specimens.

Bone is divided into primary and secondary tissue. Primary bone includes three types: lamellar, laminar (plexiform), and primary osteons. *Lamellar* bone is a rapidly formed, relatively less organized type of bone tissue. Small regions of this type of bone are common in mammals; it is found in pockets at the internal (endosteal) surfaces of the bone shaft, in circumferential layers at the external (periosteal) surface of the shaft, and in the interstitial spaces between more organized types of tissue.¹² *Laminar* bone has a more organized, predictable structure with primary bone tissue arranged around a network (plexus) of intercommunicating blood vessels that resemble a brick fireplace in cross section.¹³ This type of bone, also known as plexiform bone, occurs as the primary tissue type in cows, deer, elk, antelope, sheep, and some large canines.¹⁴ Laminar (plexiform) bone is only rarely seen in humans.¹⁵

Bone tissue is also organized into structures called osteons. Unlike the above tissue types, where bone is organized circumferentially around the shaft, osteons are composed of bone tissue organized around a central canal. There are two types of osteons (primary and secondary) relevant to distinguishing human from nonhuman long bones, and both are easily observed in the light microscope.

Primary osteons consist of lamellar bone tissue arranged around a central canal.¹⁶ *Secondary osteons* differ from the primary type in several ways. Unlike primary osteons, which have very little internal organization,¹⁷ secondary osteons are highly organized internally and can be differentiated by a series of concentric rings encircling a central canal.¹⁸ Each secondary osteon is also separated from the surrounding lamellar bone by a distinct translucent “cement” layer. Secondary osteons form as an animal grows and matures through a process of remodeling the primary bone tissue. Specialized bone cells remove regions of primary bone and fill in those spaces with the new, highly organized bone tissue.

Because of the nature of this remodeling process, secondary osteons appear to overlap in a seemingly haphazard arrangement when viewed in cross section. Secondary osteons overlie regions of primary tissue as well. Primary osteons often occur in large regions in horse and pig bone,

but they also have been documented occasionally in human tissue.¹⁹ Secondary osteons are common in rat, rabbit, dog, horse, deer, cow, and human bone.²⁰

Alder Creek Bone Histology

To carry out our inquiry, we began by calculating the desired sample size of Class IV and V long bone fragments based on the following rationale: (1) the assemblage includes 2,067 fragments (see table 6.3) of Class V bones—the category that could include human; and (2) the possible proportion of human in the diet was estimated to be only 1 percent, calculated by the number of months of entrapment and the probable onset of cannibalism between February 23 and March 3, 1847.²¹

Using these parameters, statistician Terry Allen (of the Department of Sociology, University of Utah) ran one thousand simulations to determine the number of fragments we had to sample in order to be 95 percent confident that human bone would be found in that sample if such tissue were being processed in and around the hearth. He determined that by randomly selecting 104 fragments (the upper limit of the confidence interval) from the Class V sample, we could be 95 percent confident of getting a human bone if human tissue constituted 1 percent of the bone refuse. By randomly selecting 106 bones, we could be 99 percent confident; 108 bones would provide 99.9 percent confidence. Given the possibility that the human bone makes up less than 1 percent of the collection, we selected 120 as the number of Class IV and V bone fragments that would have to be profiled in order to be statistically confident that there is no human bone in the intensively processed assemblage from Alder Creek.

Unfortunately, given poor preservation and the fragmentary nature of the assemblage, randomly selecting 120 pieces of bone from the appropriate size class was not possible. After the bones in size classes IV, V, and VI were examined for preservation that could withstand histological processing, only 85 long bone fragments could be identified. The sample was derived from the one-half-inch and one-quarter-inch fractions and consisted of 10 bones in Class IV and 74 bones in Classes V and VI.²² This sample represents 23.5 percent of the 362 bones with evidence of processing scars, 0.04 percent (85/2,046) of the total number of long bone fragments, 0.04 percent (85/2,070) of the total sample of Class V

and VI bone fragments, and 0.005 percent of the total assemblage from the Donner family camp. The remaining bones in the assemblage were either too small to process or had had extensive damage from breaking, burning, cryoturbation (that is, freeze-thaw action), and cracking.

Thus, if our sample size included 90 bone fragments, we could claim 68 percent confidence that one human bone would be included in our sample if 1 percent of the refuse at Alder Creek actually contained human bone. With a sample size of 85, therefore, the power of our study is diminished. Yet this small sample size is supplemented by the previous macroscopic analysis, which excluded another 20 fragments as being nonhuman based on gross morphology (15 Artiodactyla, 1 *Bos*, 1 Class II, and 3 Class III; see table 6.3). This means that the combined microscopic and macroscopic findings provided a total of 105 fragments for analysis²³—just above the 104 fragments calculated as the minimum number for 95 percent certainty that human remains were not part of this assemblage.

Identification Rubric

Laboratory methods are outlined in the notes section of this chapter.²⁴ Bone samples were first evaluated quantitatively for the presence of human specimens. Human bones can be distinguished by osteon and Haversian canal diameters as well as the number of osteons per square millimeter. Quantitative, morphometric considerations useful for discriminating humans from other mammals have been described by forensic scientists and archaeologists.²⁵ As a supplement to the published literature on histomorphometrics,²⁶ we compared values from histomorphometric analysis of ten adult human femora ($n=200$ osteons measured).

Secondary osteons and their central canals are significantly larger in adult humans than in the other large mammals likely to be in this assemblage: horses (*Equus ferus caballus*), cows (*Bos taurus*), and deer (*Odocoileus* sp.) (table 6.5). Adult human osteons commonly range in diameter from 174 micrometers to 506 micrometers²⁷ and Haversian canal diameters range in size from 33 micrometers to 100 micrometers.²⁸ Secondary osteon density in long bones is usually one to two Haversian canals per square millimeter. Osteon diameters, particularly the minimum diameters, are on average smaller in horses (158–223 μm), deer (67–165

Table 6.5. Osteon and Haversian canal diameters from published sources and this study

Description	Osteon diameter		Haversian canal diameter	
	Min. (µm)	Max. (µm)	Min. (µm)	Max. (µm)
Cattaneo et al., "Determining the Human Origin"				
Human	277	353	58	77
Nonhuman ^a	223	297	34	45
Dittmann, "Histomorphometric Investigations"				
Human	174	281	33	50
Horse	158	205	26	33
Cow	121	157	18	23
This study ^b				
Human	244	506	56	74
Cow	52	163	9	38
Deer	67	143	17	29
Elk	108	157	14	30

^aThe nonhuman sample in Cattaneo et al., "Determining the Human Origin" consisted of 5 cows, 6 sheep, 1 horse, 1 dog, and 1 cat.

^bThe reference sample in the current study included 1 cow, 1 deer, 1 elk, and 10 adult human femurs.

µm), and cows (79–250 µm), which can have as many as twenty to thirty Haversian canals in a square millimeter. Minimum Haversian canal diameters are similarly smaller in horses (24–54 µm), deer (17–29 µm), and cows (9–23 µm). On the basis of measurements of the minimum and maximum diameters of osteons and their central canals, human long bone fragments can be discriminated from nonhuman fragments with a high level of precision.²⁹

Once the specimens were evaluated for the presence of human remains, the nonhuman component of the sample was qualitatively sorted into family-level taxonomic groups. The major qualitative difference distinguishing human from nonhuman mammalian long bone fragments is a predominance of large, densely packed, overlapping, Haversian systems.³⁰ Primary lamellar bone is only commonly found as new bone

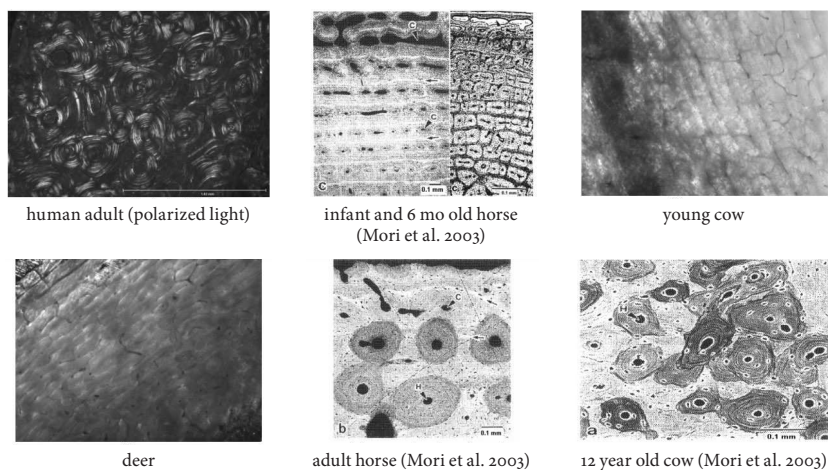


Figure 6.2. Faunal comparison collection: cow, deer, human, horse. Images from this study and Mori et al., “Comparative Histology,” 43.

apposition at the periosteal surface (or outer circumference),³¹ although occasionally there are pockets of lamellar bone at the endosteal surface or in regions of the cross section that have yet to be remodeled. Primary bands of osteons have not been documented in large regions of adult human bone, and the presence of plexiform bone makes it very unlikely that a particular bone fragment belongs to a human.³² Plexiform bone is only rarely seen in humans, but such bone may form when a child is going through a very rapid growth spurt or experiences some form of nutritional stress, particularly iron-deficiency anemia.³³ If human children were present in the assemblage, we would expect to see primary bone, and perhaps plexiform bone given the likelihood of nutritional stress. In a long bone fragment the size of an adult human’s, the presence of plexiform bone indicates that the bone is not human.

Qualitative criteria for identifying bones in the nonhuman component of the sample were taken from the published literature and from bone samples of fauna processed for reference use in this analysis: elk, bear, deer, cow, antelope, pig, and coyote (figure 6.2).³⁴ The nonhuman component of the Alder Creek sample was evaluated to discriminate perisodactyls (odd-toed hoofed animals, such as horses) from artiodactyls (even or two-toed, hoofed animals, such as cows and deer). Young equids

(horses) were identified on the basis of large areas of primary osteons, banded primary osteons, and “budding” at the periosteal surface.³⁵ Non-human primates and occasionally humans can also have large areas of primary osteons in some skeletal elements, but banding is rarely seen in adult humans (an estimated 3.3 percent of individuals), and it generally occurs in an isolated row within the periosteal lamellar region.³⁶

Cervids (deer) were identified from specimens with secondary osteon remodeling at the interior of the cortex, situated between layers of circumferential lamellae and plexiform bone at the outer surface.³⁷ Bovids (cows and oxen) also have well-organized plexiform tissue, with large lamellar regions up to 200 micrometers in diameter, which persists through most of their adult life.³⁸ In older bovine individuals, secondary osteons can develop near the endosteal surface, eventually remodeling the entire surface.³⁹ Bovine secondary osteons have few lamellae and relatively few osteocytes,⁴⁰ and they also tend to have a thick osteoid perimeter around the Haversian canal in contrast to the thinner perimeter of cervids and equids.

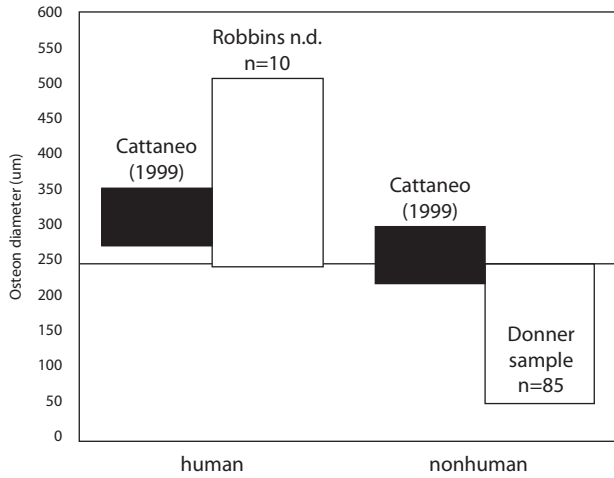
Using the observations about bone biology described above, we developed the following rubric.

Our criteria for assigning a bone sample to the “human” category were (1) lack of plexiform bone, (2) a substantial amount of secondary osteon remodeling, (3) Haversian canal diameters of 50–100 micrometers for secondary osteons, (4) secondary osteon diameters of 240–500 micrometers, and (5) an average of one or two secondary osteon canals per square millimeter of bone surface.

Bones assigned to the equid (horse) category had (1) large fields of primary or secondary osteons arranged in bands circumferentially within annulations (or rings) of lamellar bone, (2) evidence of budding, and (3) banded secondary osteons with dimensions in the range of equids.

Bones were assigned to the cervid (deer) category when (1) the plexiform bone had lamellar sheets of smaller diameter (75–125 μm wide) than those of cows (175–250 μm), (2) remodeling occurred such that the highest concentrations of (and the oldest) secondary osteons were situated between plexiform regions at the periosteal and endosteal envelopes, and (3) osteons were within the dimensions accepted for deer.

Bones were assigned to the bovid (cow) category when they had (1) large areas of plexiform bone with a widely spaced plexus of canals (lamellar regions 175–250 μm wide), (2) secondary remodeling with sporadic,



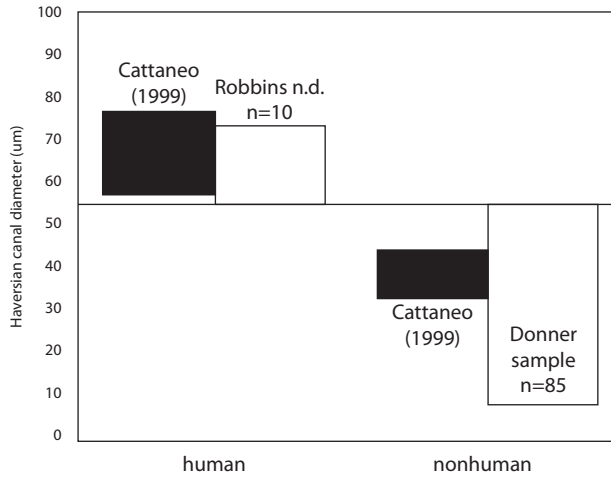
(above and opposite) **Figure 6.3.** Histomorphometrics in contemporary reference samples. Data from Cattaneo et al., “Determining the Human Origin.”

large secondary osteons, (3) relatively large osteocytes arranged in a few circumferential lamellar sheets, and (4) the presence of a thick layer of osteoid around the Haversian canal.

Results

Histomorphometrics demonstrated that none of the bone fragments had measurements consistent with human tissue (table 6.5). Osteon diameters were limited to a range of 48–250 µm; Haversian canal diameters were 5–55 µm. These results fall at the low end or outside the range expected for humans (osteons, 175+ µm; Haversian canals, 30–75 µm) (figure 6.3). In addition, none of the samples studied demonstrated the tightly packed, overlapping osteon pattern expected in human bone tissue (except for one Class IV bone [5 mm in diameter], which is discussed below). Thus, all of the specimens had features inconsistent with human bone: large regions of plexiform tissue, banded osteons, and/or averages of ten to forty osteons per square millimeter.

Therefore, on the basis of the microscopic quantitative and qualitative expectations outlined above, investigators identified no adult human



remains in this assemblage of 85 large mammalian long bone fragments. In addition, the macroscopic analysis confirmed another 20 fragments as being nonhuman (15 Artiodactyla, 1 *Bos*, 1 Class II, and 3 Class III). So the combined microscopic and macroscopic findings identified a total of 105 fragments as nonhuman.⁴¹

To more closely examine this nonhuman bone, fragments were sorted into categories at the level of the family based on qualitative assessment of the primary bone tissue architecture. Of the total sample ($n=85$), 12 (14.11 percent) individuals had primary and/or secondary banded osteons; 61 (71.76 percent) individuals had plexiform bone and/or secondary remodeling. Of the latter category, 32 (37.65 percent) had plexiform bone and secondary osteons with large lamellar sheets ($>200\ \mu\text{m}$ in width), large osteocytes, and thick osteoid perimeters (figure 6.4). Based on our qualitative rubric, we estimate that there are 12 horse, 29 deer, and 32 cow bone fragments in this sample. This is not to suggest that is the number of individual animals—just the number of specimens belonging to those kinds of animals. There were two additional samples in Class V that could not be assigned a taxonomic category because diagenesis obliterated the microstructure.

Ten of the fragments (11.76 percent) considered here belonged to size class IV. For this portion of the analysis, we were looking to identify

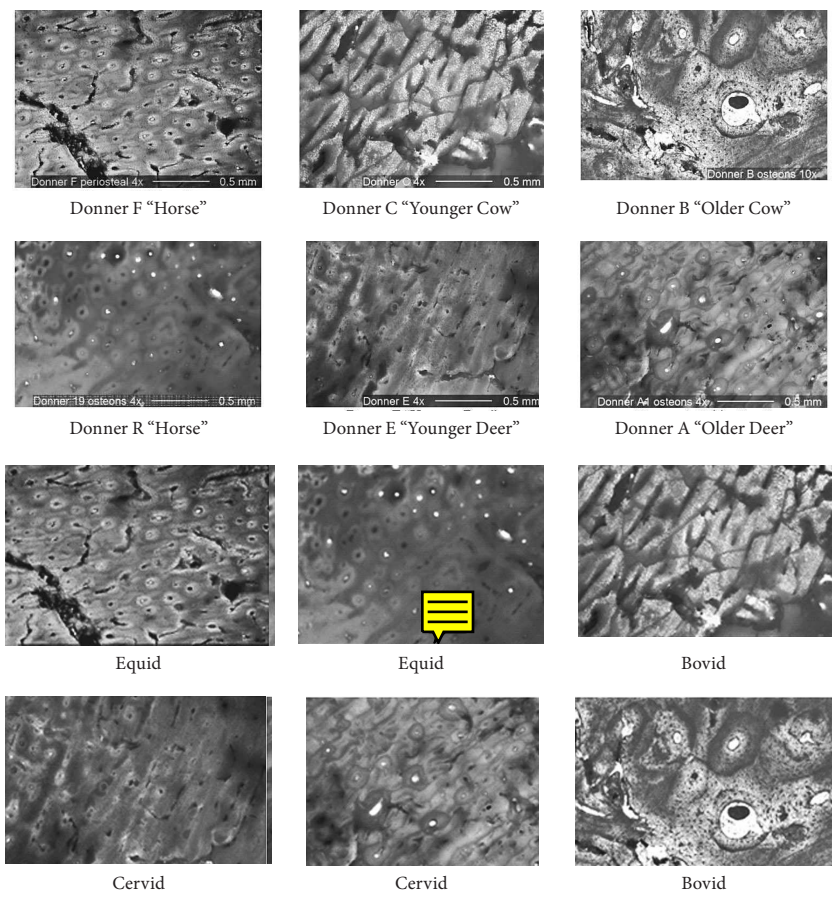


Figure 6.4. Images from Donner Party bone samples. From Dixon et al., “Men, Women, and Children,” 640.

nonhuman mammals and for evidence of infant humans; thus, the rubric for identifying the bone as human was different. Human infant long bones are composed primarily of lamellar woven bone, and secondary remodeling begins late in infancy and continues during the second or third year of life. A Class IV long bone fragment primarily constituted of lamellar woven bone would be consistent with an identification of human, in that infant humans could not be eliminated as a possibility. Upon examining these Class IV fragments in the microscope, we found

that three were significantly affected by diagenesis and could not be further identified. Six bone fragments in this category had primary lamellar bone tissue that was not the disorganized woven bone diagnostic of human infants. The nine fragments we examined may have come from any of the following Class IV animals that would have been active in the Sierra Nevada at that time: gray, kit, and red fox; wolf, coyote, and dog; and porcupine, muskrat, and beaver.

One Class IV fragment (with a total bone cross-section diameter of 5 mm) had butchering marks (see chapter 7). Histological analysis demonstrated that the bone had undergone diagenesis. The surface could be imaged using reflected light; however, the poor quality of the resulting image made histomorphometrics impossible. Qualitatively, this bone demonstrated dense Haversian remodeling, with secondary osteons present across the entire cross section. This bone tissue type is inconsistent with a human long bone fragment of this size. The bone's diameter could be consistent with a human infant less than one year old, but at this age, we would expect little to no remodeling. On the basis of the diameter and qualitative features of the bone cross section, we can tentatively attribute this bone to the family Canidae. We can therefore rule out the family Leporidae because rabbits and hares should be classified in Class III, rather than Class IV.⁴²

Discussion

Our results indicate that the bone we sampled from the Alder Creek assemblage did not include human tissue. The bone fragments did, however, include remains from horse, deer, cattle, and dog (equids, cervids, bovids, and a canid). While our findings allow us to provide a descriptive account of some of the larger mammals present in the bone refuse at Alder Creek, there are also limitations to our interpretation. We cannot determine how many individuals are represented or how old the animals were when they died. Moreover, we cannot determine the proportion of the diet that these different species constituted. Our analysis demonstrates part of the starvation diet at the Donner campsite, but there is likely a more diverse array of species represented in the thousands of bone fragments too small or too fragile to be processed for histology. Moreover, other animals were probably consumed but did not leave recognizable traces in the archaeological record.

How do our findings compare to earlier excavations of Donner Party encampments? Small, weathered bone fragments were recovered during Donald Hardesty's excavations at Donner Lake.⁴³ Forensic anthropologist P. Willey examined bone fragments from the Murphy cabin assemblage but found them to be too small and deteriorated for identification or to recognize processing scars from cannibalism (see chapter 3). Radioimmunoassay techniques (used for measuring antigen concentrations in the blood) were subsequently carried out on bones from Donner Lake and revealed that some of the bones were human.⁴⁴ Radioimmunoassay analysis was not carried out on the severely weathered bone excavated by Hardesty at Alder Creek.

If cannibalism occurred at the Alder Creek site, there are numerous possible explanations for why no human remains were identified in this analysis. Perhaps human remains were processed away from the habitation area, at a locality that remains unexcavated (see chapters 5 and 7). It is possible that human bodies were treated differently, out of respect for those who remained alive or in an attempt to conceal such activities from others in the camp. Cannibalism may have occurred for only a short time at the end of the occupation of the site (see chapter 1), and thus the bodies were unlikely to have been processed down to the bone.⁴⁵ If cannibalism occurred, the remains may not have been fully exploited in the manner of the animal carcasses. If humans were not reduced to bones that were then crushed and boiled for marrow and grease, they are less likely to be represented in this assemblage. Thus, there are many explanations for the absence of human remains in the hearth deposits; therefore, the result of this study does not confirm or deny the practice of cannibalism at the site.

The other remains we were able to identify most likely consist of cow, deer, horse, and dog, which were presumably consumed by the individuals trapped at Alder Creek. We know that the Donner Party left for California with a substantial number of cattle, some horses, and dogs. We also know that horses were left by the relief parties in March 1847. Eliza Donner Houghton's and Patrick Breen's diaries speak mainly of cattle being used for food, but they both describe the relief parties organizing horses to be taken to Donner Lake to be left with the survivors and eaten once the other provisions ran out.⁴⁶ However, Eliza Donner described Mr. Eddy having meat from a bear that was killed early on during the winter. She also described carcasses of bullocks and horses among the

remains at the Donner Lake camp when the last relief party arrived to rescue Mr. Keseberg,⁴⁷ and we know that at least one deer was killed during the “Forlorn Hope” escape attempt. In addition, acquaintances of the survivors have recounted that horses were eaten. For example, G. W. Thissell, who was the neighbor of George Donner, Jr., reported, “They saw their provisions fading away. First on half rations, then just enough to sustain life. The last ox and horse had been killed, then their faithful dogs, and, lastly, they boiled the old ox and horse hides, and were living on them when they were rescued.”⁴⁸

This archaeological project was designed to expand our understanding of the Donner Party’s experience. The osseous remains represent the starvation diet of the camp. They demonstrate a struggle to survive that transgressed social and cultural boundaries, such as those that separate horses and dogs from other animals commonly used for food (see also chapter 7). The bones also suggest differential treatment afforded to the human remains, which also made them less likely to be preserved or discovered.

Even within the extremes of cold and starvation, meaning persists. Culture is the only force in nature that can define food as a moral substance even in the face of incredibly harsh biological circumstances.⁴⁹ The absence of human remains in the food refuse is not evidence that the Donner family never resorted to cannibalism. It represents instead a period of time when these families starved themselves and their children to avoid cannibalism. The fragments of bone in the hearth represent the desire to treat the dead as different from other kinds of food. Although osteologists rarely feel this way, in the case of the Alder Creek Camp, the *absence* of human tissue in the food refuse is the most interesting result.

Acknowledgments

Chapter contributor Guy Tasa conducted macroscopic analysis of the bone while working at the University of Oregon’s Museum of Natural and Cultural History. Tasa’s original macroscopic analysis was included in a paper presented to the Society for Historical Archaeology in 2006, entitled “The Donner Family Camp Site Bone.” Contributors Ryne Danielson and Matt Irish assisted Dr. Robbins with the bone histology related to this project while working on their undergraduate degrees in anthropology at Appalachian State University. The authors thank Dr.

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Notes

The chapter epigraph is from Postan, *Historical Method*.

1. Owsley, Mires, and Keith, "Case Involving Differentiation"; Ubelaker, *Human Skeletal Remains*; Dix, Stout, and Mosley, "Bones, Blood, Pellets"; Cattaneo et al., "Determining the Human Origin," 181; Mulhern and Ubelaker, "Differences in Osteon Banding"; Dittmann, "Histomorphometric Investigations"; Hillier and Bell, "Differentiating Human Bone," 249.

2. "Macroscopic" refers to analyses in which objects are observable with the unaided eye. For this project, macroscopic analyses of bone were conducted by Guy Tasa at the University of Oregon; see Tasa, "Donner Family Camp Site." An elaboration of Tasa's findings is presented in Dixon et al., "Men, Women, and Children."

3. See, for example, Shipman, Foster, and Schoeninger, "Burnt Bones and Teeth."

4. In the end, the histological analyses supported the size classifications based on visual observation.

5. See Grayson, *Quantitative Zooarchaeology*; Lawrence, *Post-Cranial Skeletal Characters*; Sisson and Grossman, *Anatomy*; Olsen, *Mammal Remains*; Schmid, *Atlas of Animal Bones*; Gilbert, *Mammalian Osteo-Archaeology*; Brown and Gustafson, *Key*.

6. Although the initial findings at Alder Creek suggest some similarity to Hardesty's Murphy cabin site (see chapter 3 and Hardesty, *Archaeology*) with cow bones being present, the recent analysis exhibits more contrast: Alder Creek Camp had probable deer along with rodent-, rabbit-, and dog-sized mammals, while the Murphy cabin had horse/mule, bear, and human. The results suggest that members of the Donner family camp at Alder Creek procured a greater variety of wild animals for food in addition to the domestic species that traveled with them. Human remains may be present in the assemblage, but they are unidentifiable by visual means. It is also possible that the stranded emigrants treated human remains differently; they may have been butchered differently or only tissue and not bone was removed or consumed. A detailed comparison between the Alder Creek camp and Donner Lake camp bone assemblage is forthcoming.

7. Histological analyses were conducted by Gwen Robbins, Matt Irish, Kelsey Gray, and Ryne Danielson.

8. Owsley, Mires, and Keith, "Case Involving Differentiation"; Cattaneo et al., "Determining the Human Origin," 181; Dittmann, "Histomorphometric Investigations."

9. Foote, "Contribution"; Enlow and Brown, "Comparative Histological Study," parts 1-3; Enlow, "Study"; Martin and Burr, *Structure*; Skedros, Su, and Bloebaum, "Biomechanical Implications"; Hidaka et al., "Histomorphometrical Study"; Whyte, "Distin-

guishing Remains”; Frank et al., “Microdamage in Canine Bone”; Mori et al., “Comparative Histology”; Locke, “Structure of Long Bones.” See also Owsley, Mires, and Keith, “Case Involving Differentiation”; and Mulhern and Ubelaker, “Differences in Osteon Banding.” Bone tissue types vary among skeletal elements; we limited this analysis to bone tissue types found in the walls of long bone shafts (diaphyseal compact bone).

10. Martin and Burr, *Structure*.

11. Foote, “Contribution”; see Enlow and Brown, “Comparative Histological Study,” part 1. For a historical perspective, see Martin and Burr, *Structure*.

12. Currey, *Bones*.

13. Martin and Burr, *Structure*.

14. Enlow and Brown, “Comparative Histological Study,” part 3.

15. Zoetis et al., “Species Comparison”; Enlow, “Study.” Small regions may form at the periosteal surface when a child is going through a very rapid growth spurt or experiences some form of nutritional stress, particularly iron-deficiency anemia.

16. These osteons are not discrete, bounded units of bone, and in fact, they are not easily distinguished from one another at all; the borders of one primary osteon will be indistinct from its neighbor. Bone tissue formed from primary osteons is not highly organized. These osteons are arranged in a relatively open, loosely organized configuration or sometimes in densely packed bands. See Currey, *Bones*.

17. Enlow and Brown, “Comparative Histological Study,” part 3; Hall, *Developmental and Skeletal Biology*; Martin and Burr, *Structure*; Currey, *Bones*. In general, there will be a lot of diversity in the size and shape of secondary osteons within a single bone or region of bone.

18. Currey, *Bones*.

19. Mulhern and Ubelaker, “Differences in Osteon Banding.”

20. Enlow and Brown, “Comparative Histological Study,” part 3.

21. Stewart, *Ordeal by Hunger*, 193, 215–16; Mullen, *Donner Party Chronicles*, 203.

22. The longest dimension of the specimens included measured between 0.77 centimeters and 2.73 centimeters.

23. See also Dixon et al., “Men, Women, and Children,” 647–48n21.

24. Ground sections were prepared using a protocol developed by G. J. R. Maat (“Practicing Methods,” 293) for calcined and fragile archaeological bone specimens. Low-viscosity cyanoacrylate, a fast-setting adhesive (most often called by the brand name Super Glue), was applied to the surface of the bone fragments and allowed to harden for twenty-four hours. A diamond-impregnated blade on a slow rotating saw (Buehler Minimet) was used to make the initial sections to approximately 4-millimeter thickness perpendicular to the long axis of the bone. One cut face was then ground and polished with successively finer grit sandpaper (220–600 grit) and then mounted on a glass slide using the cyanoacrylate. After at least two hours of hardening time, the opposite face was ground down to a final thickness of approximately 50–100 micrometers (μm) and polished with 800-grit sandpaper. The sections were examined using a transmitted light microscope under 40–100X final magnification. Images made from the microscope, known as micrographs, were obtained using a mounted Polaroid digital camera, and



the images were transmitted to a computer. The osteons were examined both directly through the microscope, and using the micrographs. A 0.5-millimeter scale was calibrated and digitally placed on the images. These images were imported into Photoshop xs and converted to gray scale. The midrange contrast, light, and dark ranges were also adjusted to provide maximum visibility of the microstructure. For archival purposes, the sections were removed from the slide using the solvent xylene, in which they were immersed for twenty-four hours. The finished sections were then permanently mounted onto glass slides using Entellen, a synthetic resin used to mount a bone section to the slide. Sections were examined for the presence of lamellar and laminar bone and for primary and secondary osteons. The entire cross section of the bone was evaluated, including the periosteal and endosteal surfaces and the interior architecture. Qualitative descriptions of the bone architecture were recorded. When secondary osteons were present, digital images obtained from a microscope, called digital micrographs, were imported into ImageJ (National Institute of Health software) for histomorphometrics. After the scale was calibrated, measurements were recorded for all intact osteons and Haversian canals visible in the field (2.15×1.61 millimeters). The minimum and maximum diameters were measured at the cement line. Records were kept of the number of features measured per specimen, minimum and maximum diameters, the mean measure (and standard deviation) for each feature in each individual, and the number of canals per square millimeter.

25. Owsley et al., "Case Involving Differentiation"; Cattaneo et al., "Determining the Human Origin," 181; Dittman, "Histomorphometric Investigations"; Mori et al., "Comparative Histology."

26. Cattaneo et al., "Determining the Human Origin," 181; Dittmann, "Histomorphometric Investigations"; Walter, Paine, and Horni, "Histological Examination."

27. Secondary remodeling is a process that increases with age, and the density of secondary osteons is variable. In addition, the size of osteons in humans varies with age; however, see Pfeiffer, "Variability in Osteon Size." Osteons in older individuals tend to be smaller than those of younger individuals, with more overlapping and fragmentary osteons that have been remodeled; see Kerley, "Microscopic Determination of Age." Skeletal element is also important, as femoral osteons have a greater diameter than rib osteons, for example; see Pfeiffer, "Variability in Osteon Size."

28. Owsley et al., "Case Involving Differentiation"; Cattaneo et al., "Determining the Human Origin," 181; Dittmann, "Histomorphometric Investigations."

29. Cattaneo et al., "Determining the Human Origin," 181.

30. Foote, "Contribution"; Enlow, "Study"; Enlow and Brown, "Comparative Histological Study," parts 1-3; Owsley et al., "Case Involving Differentiation"; Martin and Burr, *Structure*; Ubelaker, *Human Skeletal Remains*; Skedros, Su, and Bloebaum, "Biomechanical Implications"; Hidaka et al., "Histomorphometrical Study"; Mulhern and Ubelaker, "Differences in Osteon Banding"; Whyte, "Distinguishing Remains"; Frank et al., "Microdamage in Canine Bone"; Mori et al., "Comparative Histology"; Locke, "Structure of Long Bones."

31. Enlow and Brown, "Comparative Histological Study," part 3.
32. Mulhern and Ubelaker, "Differences in Osteon Banding."
33. Zoetis et al., "Species Comparison"; Enlow, "Study."
34. Walter and colleagues (in "Histological Examination") observe that coyote long bones do undergo secondary remodeling later in life, with secondary osteons of 0.1734 average diameter.
35. Enlow and Brown, "Comparative Histological Study," part 3; Mulhern and Ubelaker, "Differences in Osteon Banding"; Mori et al., "Comparative Histology." "Budding" refers to the way in which the primary osteons appear as they form adjacent to plexiform regions; see Currey, *Bones*.
36. Enlow and Brown, "Comparative Histological Study," part 3; Mulhern and Ubelaker, "Differences in Osteon Banding."
37. Enlow and Brown, "Comparative Histological Study," part 3; Owsley et al., "Case Involving Differentiation"; Ubelaker, *Human Skeletal Remains*; Mulhern and Ubelaker, "Differences in Osteon Banding."
38. Currey, *Bones*; Mori et al., "Comparative Histology."
39. Enlow and Brown, "Comparative Histological Study," part 3; Mori et al., "Comparative Histology."
40. An osteocyte is a star-shaped cell that occupies a hole (lacuna) within mature bone tissue.
41. See also Dixon et al., "Men, Women, and Children," 647–48n21.
42. Enlow and Brown, "Comparative Histological Study," part 3; Hidaka et al., "Histomorphometrical Study"; Frank et al., "Microdamage in Canine Bone"; see also Hillier and Bell, "Differentiating Human Bone."
43. Hardesty, *Archaeology*, 47–48.
44. Hardesty, *Archaeology*, 47–48.
45. See, for example, Dixon et al., "Men, Women, and Children."
46. Houghton, *Expedition*, 78.
47. Houghton, *Expedition*, 78, 356.
48. Houghton, *Expedition*, 154.
49. Zentall and Galeff, *Social Learning*, 166.

Bibliography

Archival Materials

Bancroft Library, University of California, Berkeley

Burbank, August Ripley. Diary. MSS P-A 304.

Ford, Ninevah. "The Pioneer Road Makers." Salem, Oregon, 1878. HNB P-A 32.

Lewis, A. F. "An Account of the Expedition of A. F. Lewis." MSS 90/188 c.

Beinecke Rare Book and Manuscript Library, Yale University, New Haven, Conn.

Love, Alexander. "Overland Journey from Leesburg." Western Americana Collection, WA MSS 309.

Orvis, Andrew. "Journal of an Overland Trip."

Van Dorn, Thomas J. Diary of T.J. Van Dorn. Thomas J. Van Dorn Papers, Western Americana Collection, WA MSS S-1319.

California State Archives, Sacramento

Breen, Patrick. Personal diary documenting experience at Donner Lake, 1846–47.

Fallon, William. Fourth Relief Party terms of agreement letter, April 10, 1847. Signed by William Fallon and witnessed by John Sinclair.

List of goods held by graves of Donners. 1847.

List of goods in Jacob and George Donner Estate. 1847.

Sales sheet of the goods of Jacob and G[eorge] Donner. June 3, 1847.

Woodworth, Captain. Order of inventory of provisions and supplies. February 1847.

California State Library, Sacramento

Markle, John A. "A Portion of the John A. Markle Diary Written in 1849 while En Route over the Emigrant Trail to California." Typescript. cF 593 M25.

Pioneer Manuscript Collection, box 356, fd 63.

*Church History Archive (formerly LDS Library Archives),
Church of Jesus Christ of Latter-day Saints, Salt Lake City*

Allred, Redick Newton. "Autobiographical Sketch and Diary, 1898–1903."

Bullock, Thomas. Journal. MS 2737, box 65, fd 3.

- Bunker, Edward. Autobiography, 1894. MS 1581.
- Caldwell, Matthew. "Short Life's History of Matthew Caldwell." Typescript, MS 15020.
- Hancock, Levi Ward. Journals, 1846–47. MS1395:3.
- Johnson, LeRoy C., to Emmett Harder, November 17, 2006.
- Kimball, Heber C. Journal. Kimball Papers, 1837–66.
- King, John Morris. "Sutter's Fort to Winter Quarters Diary." Mormon Overland Companies.
- Pace, James. "Autobiographical Sketch," ca. 1861.
- . Journal.
- Whitney, Horace K. Journal.
- Willey, Jeremiah. Memoir, 1832–59. MS 1591.
- Hudson's Bay Company Archives, Archives of Manitoba*
- Work, John. Letter to Sir George Simpson, February 20, 1844. D.5/10, folio 291.
- Huntington Library, San Marino, Calif.*
- Donner, Tamzene. Letter to Elizabeth Poor, January 12, 1840. Sherman Otis Houghton Papers, HOU 12.
- Wilder, Elitha C. Donner. Memoir. Eliza Poor Donner Houghton Papers, HM 58183.
- Wilder, Frances E. Donner. Memoir. Eliza Poor Donner Houghton Papers, HM 58183.
- Lee (Harold B.) Library, Brigham Young University, Salt Lake City, Utah*
- Cone, Gordon C. Diary, 1849–50. Vault Mss 661.
- McGlashan, Charles Fayette, Papers. BANC MSS C-B 570. Bancroft Library, University of California, Berkeley (cited throughout as McGlashan Papers)*
- App, Leanna C. Donner. Letter to C. F. McGlashan, April 1 and 27, 1879, fd 1.
- Babcock, Georgia A. Donner. Letters to C. F. McGlashan, March 27, April 16, and May 2, 1879, fd 2; June 15, 1879, fd 3; February 23, 1880, fd 4.
- Breen, James F. Letter to C. F. McGlashan, March 2, 1879, fd 9; May 2, 1879, fd 8.
- Breen, John. Letter to C. F. McGlashan, May 18, 1879, fd 11.
- Clark, Nicholas. Letter to C. F. McGlashan, November 16, 1879, fd 13.
- Graves, William C. Letter to C. F. McGlashan, April 14, 1879.
- Houghton, Eliza Donner. Letter to C. F. McGlashan, May 12, 1879, fd 20; November 11, 1884, fd 22; April 17, 1902; December 5, 1905.
- McGlashan, C. F. Notebook containing notes of interview with Louis Keseberg, April 4, 1879, fd 103.
- Murphy, Virginia Reed. Memoir, 1879, fd 100.
- Tucker, Reason P. Letter to C. F. McGlashan, undated, fd 52.
- Wilder, Frances E. Donner. Letters to C. F. McGlashan, April 17 and June 22, 1879, fd 54.
- Wilder, Georgie E. Letter to "My Dear Auntie" [Eliza P. Donner Houghton], November 30, 1902, fd 57.

*National Frontier Trails Center Manuscripts, Merrill J. Mattes Library,
National Frontier Trails Center, Independence, Mo.*

Angel, James Newton. "Memoir of 1847, Told to Edward H. Davis, 1933." Typescript donated by Janie Angel Pollock, Julian, California.

Nevada Historical Society, Reno

ITCN History Project, Inter-Tribal Council of Nevada.

Wier, Jeanne Elizabeth, Papers. MS/NC 17.

*Oregon-California Trails Association Manuscripts, Merrill J. Mattes Library,
National Frontier Trails Center, Independence, Mo.*

Anonymous. "Diary from Michigan to California in 1849."

Buck, Don. "The 'Humbug': Emigrant Experiences along the Humboldt during the Gold Rush." Talk given at the Oregon-California Trails Association National Convention, Elko, Nevada, August 14, 1996. Typescript, 18 leaves.

Galbraith, Thomas. "Journal of Mess Number Twenty-seven of the Pittsburg and California Enterprise Company." May 28, 1849. Typescript.

Murrell, George. Letter to Dear Father, September 17, 1849. Copy of Huntington Library document.

Oregon Historical Society Museum, Portland

King, Mariah. Letter to "Dear Mother, Brother, and Sisters," April 1, 1846.

Reed [Lewis], Martha J. (Patty), *Material. Sutter's Fort State Historic Park, California State Parks, Sacramento (cited throughout as Reed Papers)*

Donner, George. Note, November 28, 1846, document 64.

Donner, Jacob. Note to Mr. Eliot, undated, document 399.

Hull, J. B. Letter to James F. Reed, February 6, 1847, document 87.

"List of merchandise belonging to the Estate of Jacob Donner Decd. Sold to Sundrie persons on the 2nd day of March 1847, by Hiram O. Miller," document 103.

Miller, Hiram O., and James F. Reed. Miller-Reed diary, document 51.

Pyle, Edward G, administrator. Sale of property of estate of Franklin Ward Graves, document 149.

Sales sheets, document 122.

Sinclair, John. Authorization to salvage property on behalf of Donner heirs, document 110.

———. Letter to John F. Reed, June 23, 1847, document 127.

Stanton, C. T. Note to "Mrs [i.e., Messrs.] Donner," December 9, 1846, document 72.

Tennessee State Library and Archives, Nashville

Murphy, Mary A.M. Letter to Green T. Lee, May 25, 1847. Ms 72-29.



University of Nevada Library/Knowledge Center, Special Collections Department, Reno

d'Azevedo, Warren L. Washoe Indian research papers. 97-04, 99-39.

National Science Foundation. Field Notes. National Science Foundation Graduate Field Training Project in Anthropology Collection, University of Nevada Ethnographic Archive. 92-09.

Siskin, Edgar. "The Field Notes of Edgar Siskin." 90-03.

Wright, G. "The Papers of George F. Wright." 90-37.

Utah State Historical Society, Salt Lake City

Pettegrew, David. "Journal of David Pettegrew." David L. Bigler Typescript, MSS 4278.

Newspapers Consulted

Adams Sentinel (Gettysburg, Penn.)

Bristol Mercury

Californian (Monterey)

California Star (San Francisco)

Daily Alta California (San Francisco)

Daily Nevada State Journal (Reno)

Davenport (Iowa) Gazette

Evening Bulletin (San Francisco)

Freeman's Journal and Daily Commercial Advertiser (Dublin)

Fresno Bee

Hayward (Calif.) Daily Review

Illinois Gazette (Lacon)

Latter-day Saints' Millennial Star

Lloyd's Weekly London Newspaper

London Morning Chronicle

Manchester Times

Milwaukee Journal

Monterey Californian

Mountain Democrat (Placerville, Calif.)

New York Herald

North American and United States Gazette (Philadelphia)

Oakland Tribune

Prairie du Chien (Wisc.) Patriot

Reno Evening Gazette

Sacramento Bee

Sacramento Daily Record-Union

Salt Lake Tribune

San Francisco Call

Sangamo Journal (Springfield, Ill.)

Santa Cruz Sentinel
Sierra Sun (Truckee, Calif.)
St. Louis Republican
Truckee Republican
Western Republican (Lawrenceburg, Ind.)
Wisconsin Democrat (Madison)

Published and Other Materials

- Abler, Thomas S. "Iroquois Cannibalism: Fact Not Fiction." *Ethnohistory* 27 (1980): 309–16.
- Alexander, Jeffrey C., Bernhard Giesen, and Jason L. Mast, eds. *Social Performance*. Cambridge: Cambridge University Press, 2006.
- Alunni-Perret, Veronique, Michele Muller-Bolla, Jean-Pierre Laugier, Laurence Lupi-Pégurier, Marie-France Bertrand, Pascal Staccini, Marc Boll, and Gerald Quatrehomme. "Scanning Electron Microscopy Analysis of Experimental Bone Hacking Trauma." *Journal of Forensic Science* 50 (2005): 796–801.
- Ames, Kenneth. "Meaning in Artifacts: Hall Furnishings in Victorian America." *Journal of Interdisciplinary History* 9 (1978): 9–46.
- Anonymous. *An Account of the Apprehension, Trial, Conviction, and Condemnation of Manuel Philip Garcia and Jose Demas Garcia Castilano . . . for a Most Horrid Murder and Butchery, Committed on Peter Lagoardette . . .* (Norfolk, Va.: privately printed, 1821).
- Antón, Susan C., and Steadman, David W. "Cannibals in the Cooks? Island Biogeography and Hominid Behavior." *American Journal of Physical Anthropology*, supplement 26 (1998): 64–65.
- Arens, William. *Man-Eating Myth: Anthropology and Anthropophagy*. Oxford: Oxford University Press, 1979.
- Bagley, Harry P. "Clues to the Lost Donner Camp." *Sacramento Bee*, September 14, 1940.
- . "Where Death Stalked the Donner Party: Woman Assists in Search for Ruins of the Tragic Cabin." *Sacramento Bee*, October 11, 1941.
- Bagley, Will. "'Every Thing Is Favorable! And God Is on Our Side': Samuel Brannan and the Conquest of California." *Journal of Mormon History* 23 (1997): 185–209.
- . "Lansford Warren Hastings: Scoundrel or Visionary?" *Overland Journal* 12 (1994): 12–26.
- Bancroft, Hubert H. *History of California*. 7 vols. San Francisco: History Company, 1886–90.
- Barrett, S. "The Washo Indians." *Bulletin of the Public Museum of Milwaukee* 2, no. 1 (1917): 1–52.
- Beattie, Owen, and John Geiger. *Frozen in Time: The Fate of the Franklin Expedition*. Vancouver, B.C.: Greystone Books, 2004.
- Becker, Jasper. *Hungry Ghosts: Mao's Secret Famine*. New York: Free Press, 1996.
- Bezerra, Bruna M., Antonio da Silva Souto, and Nicola Schiel. "Infanticide and Canni-

- balism in a Free-Ranging Plurally Breeding Group of Common Marmosets (*Callithrix jacchus*)." *American Journal of Primatology* 69 (2007): 945–52.
- Bigler, David L., and Will Bagley, eds. *Army of Israel: Mormon Battalion Narratives*. Spokane, Wash.: Arthur H. Clark, 2000.
- Bigler, Henry W. "Extracts from the Journal of Henry W. Bigler." *Utah Historical Quarterly* 5 (1932): 89–92.
- Billman, Brian R., Patricia M. Lambert, and Banks L. Leonard. "Cannibalism, Warfare, and Drought in the Mesa Verde Region during the Twelfth Century A.D." *American Antiquity* 65 (2000): 145–78.
- Binford, Lewis R. *Bones: Ancient Men and Modern Myths*. New York: Academic Press, 1981.
- . *Nunamiut Ethnoarchaeology*. New York: Academic Press, 1978.
- Binford, Lewis R., and Chuan Kim Ho. "Taphonomy at a Distance, 'The Cave Home of Beijing Man?'" *Current Anthropology* 26 (1985): 413–42.
- Blanc, Albert C. "Social Evidence for the Ideologies of Early Man." In *Social Life of Early Man*, edited by Sherwood L. Washburn, 119–36. Chicago: Aldine Publishing, 1961.
- Bliss, Robert S. "The Journal of Robert S. Bliss, with the Mormon Battalion." *Utah Historical Quarterly* 4 (1931): 110–28.
- Bourdieu, Pierre. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press, 1977.
- Bowden, Ross. "Maori Cannibalism: An Interpretation." *Oceania* 55 (1984): 81–99.
- Boyde, A. "Airpolishing Effects on Enamel, Dentine, and Cement: Assessment of Clinical and Laboratory Applications." *British Dentistry Journal* 156 (1984): 287–91.
- Brady, Ivan. "The Myth-Eating Man." *American Anthropologist* 84 (1982): 595–611.
- Brain, Charles K. *The Hunters or the Hunted: An Introduction to African Cave Taphonomy*. Chicago: University of Chicago Press, 1981.
- Brannan, Samuel. "S. Brannan's Letter." *Latter-day Saints' Millennial Star*, October 15, 1847.
- Brantlinger, Patrick. "Missionaries and Cannibals in Nineteenth-Century Fiji." *History and Anthropology* 17 (2006): 21–38.
- Breen, Harry J. Letter to Walter M. Stookey, February 12, 1947. In *Fatal Decision: The Tragic Story of the Donner Party*, edited by Walter M. Stookey, 189–94. Salt Lake City: Deseret Books, 1950.
- Breen, Patrick. "Diary of Patrick Breen." In Morgan, *Overland in 1846*, 310–22.
- Brink, J. W. "Fat Content in Leg Bones of *Bison bison*, and Applications to Archaeology." *Journal of Archaeological Science* 24 (1997): 259–74.
- Broadhead, Michael. "The Donner Party and Overland Emigration, 1840–1860." In Hardesty, *Archaeology*, 18–29.
- Brothwell, Don R. "Cannibalism in Early Britain." *Antiquity* 35 (1961): 304–307.
- Broughton, Jack M. "Prey Spatial Structure and Behavior Affect Archaeological Tests of Optimal Foraging Models: Examples from the Emeryville Shellmound Vertebrate Fauna." *World Archaeology* 34 (2002): 60–83.

- Brown, Christopher L., and Carl E. Gustafson. *A Key to Postcranial Skeletal Remains of Cattle/Bison, Elk, and Horse*. Report of Investigations 57. Spokane: Laboratory of Anthropology, Washington State University, 1979.
- Brown, Daniel James. *The Indifferent Stars Above: The Harrowing Saga of a Donner Party Bride*. New York: HarperCollins, 2009.
- Brown, John Henry. *Reminiscences and Incidents of Early Days of San Francisco*. 1886. Reprint, San Francisco: Grabhorn Press, 1933.
- Bryant, Edwin. *What I Saw in California*. New York: D. Appleton, 1848. Reprint, Lincoln: University of Nebraska Press, 1985.
- Buck, Don. "When Is a Trail an Emigrant Trail? From Verdi to Dog Valley: A Truckee-Donner Route Revision." Manuscript, Tahoe National Forest Supervisor's Office, Nevada City, California, 1994.
- Buckles, William G., ed. "Anthropological Investigations at the Crest of the Continent, 1975-1978," vol. 2, chaps. 7-11. Manuscript, Department of Anthropology, University of Southern Colorado, Pueblo, 1978.
- Bullock, Peter Y. "A Reappraisal of Anasazi Cannibalism." *Kiva* 57 (1991): 5-16.
- . "A Return to the Question of Cannibalism." *Kiva* 58 (1992): 203-205.
- Burrows, Rufus Gustavus. *A Long Road to Stony Creek: Being the Narratives by Rufus Burrows and Cyrus Hull of Their Eventful Lives in the Wilderness West of 1848-1858*. Ashland, Calif.: L. Osborne, 1971.
- . "Reminiscences." In *Old Greenwood: The Story of Caleb Greenwood, Trapper, Pathfinder, and Early Pioneer*, edited by Charles Kelly and Dale L. Morgan, 267-74. Georgetown, Calif.: Talisman Press, 1965.
- Busch, Jane. "Second Time Around: A Look at Bottle Reuse." *Historical Archaeology* 21 (1987): 67-80.
- Bushman, Richard. *The Refinement of America: Persons, Houses, Cities*. New York: Random House, 1993.
- Butzer, Karl. "Environment, Culture, and Human Evolution." *American Scientist* 65 (1977): 572-84.
- Bygott, J. D. "Cannibalism among Wild Chimpanzees." *Nature* 238 (1972): 410-11.
- Cáceres, Isabel, Marina Lozano, and Palmira Saladié. "Evidence for Bronze Age Cannibalism in El Mirador Cave (Sierra de Atapuerca, Burgos, Spain)." *American Journal of Physical Anthropology* 133 (2007): 899-917.
- Calder, J. *The Victorian Home*. London: Batsford, 1977.
- California Star, Yerba Buena and San Francisco, The*, vol. 1, 1847-1848. Introduction by Fred Blackburn Rogers. Berkeley, Calif.: Howell-North, 1965.
- Cattaneo, C., O.E. Craig, N.T. James, and R.J. Skol. "Determining the Human Origin of Fragments of Burnt Bone: A Comparative Study of Histological, Immunological and DNA Techniques." *Forensic Science International* 102 (1999): 181-91.
- Child, Andrew. *Overland Route to California*. Milwaukee, Wisc.: Daily Sentinel Steam Power Press, 1852.
- Chong, Key Ray. *Cannibalism in China*. Wakefield: Longwood Academic, 1990.

- Church, Robert R., and R. Lee Lyman. "Small Fragments Make Small Differences in Efficiency When Rendering Grease from Fractured artiodactyl Bones by Boiling." *Journal of Archaeological Science* 30 (2003): 1077–84.
- Clark, Keith, and Lowell Tiller. *Terrible Trail: The Meek Cutoff, 1845*. Caldwell, Idaho: Caxton Printers, 1967. Reprint, Bend, Ore.: Maverick Publications, 1993.
- Clarke, Dwight L., ed., *The Original Journals of Henry Smith Turner: With Stephen Watts Kearny to New Mexico and California, 1846–1847*. Norman: University of Oklahoma Press, 1966.
- . *Stephen Watts Kearny: Soldier of the West*. Norman: University of Oklahoma Press, 1961.
- Cleland, Charles E. "Historical Archaeology Adrift?" *Historical Archaeology* 35 (2001): 1–8.
- Clifford, James. *Routes: Travel and Translation in the Late Twentieth Century*. Cambridge, Mass.: Harvard University Press, 1997.
- Cohen, Daniel A. *Pillars of Salt, Monument of Grace: New England Crime Literature and the Origins of American Popular Culture, 1674–1860*. New York: Oxford University Press, 1993.
- Colson, E. "In Good Years and in Bad: Food Strategies of Self-Reliant Societies." *Journal of Anthropological Research* 35 (1979): 18–29.
- Conklin, Beth A. *Consuming Grief: Compassionate Cannibalism in an Amazonian Society*. Austin: University of Texas Press, 2001.
- . "'Thus Are Our Bodies, Thus Was Our Custom': Mortuary Cannibalism in an Amazonian Society." *American Ethnologist* 22 (1995): 75–101.
- Crader, Diana C. "Slave Diet at Monticello." *American Antiquity* 55 (1990): 690–717.
- . "The Zooarchaeology of the Storehouse and the Dry Well at Monticello." *American Antiquity* 49 (1984): 542–58.
- Currey, J.D. *Bones: Structure and Mechanics*. Princeton: Princeton University Press, 2002.
- . *The Mechanical Adaptations of Bones*. Princeton: Princeton University Press, 1984.
- Curry, Andrew. "Case of the Colorado Cannibal." *Archaeology* 55 (2002): 50–53.
- Dangberg, G. *Washo Tales: Three Original Washo Indian Legends*. Occasional Paper. Carson City, Nev.: State Museum, 1968.
- Dansie, Amy. "The Rye Patch Archeofauna." In *The Humboldt Project, Rye Patch Reservoir: Phase IV Archaeological Data Synthesis*, edited by Mary Rusco and Jonathan O. Davis. Nevada State Museum Archaeological Services Reports. Carson City: Nevada State Museum, 1982.
- Darling, J. Andrew. "Mass Inhumation and the Execution of Witches in the American Southwest." *American Anthropologist* 100 (1999): 732–52.
- Davis, Donald A. *The Jeffrey Dahmer Story: An American Nightmare*. New York: St. Martin's Paperbacks, 1991.
- Davis, J. T. *Trade Routes and Economic Exchange among the Indians of California*. Ed-



ited by Robert F. Hiezer. Ballena Press Publications in Archaeology, Ethnology and History 3. Ramona, Calif.: Ballena Press, 1961.



d'Azevedo, Warren L. "The Washoe." Manuscript in possession of author, 1984.

———. "The Washoe." In *Handbook of North American Indians*, vol. 11, *The Great Basin*, edited by Warren L. d'Azevedo, 466–99. Washington, D.C.: Smithsonian Institution, 1986.

———, ed. *The Washo Indians of California and Nevada*. Anthropological Papers 67. Salt Lake City: University of Utah, 1963.

———. "Washo Place Names." Manuscript in possession of author, 1956.

d'Azevedo, Warren L., Wilbur A. Davis, Don D. Fowler, and Wayne Suttles, eds. "Comments on Tribal Distribution." In *The Current Status of Anthropological Research in the Great Basin: 1964*, edited by Warren L. d'Azevedo, 315–44. Desert Research Technical Series S-H, no. 1. Reno, Nev.: Social Sciences and Humanities Publications, 1966.

De Cunzo, Lu Ann, and Bernard L. Herman, eds. *Historical Archaeology and the Study of American Culture*. Knoxville: University of Tennessee Press, 1996.

Deetz, James. In *Small Things Forgotten: The Archeology of Early American Life*. New York: Anchor Books, 1996.

Defleur, Alban, Tim White, Patricia Valensi, Ludovic Slimak, and Evelyne Cregut-Bonnoure. "Neanderthal Cannibalism at Moula-Guercy, Ardeche, France." *Science* 286 (1999): 128–31.

Degusta, David. "Fijian Cannibalism: Osteological Evidence from Navatu." *American Journal of Physical Anthropology* 110 (1999): 215–41.

Delavan, James. Letter of August 7, 1854, printed in the *Adrian (Mich.) Expositor*, September 23, 1854. Reprinted in Reidt, "Lola Montez' Ill-Fated Trip."

Denys, C. "Taphonomy and Experimentation." *Archaeometry* 44 (2002): 469–84.

De Paso. "Letter from Donner Lake." *Sacramento Daily Union*, September 27, 1866.



d'Errico, F., B. Giacobini, and P. F. Puech. "An Experimental Study of the Technology of Bone-Implement Manufacture." *MASCA Journal* 3 (1984): 71–74.

Diamond, Jared. "Living through the Donner Party." *Discover Magazine*, March 1, 1992.

Dibble, Harold L., Philip G. Chase, Shannon P. McPherron, and Alain Tuffreau. "Testing the Reality of a 'Living Floor' with Archaeological Data." *American Antiquity* 62 (1997): 629–51.

Díez, J. Carlos, Yolanda Fernández-Jalvo, Jordi Rosell, and Isabel Cáceres. "Zooarchaeology and Taphonomy of *Aurora stratum* (Gran Dolina, Sierra de Atapuerca, Spain)." *Journal of Human Evolution* 37 (1999): 623–52.

Dittmann, K. "Histomorphometric Investigations on the Bone Microstructure of Primates and Domesticated Animals with the Aim of Species Identification with Consideration of the Domestication Effects." *Anthropologischer Anzeiger* 61 (2003): 175.

Dix, J. D., S. D. Stout, and J. Mosley. "Bones, Blood, Pellets, Glass and No Body." *Journal of Forensic Science* 36 (1991): 949.

- Dixon, Kelly J. *Boomtown Saloons: Archaeology and History and Virginia City*. Reno: University of Nevada Press, 2005.
- . “Donner Camp Salvage Project,” vol. 2, “Historic Site Evaluations, Report no. 05-17-1162.” Manuscript, Tahoe National Forest, Nevada City, California, 1996.
- . “Heritage Resource Inventory of the Crystal Fire Rehabilitation Project, Historic Site Evaluations, Report no. TY-94-1059, Toiyabe National Forest, Report no. 05-17-1125, Tahoe National Forest.” Manuscript, Tahoe National Forest, Nevada City, California, 1996.
- . “Sidling Up to the Archaeology of Western Saloons: Historical Archaeology Takes on the Wild of the West.” *World Archaeology* 38 (2005): 576–85.
- Dixon, Kelly J., Shannon A. Novak, Gwen Robbins, Julie M. Schablitsky, G. Richard Scott, and Guy L. Tasa. “‘Men, Women, and Children Starving’: Archaeology of the Donner Family Camp.” *American Antiquity* 75 (2010): 627–56.
- Dongoske, Kurt E., Debra L. Martin, and T. J. Ferguson. “Critique of the Claim of Cannibalism at Cowboy Wash.” *American Antiquity* 65 (2000): 179–90.
- Donnelly, Mark P., and Daniel Diehl. *Eat Thy Neighbor: A History of Cannibalism*. Phoenix, Ariz.: Mill Sutton Publishing, 2006.
- Downey, Joseph T. *The Cruise of the “Portsmouth,” 1845–1847: A Sailor’s View of the Naval Conquest of California*, by Joseph T. Downey, *Ordinary Seaman*. Edited by Howard R. Lamar. New Haven, Conn.: Yale University Library, 1958.
- Downs, J. F. *The Two Worlds of the Washo: An Indian Tribe of California and Nevada*. Fort Worth, Texas: Holt Rinehart and Winston, 1966.
- Duncan, William N. “Understanding Veneration and Violation in the Archaeological Record.” In *Interacting with the Dead: Perspectives on Mortuary Archaeology for the New Millennium*, edited by Gordon R. M. Rakita, Jane E. Buikstra, Lane A. Beck, and Sloan R. Williams, 207–27. Gainesville: University Press of Florida, 2005.
- Durkheim, Emile. *Rules of Sociological Method*. 1895. Reprint, New York: Free Press, 1982.
- Edward, C., and Ruth S. Jacob, eds. *The Record of Norton Jacob*. Salt Lake City: Norton Jacob Family Association, 1949.
- Elger, Mark A., and Bernard J. Crespi. “Ecology and Evolution of Cannibalism.” In *Cannibalism: Ecology and Evolution among Diverse Taxa*, edited by Mark A. Elger and Bernard J. Crespi, 1–12. Oxford: Oxford University Press, 1992.
- Eller, Jack David. *Cultural Anthropology: Global Forces, Local Lives*. London: Routledge, 2009.
- Ellis, Meredith A. B., Christopher W. Merritt, Shannon A. Novak, and Kelly J. Dixon. “The Signature of Starvation: A Comparison of Bone Processing at a Chinese Encampment in Montana and the Donner Party Camp in California.” *Historical Archaeology* (in press, 2010).
- English, A. J. “Salted Meats from the Wreck of the *William Salthouse*: Archaeological Analysis of Nineteenth Century Butchering Patterns.” *Australian Journal of Historical Archaeology* 8 (1990): 63–69.

- Enlow, D.H. "A Study of the Postnatal Growth and Remodeling of Bone." *American Journal of Anatomy* 110 (1962): 269.
- Enlow, D.H., and S.O. Brown. "A Comparative Histological Study of Fossil and Recent Bone Tissues," parts 1–3, *Texas Journal of Science* 8–10 (1956–58): 405, 186, 187.
- Fallon, William O. "Extracts from a Journal Written by a Member of the Party Latest from the California Mountains." *California Star*, June 5, 1847. In Morgan, *Overland in 1846*, 360–66.
- Faragher, John Mack. *Sugar Creek: Life on the Illinois Prairie*. New Haven, Conn.: Yale University Press, 1986.
- . *Women and Men on the Overland Trail*. 2nd ed. New Haven, Conn.: Yale University Press, 2001.
- Farnham, Eliza W. "From California, In-Doors and Out." In Johnson, *Unfortunate Emigrants*.
- Fausto, Carlos. "Feasting on People: Eating Animals and Humans in Amazonia." *Current Anthropology* 48 (2007): 497–530.
- Fernández-Jalvo, Yolanda, J. Carlos Díez, Jose M. Bermudez de Castro, Eudald Carbonell, and Juan L. Arsuaga. "Evidence of Early Cannibalism." *Science* 271 (1996): 277–78.
- Fernández-Jalvo, Yolanda, J. Carlos Díez, Isabel Cáceres, and Jordi Rosell. "Human Cannibalism in the Early Pleistocene of Europe (Gran Dolina, Sierra de Atapuerca, Burgos, Spain)." *Journal of Human Evolution* 37 (1999): 591–622.
- Fisher, J. "Bone Surface Modification in Zooarchaeology." *Journal of Archaeological Method and Theory* 2 (1995): 7–68.
- Flinn, Lynn, Christy G. Turner II, and Alan Brew. "Additional Evidence for Cannibalism in the Southwest: The Case of LA-4528." *American Antiquity* 41 (1976): 308–18.
- Foote, J.S. "A Contribution to the Comparative Histology of the Femur." *Smithsonian Contributions to Knowledge* 35 (1916): 20.
- Fosdick, Sarah. "Going to California." *Western Republican* (Lawrenceburg, Ind.), November 25, 1847. Reprinted in the *Fort Wayne Times and People's Press*, December 16, 1847, p. 3.
- Foucault, Michel. *Discipline and Punish: The Birth of the Prison*. New York: Random House, 1975.
- . *The History of Sexuality*, vol 1. New York: Vintage, 1978.
- Fox, Laurel R. "Cannibalism in Natural Populations." *Annual Review of Ecology and Systematics* 6 (1975): 87–106.
- Fox, Richard A., Jr. and Douglas D. Scott. "The Post-Civil War Battlefield Pattern: An Example from the Custer Battlefield." *Historical Archaeology* 25 (1991): 92–103.
- Frank, J.D., M. Ryan, V.L. Kalscheur, C.P. Ruaux-Mason, R.R. Hozak, and P. Muir. "Microdamage in Canine Bone." *Bone* 30 (2002): 201.
- Fraser, A.A. "Seemann on the Inhabitants of the Fiji Islands." *Anthropological Review* 1 (1863): 355–65.
- Fraser, Nancy. "Rethinking the Public Sphere: A Contribution to the Critique of Ac-



- tually Existing Democracy.” In *Habermas and the Public Sphere*, edited by Craig Calhoun. Cambridge: Massachusetts Institute of Technology Press, 1992.
- Freed, S. “Washo Habitation Sites in the Lake Tahoe Area.” In *Notes on Western Nevada Archaeology and Ethnography*, edited by Archaeological Research Facility, 73–84. University of California Archaeological Survey Reports vol. 66, no. 3. Berkeley: University of California, Department of Anthropology, 1966.
- Frémont, John Charles. *Report of the Exploring Expedition to the Rocky Mountains in the Year 1842, and Oregon and North California in the Years 1843–44*. Washington, D.C.: Gales and Seaton, Printers, 1845. Reprint, Whitefish, Montana: Kessinger Publishers, 2005.
- Frost, H. M. “From Wolff’s Law to the Utah Paradigm: Insights about Bone Physiology and Its Clinical Applications.” *Anatomical Record* 262 (2001): 398.
- Gearheard, Shari. “A Change in the Weather.” *Natural History* 117 (2008): 32–38.
- Geiger, Vincent, and Wakeman Bryarly. *Trail to California: The Overland Journal of Vincent Geiger and Wakeman Bryarly*. Edited by David Morris Potter. New Haven, Conn.: Yale University Press, 1962.
- Geller, Pamela L. “Bodyscapes, Biology, and Heteronormativity.” *American Anthropologist* 111 (2009): 504–16.
- . “Identity and Difference: Complicating Gender in Archaeology.” *Annual Review of Anthropology* 38 (2009): 65–81.
- Gibbons, Ann. “Archaeologists Rediscover Cannibalism.” *Science* 277, no. 5326 (1 August 1997): 635–37.
- Gibbs, Martin. “The Archaeology of Crisis: Shipwreck Survivor Camps in Australia.” *Historical Archaeology* 37 (2003): 128–45.
- . “Cultural Site Formation Processes in Maritime Archaeology: Disaster Response, Salvage and Muckelroy 30 Years On.” *International Journal of Nautical Archaeology* (2006): 1–16.
- . “Maritime Archaeology and Behavior during Crisis: The Wreck of the VOC ship *Batavia* (1629).” In *Natural Disasters and Cultural Change*, edited by John Grattan and Robin Torrence, 66–86. New York: Routledge, 2002.
- Giddens, Anthony. *The Constitution of Society*. Oxford, U.K.: Polity, 1984.
- Gilbert, Miles B. *Mammalian Osteo-Archaeology: North America*. Columbia: Missouri Archaeological Society, 1973.
- Gill, George. “Skeletal Injuries of Pioneers.” In *Skeletal Biology of the Great Plains: Migration, Warfare, Health and Subsistence*, edited by Douglas W. Owsley and Richard L. Jantz, 159–72. Washington, D.C.: Smithsonian Institution Press, 1994.
- Goodall, Jane. *The Chimpanzees of Gombe*. Cambridge, Mass.: Belknap Press, 1986.
- . “Infant-Killing and Cannibalism in Free-Ranging Chimpanzees.” *Folia Primatologica* 28 (1977): 259–82.
- Goodyear, Dana. “What Happened at Alder Creek? Excavating the Donner Party.” *New Yorker*, April 24, 2006, 140–51.
- Gordon-Grube, Karen. “Anthropophagy in Post-Renaissance Europe: The Tradition of Medicinal Cannibalism.” *American Anthropologist* 90 (1988): 405–409.

- Gould, Richard A. *Disaster Archaeology*. Salt Lake City: University of Utah Press, 2007.
- Goulder, William A. *Reminiscences: Incidents in the Life of a Pioneer in Oregon and Idaho*. 1909. Reprint, Moscow: University of Idaho Press, 1990.
- Graves, Mary Ann. "Letter from California." *Illinois Gazette* (Lacon), September 9, 1847. In Johnson, *Unfortunate Emigrants*, 129–31.
- Grayson, Donald K. "Differential Mortality and the Donner Party Disaster." *Evolutionary Anthropology* 2 (1993): 151–59.
- . "Donner Party Deaths: A Demographic Assessment." *Journal of Anthropological Research* 46 (1990): 223–42.
- . *Quantitative Zooarchaeology*. New York: Academic Press, 1994.
- . "Zooarchaeology of the Murphy Cabin Site." In Hardesty, *Archaeology*, 117–19.
- Graziano, Katherine Burke. *Jessie's Footsteps*. Reno, Nev.: Western Trails Research Association, 2003.
- Grier, Katherine C. *Culture and Comfort: Parlor-Making and Middle Class Identity, 1850–1930*. Washington, D.C.: Smithsonian Institution Press, 1994.
- . "'The Eden of Home': Changing Understanding of Cruelty and Kindness to Animals in Middle-Class American Households, 1820–1900." In *Animals in Human Histories: The Mirror of Nature and Culture*, edited by Mary J. Henninger-Voss, 316–62. Rochester: University of Rochester Press, 2002.
- Guttridge, Leonard F. *Ghosts of Cape Sabine: The Harrowing True Story of the Greely Expedition*. New York: Berkeley Books, 2000.
- Gzowski, Peter. *The Sacramento: A True Story of Survival*. New York: Atheneum, 1980.
- Habermas, Jürgen. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge, Mass.: MIT Press, 1989.
- Haglund, William D. "Dogs and Coyotes: Postmortem Involvement with Human Remains." In *Forensic Taphonomy: The Postmortem Fate of Human Remains*, edited by William D. Haglund and Marcella H. Sorg, 367–82. Boca Raton, Fla.: CRC Press, 1997.
- Haglund, William D., and Marcella H. Sorg. *Advances in Forensic Taphonomy: Method, Theory, and Archaeological Perspectives*. Boca Raton, Fla.: CRC Press, 2001.
- Hall, B. K. *Developmental and Skeletal Biology*. New York: Academic Press, 1978.
- Hall, Carroll D., ed. *Donner Miscellany*. San Francisco: Book Club of California, 1947.
- Hall, Stephen S. "Why Did Our Ice Age Rivals Vanish?" *National Geographic* 214 (2008): 34–59.
- Halttunen, Karen. *Murder Most Foul: The Killer and the American Gothic Imagination*. Cambridge, Mass.: Harvard University Press, 1998.
- Hamilton, William T. *My Sixty Years on the Plains*. Norman: University of Oklahoma Press, 1960.
- Haraway, Donna J. *When Species Meet*. Minneapolis: University of Minnesota Press, 2008.
- Hardesty, Donald L. *The Archaeology of the Donner Party*. Reno: University of Nevada Press, 1997.
- . "Class, Gender Strategies, and Material Culture in the Mining West." In *Those*

- of *Little Note: Gender, Race, and Class in Historical Archaeology*, edited by Elizabeth M. Scott, 129–45. Tucson: University of Arizona Press, 1994.
- . “Comments on ‘Historical Archaeology Adrift?’” *Historical Archaeology* 35 (2001): 23–24.
- . “Donner Party Archaeology.” *Overland Journal* 10, no. 3 (1992): 19–26.
- Hardesty, Donald L., and Susan Lindström. “Archaeology of the Donner Family Camp.” Report prepared for the Tahoe National Forest, Nevada City, California, by the University of Nevada, Reno. Manuscript, Tahoe National Forest, Nevada City, California, 1990.
- . “Archaeology of the Murphy Cabin.” In Hardesty, *Archaeology of the Donner Party*, 30–52.
- Harner, Michael. “The Ecological Basis for Aztec Cannibalism.” *American Ethnologist* 4 (1977): 1178–135.
- Harris, Marvin. *Cannibals and Kings: Origins of Cultures*. New York: Random House, 1977.
- . *Good to Eat: Riddles of Food and Culture*. New York: Simon and Schuster, 1985.
- Hasselstrom, Linda M., ed. *Journal of a Mountain Man: James Clyman*. Missoula, Mont.: Copper Mountain, 1984.
- Hastings, Lansford W. *The Emigrants’ Guide to Oregon and California*. Cincinnati: G. Conclin, 1845.
- Hawkins, Bruce R., and David B. Madsen. *Excavation of the Donner-Reed Wagons: Historic Archaeology along the Hastings Cutoff*. Salt Lake City: University of Utah Press, 1990.
- . *Historic Archaeology along the Hastings Cutoff: Excavation of the Donner-Reed Wagons*. Salt Lake City: University of Utah Press, 1999.
- Hawley, Greg. *Treasure in a Cornfield: The Discovery and Excavation of the Steamboat “Arabia.”* Kansas City: Paddle Wheel Publishing, 1998.
- Heiskell, Hugh Brown. *A Forty-niner from Tennessee: The Diary of Hugh Brown Heiskell*. Edited by Edward M. Steel. Knoxville: University of Tennessee Press, 1998.
- Helzer, Margaret. “Charcoal Identification and Analysis at the Donner Party Encampment.” Unpublished report submitted to Julie M. Schablitsky, 2005.
- Hesler, Maurice D. *Farm Meats*. New York: Macmillan, 1923.
- Hidaka, Sachinobu, M. Matsumoto, S. Ohsako, Y. Toyoshima, H. Nishinakagawa. “A Histomorphometrical Study on the Long Bones of Raccoon Dogs, *Nyctereutes procyonoides* and Badgers, *Meles meles*.” *Journal of Veterinary Medicine Science* 60 (1998): 323–26.
- Hillier, Maria L., and Lynne S. Bell. “Differentiating Human Bone from Animal Bone: A Review of Histological Methods.” *Journal of Forensic Science* 52 (2007): 249–63.
- Hill-Picchiotti, Heidi. “A Soil Chemistry Analysis of Human Remains Detection Dogs Alerts at the Donner Party’s Alder Creek Camp and Comparative Sites.” M.A. thesis, University of Montana, Department of Anthropology, 2010.
- Hiraiwa-Hasegawa, Mariko. “Cannibalism among Non-human Primates.” In *Canni-*

- balism: Ecology and Evolution among Diverse Taxa*, edited by Mark A. Elger and Bernard J. Crespi, 323–38. Oxford: Oxford University Press, 1992.
- Hobson, Jay W. *The Hobson Family Lineage—Descendants of George and Elizabeth Hobson*. Decorah, Iowa: Anundsen Publishing for J. W. Hobson, 1994. <http://www.loft-house.com/history/HobsonG.html>.
- Hogg, Garry. *Cannibalism and Human Sacrifice*. London: Robert Hale, 1958.
- Holmes, Kenneth L., ed. *Covered Wagon Women: Diaries and Letters from the Western Trails, 1840–1849*. Glendale, Calif.: Arthur H. Clark, 1983. Reprint, Lincoln: University of Nebraska Press, 2000.
- . *Covered Wagon Women*, vol. 4. Glendale, Calif.: Arthur H. Clark, 1985.
- Hopkins, Sarah Winnemucca. *Life among the Paiutes: Their Wrongs and Claims*. 1883. Reprint, Bishop, Calif.: Chalfant Press, 1969.
- Hough, W. “Ancient Peoples of the Petrified Forest of Arizona.” *Harper’s Monthly* 105 (1902): 897–901.
- Houghton, Eliza P. Donner. *The Expedition of the Donner Party and Its Tragic Fate*. Chicago: A. C. McClung, 1911. Reprint, Lincoln: University of Nebraska Press, 1997.
- Houghton, W.E. *The Victorian Frame of Mind, 1830–1870*. New Haven, Conn.: Yale University Press, 1957.
- Howe, Daniel Walker. *What Hath God Wrought: The Transformation of America, 1815–1848*. Oxford: Oxford University Press, 2007.
- Hurlbut, S.A. “The Taphonomy of Cannibalism: A Review of Anthropogenic Bone Modification in the American Southwest.” *International Journal of Osteoarchaeology* 10 (2001): 4–26.
- Hurtado, Albert L. *Intimate Frontiers: Sex, Gender and Culture in Old California*. Albuquerque: University of New Mexico Press, 1999.
- Ignatiev, Noel. *How the Irish Became White*. New York: Routledge, 1995.
- Isenberg, Nancy, and Andrew Burstein, eds. *Mortal Remains: Death in Early America*. Philadelphia: University of Pennsylvania Press, 2003.
- Jacob, C. Edward, and Ruth S. Jacob, eds. *The Record of Norton Jacob*. Salt Lake City: Norton Jacob Family Association, 1949.
- Jacobsen, W.H., Jr. “Washoe Language.” In *Handbook of North American Indians*, vol. 11, *The Great Basin*, edited by Warren L. d’Azevedo, 107–12. Washington, D.C.: Smithsonian Institution, 1986.
- . “Washo Linguistic Studies.” In *The Current Status of Anthropological Research in the Great Basin*, edited by Warren L. d’Azevedo, Wilbur A. Davis, Don D. Fowler, and Wayne Suttles, 113–36. Desert Research Technical Series S-H no. 1. Reno, Nev.: Social Sciences and Humanities Publications, 1966.
- . “Washo Place Name Patterns.” Paper presented at the symposium “In Honor and Respect: Papers in Great Basin Ethnology for Warren d’Azevedo,” 29th Great Basin Anthropological Conference, Sparks, Nevada, October 15, 2004.
- J.E.H. “Letter from California,” August 12, 1849. *Republican Compiler*, November 12, 1849, p. 4.

- Johnson, Kristin J. "The Mystery Man on the Mountain." *Crossroads* 19, no. 2 (June 2008).
- . "Some Donner Party Myths and Mysteries in Brief." <http://www.utahcrossroads.org/DonnerParty/Briefmyths.htm>.
- . *Unfortunate Emigrants: Narratives of the Donner Party*. Logan: Utah State University Press, 1996.
- Jones, Nathaniel V. "The Journal of N. V. Jones with the Mormon Battalion." *Utah Historical Quarterly* 4, no. 1 (1931): 1–24.
- Jones, Nathaniel V., and Rebecca M. Jones. "Extracts from the Life Sketch of Nathaniel V. Jones by His Wife Rebecca M. Jones." *Utah Historical Quarterly* 4, no. 1 (1931): 17–19.
- Jones, Olive, and Catherine Sullivan, with contributions by George L. Miller, E. Ann Smith, Jane E. Harris, and Kevin Lunn. *The Parks Canada Glass Glossary for the Description of Containers, Flatware, Flat Glass, and Closures*. Ottawa, Ont.: Minister of the Environment, 1989.
- Joyce, Rosemary A., and Jeanne Lopiparo. "Doing Agency in Archaeology." *Journal of Archaeological Method and Theory* 12 (2005): 365–74.
- Kamler, Kenneth. "A Medical Doctor's Perspective on the Donner Party." Paper presented at the 39th Annual Meeting of the Society for Historical Archaeology, Sacramento, California, 2006.
- . *Surviving the Extremes: A Doctor's Journey to the Limits of Human Endurance*. New York: St. Martin's Press, 2004.
- Kantner, John. "Anasazi Mutilation and Cannibalism in the American West." In *The Anthropology of Cannibalism*, edited by Laurence R. Goldman, 75–104. Westport, Conn.: Bergin and Garvey, 1999.
- Keenleyside, Anne, Margaret Betulli, and Henry C. Fricke. "The Final Days of the Franklin Expedition: New Skeletal Evidence." *Arctic* 50 (1996): 36–46.
- Kelly, Catherine E. "'Well Bred Country People': Sociability, Social Networks, and the Creation of a Provincial Middle Class, 1820–1860." In *Cultural Change and the Market Revolution in America, 1789–1860*, edited by Scott A. Martin, 111–41. Lanham, Md.: Rowan and Littlefield, 2005.
- Kenney, Scott G., ed. *Wilford Woodruff's Journal*. 10 vols. Midvale, Utah: Signature Books, 1983.
- Kerley, E. R. "The Microscopic Determination of Age in Human Bone." *American Journal of Physical Anthropology* 23 (1965): 149.
- Kete, Kathleen. "Introduction: Animals and Human Empire." In *A Cultural History of Animals in the Age of Empire*, edited by Kathleen Kete, 1–24. New York: Berg, 2007.
- Kimmerle, Erin H., and Jose Pablo Baraybar. *Skeletal Trauma: Identification of Injuries Resulting from Human Rights Abuse and Armed Conflict*. Boca Raton, Fla.: CRC Press, 2008.
- King, Joseph. *Winter of Entrapment: A New Look at the Donner Party*. Toronto: P. D. Meany, 1992.

- King, Joseph A., and Jack Steed. "John Baptiste Trudeau of the Donner Party: Rascal or Hero?" *California History* 74 (1995): 162–73.
- Kingsley, Nelson. "Diary of Nelson Kingsley, a California Argonaut of 1849." In *Publications of the Academy of Pacific Coast History*, edited by Frederick J. Teggart, 3 (1914): 367–68.
- Klutschak, Heinrich. *Overland to Starvation Cove: With the Inuit in Search of Franklin, 1878–1880*. Edited and translated by William Barr. Toronto: University of Toronto Press, 1987.
- Kopytoff, Igor. "The Internal African Frontier: The Making of African Political Culture." In *The African Frontier: The Reproduction of Traditional African Societies*, by Igor Kopytoff, 3–84. Bloomington: Indiana University Press, 1987.
- Korns, J. Roderic, and Dale L. Morgan, editors. *West from Fort Bridger: The Pioneering of Immigrant Trails across Utah, 1846–1850*. Rev. ed. by Will Bagley and Harold Schindler. Logan: Utah State University Press, 1994.
- Kuckelman, K. A., R. R. Lightfoot, and D. L. Martin. "The Bioarchaeology and Taphonomy of Violence at Castle Rock and Sand Canyon Pueblos, Southwestern Colorado." *American Antiquity* 67 (2002): 486–513.
- Lamb, Blaine P. "Emigrant Aid on California Gold Rush Trails: Private Needs and Public Enterprises." *Overland Journal* 19, no. 4 (Winter 2001/2002): 122–35.
- Lawrence, Barbara. *Post-cranial Skeletal Characters of Deer, Pronghorn, and Sheep-Goat with Notes on Bos and Bison*. Papers of the Peabody Museum of American Archaeology and Ethnology, vol. 35, no. 3. Cambridge, Mass.: Harvard University, 1951.
- Leach, J. *Survival Psychology*. Sydney, Australia: Macmillan, 1994.
- Leblanc, S. *Prehistoric Warfare in the American Southwest*. Salt Lake City: University of Utah Press, 1999.
- Leechman, Douglas. "Bone Grease." *American Antiquity* 16 (1951): 355–56.
- Lefebvre, Henri. *The Production of Space*. 1974. Translated by N. Donaldson-Smith. Oxford, U.K.: Basil Blackwell, 1999.
- Leslie, Edward E. *Desperate Journeys, Abandoned Souls: True Stories of Castaways and Other Survivors*. Boston: Houghton Mifflin, 1988.
- Lestrinant, Frank. *Cannibals: The Discovery and Representation of the Cannibal from Columbus to Jules Verne*. Berkeley: University of California Press, 1997.
- Levine, Bernard R. *Knifemakers of Old San Francisco*. Boulder, Colo.: Paladin Press, 1998.
- Li, David K. "Cannibal Doc Eats Her Words." *New York Post*, April 22, 2010. http://www.nypost.com/p/news/national/cannibal_doc_eats_her_words_fMVybDtpUqhD8U8ZRKHdj.
- Lightfoot, Kent. *Indians, Missionaries, and Merchants: The Legacy of Colonial Encounters on the California Frontiers*. Berkeley: University of California Press, 2005.
- Lightfoot, Kent, and Antoinette Martinez. "Frontiers and Boundaries in Archaeological Perspective." *Annual Review of Anthropology* 24 (1995): 471–92.
- Lightfoot, Kent, and Ann M. Schiff. "Daily Practice and Material Culture in Pluralistic

- Social Settings: An Archaeological Study of Culture Change and Persistence from Fort Ross, California." *American Antiquity* 63 (1998): 199–222.
- Lindsey, Bill. *The Bureau of Land Management and Society for Historical Archaeology's Historic Glass Bottle Identification and Information Website* (2010). <http://www.sha.org/bottle/colors>.
- Lindström, Susan. "Great Basin Fisherfolk." In *Prehistoric Hunter-Gatherer Fishing Strategies*, edited by Mark G. Plew, 114–79. Boise: Boise State University Press, 1996.
- Lindström, S., P. Rucks, and P. Wigand. "A Contextual Overview of Human Land Use and Environmental Conditions." In *The Lake Tahoe Watershed Assessment*, vol. 1. South Lake Tahoe, Calif.: USDA Forest Service, Lake Tahoe Basin Management Unit, 2000.
- Lindström, S., S. Waechter, M. Rucks, R. Reno, and C. Zeier. *From Ice Age to Ice Works: Archaeological, Ethnohistorical, and Historical Studies for the Truckee River Legacy Trail Project (Phase 3)*. Forest Service Report TNF01806/R2007051700011. Prepared for the Town of Truckee c/o Truckee Public Works Department by Far Western Anthropological Research Group, Inc., Davis, California. Truckee Ranger District, Tahoe National Forest, 2007.
- Little, Barbara J., "What Can Archaeology Do for Justice, Peace, Community, and the Earth?" *Historical Archaeology* 43 (2009): 115–19.
- Little, Barbara J., and Paul A. Shackel. "Scales of Historical Anthropology: An Archaeology of Colonial Anglo-America." *Antiquity* 63 (1989): 496, 507.
- Locke, M. "Structure of Long Bones in Mammals." *Journal of Morphology* 262 (2004): 546.
- Longenecker, Julie G., and Darby C. Stapp. "The Study of Faunal Remains from an Overseas Chinese Mining Camp in Northern Idaho." In *Hidden Heritage: Historical Archaeology of the Overseas Chinese*, edited by Priscilla Wegars, 97–122. Amityville, N.Y.: Baywood Publishing, 1993.
- Lowenthal, David. *The Past Is a Foreign Country*. Cambridge: Cambridge University Press, 1985.
- Lowie, R. "Ethnographic Notes on the Washo." *University of California Publications in American Archaeology and Ethnology* 36, no. 5 (1939): 301–52.
- Lupo, Karen D., and Dave N. Schmitt. "Experiments in Bone Boiling: Nutritional Returns and Archaeological Reflections." *Anthropozoologica* 25–26 (1997): 137–44.
- Luscomb, Sally C. *The Collector's Encyclopedia of Buttons*. Atglen, Penn.: Schiffer Publishing, 1967.
- Lyman, Chester S. *Around the Horn to the Sandwich Islands and California, 1845–1850*. 1924. Edited by Frederick J. Teggart. Reprint, Freeport, N.Y.: Books for Libraries Press, 1971.
- Lyman, R. Lee. *Vertebrate Taphonomy*. New York: Cambridge University Press, 1994.
- Maat, G.J.R. "Practicing Methods of Age Determination: Comments on Methods Combining Multiple Age Indicators." *International Journal of Anthropology* 2 (1987): 293–99.

- Maat, G. J. R., R. P. M. Van Den Bos, and M. J. Aarents. "Manual Preparation of Ground Sections for the Microscopy of Natural Bone Tissue: Update and Modification of Frost's Manual Method." *International Journal of Osteoarchaeology* 11 (2001): 366–74.
- Mäkinen, Tiina M. "Human Cold Exposure, Adaptation, and Performance in High Latitude Environments." *American Journal of Human Biology* 19 (2007): 155–64.
- Malinowski, Bronislaw. *Argonauts of the Western Pacific*. 1922. Reprint, Long Grove, Ill.: Waveland Press, 1984.
- . *Magic, Science and Religion and Other Essays*. Edited by Robert Redfield. 1948. Reprint, Whitefish, Mont.: Kessinger Publishing, 2004.
- Malville, Nancy J. "Two Fragmented Human Bone Assemblages from Yellow Jacket, Southwestern Colorado." *Kiva* 55 (1989): 3–22.
- Manlove, Mark D., and John N. Manlove. "The Manlove Diaries." Submitted by Linda Manlove. *Schuyler County and the California Gold Rush*. <http://schuyler.ilgenweb.net/FamilyGroupSheets/ManloveDiaries.html>.
- Mariani-Costantini, Renato, Laura Ottini, Salvatore Caramiello, Raffaele Palmirotta, Francesco Mallegni, Alfredo Rossi, Luigi Frati, and Luigi Capasso. "Taphonomy of the Fossil Hominid Bones from the Acheulean Site of Castel di Guido near Rome, Italy." *Journal of Human Evolution* 41 (2001): 211–25.
- Markle, John A. "A Letter from California: John A. Markle in the Gold Rush of 1849." Edited by Robert Markle Blackson. *Pennsylvania Folklife* 29, no. 1 (1979): 2–12.
- Markley, Richard. "A Metal Detector Survey of the Donner Camp Historic Site, Tahoe National Forest: The 1993 Field Season." Manuscript, Tahoe National Forest, Nevada City, California, 1999.
- . "Tahoe National Forest Donner Camp Archaeological Project 1993, July 19–23, 1993: Research Design and Work Plan." Manuscript, Tahoe National Forest, Nevada City, California, 1993.
- Martin, Elizabeth, ed. *A Dictionary of Science*. Oxford Paperback Reference. Oxford, U.K.: Oxford University Press, 2010.
- Martin, R. B., and D. B. Burr. *The Structure, Function, and Adaptation of Compact Bone*. New York: Raven Press, 1989.
- Mast, Jason L. "The Cultural Pragmatics of Event-ness." In *Social Performance*, edited by Jeffrey C. Alexander, Bernhard Giesen, and Jason L. Mast. Cambridge: Cambridge University Press, 2006.
- Mattes, Merrill J. *Platte River Road Narratives*. Urbana: University of Illinois Press, 1988.
- McAllister, Lisa S. *Collector's Guide to Feather Edge Ware: Identification and Values*. Paducah, Ky.: Collector Books, 2001.
- McDonald, Frank Vigil, ed. *Notes Preparatory to a Biography of Richard Hayes McDonald of San Francisco, California*. Cambridge, Mass.: University Press, 1881.
- McGlashan, C. F. "Brevities." *Truckee Republican*, April 30, 1879.
- . *From the Desk of Truckee's C. F. McGlashan*. Edited by M. Nona McGlashan and Betty H. McGlashan. Truckee, Calif.: Truckee-Donner Historical Society, 1986.

- . *History of the Donner Party: A Tragedy of the Sierra*. 1880 edition. Reprint, Stanford: Stanford University Press, 1940.
- . “Relics of Donner Party.” *Truckee Republican*, April 19, 1879.
- . “A Survivor of the Donner Party.” *Truckee Republican*, December 14, 1878.
- McGuire, Randall, and LouAnn Wurst. “Struggling with the Past.” *International Journal of Historical Archaeology* 6 (2002): 85–94.
- McKearin, Helen, and Kenneth M. Wilson. *American Bottles and Flasks and Their Ancestry*. New York: Crown Publishers, 1978.
- McKinstry, George. Letter of April 29, 1847. *California Star*, May 22, 1847.
- McLaughlin, Mark. *The Donner Party: Weathering the Storm*. Carnelian Bay, Calif.: Mic Mac Publications, 2007.
- Melbye, Jerry, and Scott I. Fairgrieve. “A Massacre and Possible Cannibalism in the Canadian Arctic: New Evidence From the Saunatuk Site (NgTn1).” *Arctic Anthropology* 31 (1994): 57–77.
- Melo, L., A. R. Mendes Pontes, and M. A. O. Monteiro da Cruz. “Infanticide and Cannibalism in Wild Common Marmosets.” *Folia Primatologica* 731 (2002): 1–3.
- Merritt, Christopher W. “The Cedar Creek Chinese Report on Excavations at 24MN249 and 24MN262: Report to Lolo National Forest Supervisor’s Office, from the University of Montana, Department of Anthropology.” Manuscript, Lolo National Forest, Missoula, Montana, 2007.
- Merryman, J. H. “Adventures in California.” *Illinois State Register*, November 19 and 26, 1847.
- Miller, George L. “Ceramics from the Alder Creek Camp.” Appendix 2 in *Archaeology of the Donner Party*, by Donald L. Hardesty. Reno: University of Nevada Press, 1997.
- . “A Revised Set of Cc Index Values for Classification and Economic Scaling of English Ceramics from 1787 to 1880.” *Historical Archaeology* 25 (1991): 1–25.
- Minnis, P. E. *Social Adaptation to Food Stress: A Prehistoric Southwestern Example*. Chicago: University of Chicago Press, 1985.
- Morgan, Dale L., ed. *Overland in 1846: Diaries and Letters of the Oregon-California Trail*. 2 vols. Georgetown, Calif.: Talisman Press, 1963. Reprint, Lincoln: University of Nebraska Press, 1993.
- Mori, R., T. Kodaka, T. Sano, N. Yamagishi, M. Asari, and Y. Naito. “Comparative Histology of the Lamellar Bone between Young Calves and Foals.” *Cells, Tissues, Organs* 175 (2003): 43.
- Morris, Adela. “Above-Ground Noninvasive Technique to Locate Human Remains and Historical Graves: The Nose Knows.” Paper presented at the 39th Annual Meeting of the Society for Historical Archaeology, Sacramento, California, 2006.
- Morris, E. H. *Archeological Studies in the La Plata District, Southwestern Colorado and Northwestern New Mexico*. Publication 519. Washington, D.C.: Carnegie Institution of Washington, 1939.
- Mrozowski, Stephen A. *The Archaeology of Class in Urban America*. Cambridge: Cambridge University Press, 2006.

- Mulhern, D.M., and D.H. Ubelaker. "Differences in Osteon Banding between Human and Nonhuman Bone." *Journal of Forensic Science* 46 (2001): 220.
- and ———. "Histologic Examination of Bone Development in Juvenile Chimpanzees." *American Journal of Physical Anthropology* 122 (2003): 127.
- Mullen, Frank, Jr. *The Donner Party Chronicles*. Reno: Nevada Humanities Committee, 1997.
- Munro, Natalie D. "Zooarchaeological Measures of Hunting Pressure and Occupation Intensity in the Natufian." *Current Anthropology* 41 (2004): S5–S33.
- Nagoaka, Lisa A. "Using Diversity Indices to Measure Changes in Prey Choice at the Shag River Mouth Site, Southern New Zealand." *International Journal of Osteoarchaeology* 11 (2001): 101–11.
- Nash, Mike. *Sydney Cove Shipwreck Survivors Camp*. Maritime Archaeology Monographs Series 2. Adelaide, Australia: Flinders University, 2006.
- Nass, G. Gisela, and Nicholas F. Bellantoni. "A Prehistoric Multiple Burial from Monument Valley Evidencing Trauma and Possible Cannibalism." *Kiva* 47 (1982): 257–71.
- Nevers, Jo Ann. *Wa She Shu: A Washo Tribal History*. Reno: Inter-Tribal Council of Nevada, 1976.
- Newell, Olive. *Tail of the Elephant: The Emigrant Experience on the Truckee River Route of the California Trail, 1844–1852*. Nevada City, Calif.: Nevada County Historical Society, 1997.
- Nielsen, Axel E. "Trampling the Archaeological Record: An Experimental Study." *American Antiquity* 56 (1991): 483–503.
- Nordby, L. V. "The Excavation of Sites 5MTUMR-2543, -2345, -2346, Mancos Canyon, Utah Mountain, Ute Homelands, Colorado." Contract MOOC14201337 Report. Bureau of Indian Affairs, 1974.
- Novak, S.A., and D.D. Kollman. "Perimortem Processing of Human Remains among the Great Basin Fremont." *International Journal of Osteoarchaeology* 10 (2000): 65–75.
- Novak, Shannon A. *House of Mourning: A Biocultural History of the Mountain Meadows Massacre*. Salt Lake City: University of Utah Press, 2008.
- Novak, Shannon A., and Lars Rodseth. "Remembering Mountain Meadows." *Journal of Anthropological Research* 62 (2006): 1–25.
- Ogilvie, M.D., and C.E. Hilton. "Ritualized Violence in the Prehistoric American Southwest." *International Journal of Osteoarchaeology* 10 (2000): 27–48.
- O'Laughlin, Michael C. *Irish Families on the California Trail*. Topeka: Kansas Genealogical Foundation, 2003.
- Olsen, Stanley J. *Mammal Remains from Archaeological Sites*. Papers of the Peabody Museum of American Archaeology and Ethnology, vol. 56, no. 1. Cambridge, Mass.: Harvard University, 1951.
- Olson, A.P. "A Mass Secondary Burial from Northern Arizona." *American Antiquity* 31 (1966): 822–26.
- Olson, Bert. "Valley of the Two Stumps." In *The Westerners Los Angeles Corral Brand Book*, 127–37. Los Angeles: Los Angeles Corral of the Westerners, 1965.

- Ortiz de Montellano, Bernard R. "Aztec Cannibalism: An Ecological Necessity?" *Science* 200 (1978): 611-17.
- Osborne, Peggy Ann. *About Buttons: A Collector's Guide, 150 A.D. to the Present*. Lancaster, Penn.: Schiffer Publishing, 1993.
- Outram, Alan K. "A New Approach to Identifying Bone Marrow and Grease Exploitation: Why the 'Indeterminate' Fragments Should Not Be Ignored." *Journal of Archaeological Science* 28 (2001): 401-10.
- Owsley, D.W., A.M. Mires, and M.S. Keith. "Case Involving Differentiation of Deer and Human Bone Fragments." *Journal of Forensic Science* 30 (1985): 572.
- Parrado, Nando. *Miracle in the Andes: 72 Days on the Mountain and My Long Trek Home*. New York: Crown Publishers, 2006.
- Patenaude, Bertand M. *The Big Show in Bololand: The American Expedition to Soviet Russia in the Famine of 1921*. Stanford: Stanford University Press, 2002.
- Paton, Douglas, Leigh Smith, Michele Daly, and David Johnston. "Risk Perception and Volcanic Hazard Mitigation: Individual and Social Perspectives." *Journal of Volcanology and Geothermal Research* 172 (2008): 179-88.
- Paton, Douglas, Leigh Smith, and David Johnston. "Volcanic Hazards: Risk Perception and Preparedness." *New Zealand Journal of Psychology* 29 (2000): 84-88.
- Paynter, Robert. "Epilogue: Class Analysis and Historical Archaeology." *Historical Archaeology* 33 (1999): 184-95.
- Pepper, G.H. *Pueblo Bonito*. Anthropological Papers of the American Museum of Natural History 27. New York: American Museum of Natural History, 1920.
- Perkins, Elisha Douglass. *Gold Rush Diary, Being the Journal of Elisha Douglass Perkins on the Overland Trail in the Spring and Summer of 1849*. Edited by Thomas D. Clark. Lexington: University of Kentucky Press, 1967.
- Petrinovich, Lewis. *The Cannibal Within*. New York: Aldine De Gruyter, 2000.
- Pfeiffer, S. "Variability in Osteon Size in Recent Human Populations." *American Journal of Physical Anthropology* 106 (1998): 219.
- Pickering, Travis R., Tim D. White, and Nicholas Toth. "Brief Communication: Cutmarks on a Plio-Pleistocene Hominid from Sterkfontein, South Africa." *American Journal of Physical Anthropology* 111 (2000): 579-84.
- Postan, M.M. *The Historical Method in Social Science: An Inaugural Lecture*. Cambridge: Cambridge University Press, 1939.
- Praetzellis, Adrian, and Mary Praetzellis. "Mangling Symbols of Gentility in the Wild West: Case Studies in Interpretive Archaeology." *American Anthropologist* 103 (2001): 645-54.
- Pratt, Orson. *The Orson Pratt Journals*. Edited by Elden J. Watson. Salt Lake City: E. J. Watson, 1975.
- Pred, Allan. "Place as Historically Contingent Process: Structuration and the Time-Geography of Becoming Places." *Annals of American Geographers* 74 (2008): 279-97.
- Price, John. *Washoe Economy*. Nevada State Museum Anthropological Papers 6. Carson City: Nevada State Museum, 1962.

- . *The Washo Indians: History, Life Cycle, Religion, Technology, Economy, and Modern Life*. Nevada State Museum Occasional Papers 4. Carson City: Nevada State Museum, 1980.
- Pusey, Anne E. "Of Genes and Apes: Chimpanzee Social Organization and Reproduction." In *Tree of Origin: What Primate Behavior Can Tell Us about Human Social Evolution*, edited by Frans B.M. de Waal, 11–37. Cambridge, Mass.: Harvard University Press, 2001.
- Rarick, Ethan. *Desperate Passage: The Donner Party's Perilous Journey West*. New York: Oxford University Press, 2008.
- Rautman, Alison E., and Todd W. Fenton. "A Case of Historic Cannibalism in the American West: Implications for Southwestern Archaeology." *American Antiquity* 70 (2005): 321–41.
- Read, Piers Paul. *Alive: The Story of the Andes Survivors*. Philadelphia: J. B. Lippincott, 1974.
- Reed, James. "An Analysis of the Psychological, Emotional, and Spiritual States of the Donner Party." Paper presented at the 39th Annual Meeting of the Society for Historical Archaeology, Sacramento, California, 2006.
- Reed, James F. "James Frazier Reed to Gersham Keyes, 2 July 1847." In Morgan, *Overland in 1846*, 301–305.
- . "The Reed Diary of the Second Relief." In Morgan, *Overland in 1846*, 342–50.
- . "The Snow-Bound, Starved Emigrants of 1846." *Pacific Rural Press*, March 25 and April 1, 1871. Reprinted in Johnson, *Unfortunate Emigrants*, 184–200.
- Reed [Murphy], Virginia E. B. *Across the Plains in the Donner Party: A Personal Narrative of the Overland Trip to California, 1846–47*. 1891. Reprint, Golden, Colo.: Outbooks, 1980.
- . "Deeply Interesting Letter." *Illinois Journal* (Springfield), December 16, 1847.
- . "Letter to 'My Dear Cousin' [Mary Catherine Keyes], 16 May 1847." In Morgan, *Overland in 1846*, 281–88.
- Reichs, Kathleen J. "Postmortem Dismemberment: Recovery, Analysis and Interpretation." In *Forensic Osteology: Advances in the Identification of Human Remains*, ed. Kathleen J. Reichs, 353–88. Springfield: Charles C. Thomas, 1998.
- Reidt, Theo. "Lola Montez' Ill-Fated Trip to the Truckee River." *Nevada County Historical Society Bulletin* 37 (April 1983): 12.
- Riddell, Francis. *Honey Lake Paiute Ethnography*. Nevada State Museum Occasional Papers 3. Carson City: Nevada State Museum, 1978.
- Ritchie, M.D., and Reason P. Tucker. "First Relief Diary." In Morgan, *Overland in 1846*, 331–41.
- Riviere, P.G. "The Man-Eating Myth: Anthropology and Anthropophagy." Review of *The Man-Eating Myth: Anthropology and Anthropophagy*, by William Arens. *Man* 15 (1980): 203.
- Robb, John. "Time and Biography: Osteobiography of the Italian Neolithic Lifespan." In *Thinking Through the Body: Archaeologies of Corporeality*, edited by Yannis Hamilakis, 11–24. Cambridge: Cambridge University Press, 2008.



- lakis, Mark Pluciennik, and Sarah Tarlow, 153–71. New York: Kluwer Academic, 2002.
- Roberts, B.H. *Comprehensive History of the Church of Jesus Christ of Latter-day Saints*. Salt Lake City: Deseret Books Press, 1930.
- Rockman, Marcy. “Knowledge and Learning in the Archaeology of Colonization.” In *Colonization of Unfamiliar Landscapes: The Archaeology of Adaptation*, edited by Marcy Rockman and James Steele, 3–24. London: Routledge, 2003.
- Rockman, Marcy, and James Steele, editors. *Colonization of Unfamiliar Landscapes: The Archaeology of Adaptation*. New York: Routledge, 2003.
- Rodmon, S.F. Letter to “My Dear Friends,” dated August 17, 1849. Printed as “From California,” *Brookville* (Ind.) *American*, October 26, 1849.
- Rodseth, Lars. “Distributive Models of Culture: A Sapirian Alternative to Essentialism.” *American Anthropologist* 100 (1998): 55–69.
- . “Historical Massacres and Mythical Analyses: Reading Marshall Sahlins on the American Frontier.” *Current Anthropology*, forthcoming.
- Rodseth, Lars, and Shannon A. Novak. “Placing the Dead at Mountain Meadows.” In *Frontier Engagements*, edited by Ronald K. Wetherington and Frances Levine. University of Oklahoma Press, Norman, forthcoming.
- Rosas, Antonio, Cayetana Martínez-Maza, Markus Bastir, Antonio García-Tabernero, Carles Lalueza-Fox, Rosa Huguit, José Eugenio Ortiz, et al. “Paleobiology and Comparative Morphology of a Late Neanderthal Sample from El Sidrón, Asturias, Spain.” *Proceedings of the National Academy of Sciences* 103 (2006): 19266–71.
- Rucks, Meredith (Penny). “Beyond Consultation: Three Examples from the Washoe Homeland.” In *Models for the Millennium: Great Basin Anthropology Today*, edited by Charlotte Beck, 245–55. Salt Lake City: University of Utah Press, 1999.
- . “A Washoe Point of View: History, Land Use, and Cultural Significance of Burton Creek State Park.” Attachment A in “Burton Creek State Archaeological Survey Report, Cultural Deferred Maintenance Program.” Burton Creek State Park, Placer County, California. Cultural Resources Inventory PID#161920. Manuscript prepared by Denise Jaffke, Sierra District, California State Parks and Recreation, 2008.
- Russell, Don. *The Lives and Legends of Buffalo Bill*. Norman: University of Oklahoma Press, 1960.
- Russell, Mary D. “Bone Breakage in the Krapina Hominid Collection.” *American Journal of Physical Anthropology* 72 (1987): 373–79.
- . “Mortuary Practices at the Krapina Neanderthal Site.” *American Journal of Physical Anthropology* 72 (1987): 381–97.
- Ryan, Donald P. *Beneath the Sands of Egypt: Adventures of an Unconventional Archaeologist*. New York: HarperCollins, 2010.
- Sahlins, Marshall. “La Pensée Bourgeoise: Western Society as Culture.” In *Culture in Practice: Selected Essays*, by Marshall Sahlins, 163–201. Brooklyn: Zone Books, 2000. Essay originally published in 1976 in *Culture and Practical Reason*. Chicago: University of Chicago Press.

- Saitta, Dean. *The Archaeology of Collective Action*. Tallahassee: University Press of Florida, 2007.
- Savelle, J.M. "Cultural and Natural Formation Processes of a Historic Inuit Snow Dwelling Site, Somerset Island, Arctic Canada." *American Antiquity* 49 (1984): 508–24.
- Sawyer, Eugene T. "Henry A. Rengstorff." In *History of Santa Clara County, California*, edited by Eugene T. Sawyer for San Jose Historical Museum Association, 824. Los Angeles: Historic Record Co., 1922.
- Schablitsky, Julie, and Kelly Dixon. "Revisiting the Donner Party at Alder Creek." Report to the Truckee Ranger District, Tahoe National Forest, Truckee, California, 2004.
- Schindler, Hal. "A New Focus on Fremont." *Salt Lake Tribune*, December 10, 1995.
- Schlissel, Lillian. *Women's Diaries of the Westward Journey*. New York: Schocken Books, 1992.
- Schmid, Elisabeth. *Atlas of Animal Bones for Prehistorians, Archaeologists and Quaternary Geologists*. New York: Elsevier Publishing, 1972.
- Schmitt, Dave N. "The Zooarchaeology of Times Square Rockshelter." In "Times Square Rockshelter, 35DO212: A Stratified Dry Rockshelter in the Western Cascades, Douglas County, Oregon," by Lee Spencer, 444–76. Report no. 1989-4. Manuscript prepared by Lee Spencer Archaeology, Springfield, Oregon.
- Schmitt, Dave N., and Charles D. Zeier. "Not by Bones Alone: Exploring Household Composition and Socioeconomic Status in an Isolated Historic Mining Community." *Historical Archaeology* 27 (1993): 20–38.
- Scott, Doug D. "Analysis of Lead Bullets and Other Lead Artifacts from the Donner Party Camps: Report prepared for the Donner Family Camp Archaeology Project." Manuscript, University of Montana, Department of Anthropology, Missoula, 2005.
- Scott, Douglas D., P. Willey, and Melissa A. Connor. *They Died with Custer: Soldiers' Bones from the Battle of the Little Bighorn*. Norman: University of Oklahoma Press, 1998.
- Sellers, Charles. *The Market Revolution: Jacksonian America, 1815–1846*. New York: Oxford University Press, 1991.
- Shackel, Paul A. "Public Memory and the Search for Power in American Historical Archaeology." *American Anthropologist* 103 (2001): 655–70.
- Sherwood, Ben. *The Survivors' Club: The Secrets and Science That Could Save Your Life*. New York: Grand Central Publishing, 2009.
- Shilling, Chris. *Changing Bodies: Habit, Crisis and Creativity*. London: Sage, 2008.
- Shipman, Pat, and Jennie Rose. "Early Hominid Hunting, Butchering, and Carcass-Processing Behaviors: Approaches to the Fossil Record." *Journal of Anthropological Archaeology* 2 (1983): 57–98.
- Shipman, Pat, Giraud Foster, and Margaret J. Schoeninger. "Burnt Bones and Teeth: An Experimental Study of Color, Morphology, Crystal Structure and Shrinkage." *Journal of Archaeological Science* 11 (1984): 307–25.

- Shulz, Peter D. "Assessment of the 'Donner Party' Skull." April 4, 1996. Typescript.
- Simpson, A. W. Brian. *Cannibalism and the Common Law: The Story of the Tragic Last Voyage of the Mignonette and the Strange Legal Proceedings to Which It Gave Rise*. Chicago: University of Chicago Press, 1984.
- Sinclair, John. "Sufferings of the California Emigrants." *Hudson Ohio Observer*, October 16, 1847. Reprinted in *Crossroads* 8, no. 4 (Fall 1997): 4.
- Siskin, Edgar. *Washo Shamans and Peyotists: Religious Conflict in an American Indian Tribe*. Salt Lake City: University of Utah Press, 1983.
- Sisson, Septimus, and James Daniels Grossman. *The Anatomy of the Domestic Animals*. 4th ed. Philadelphia: W. B. Saunders, 1953.
- Skedros, J. G., S. C. Su, and R. D. Bloebaum. "Biomechanical Implications of Mineral Content and Microstructural Variations in Cortical Bone of Horse, Elk, and Sheep Calcanei." *Anatomical Record* 249 (1997): 297.
- Smith, Carrie E. "Chasing the Alder Creek Camp on the Tahoe National Forest." Paper presented at the 39th Annual Meeting of the Society for Historical Archaeology, Sacramento, California, 2006.
- Smith, Eric Alden. *Inujjuamiut Foraging Strategies: Evolutionary Ecology of an Arctic Hunting Ecology*. New York: Aldine de Gruyter, 1991.
- Smith, George D., ed. *An Intimate Chronicle: The Journals of William Clayton*. Salt Lake City: Signature Books, 1991.
- Smith-Rosenberg, Carroll. *Disorderly Conduct: Visions of Gender in Victorian America*. New York: Oxford University Press, 1985.
- Sofaer, Joanna. *The Body as Material Culture: A Theoretical Osteoarchaeology*. Cambridge: Cambridge University Press, 2006.
- Solon, Louis Mare. *The Art of the Old English Potter*. New York: John Francis, 1906.
- Soukhanov, Anne H. *Webster's II New Riverside University Dictionary*. Itasca, Ill.: Riverside Publishing, 1984.
- Spain, D. *Gendered Spaces*. Chapel Hill: University of North Carolina Press, 1992.
- Spencer-Wood, Suzanne M. "Toward a Historical Archaeology of Materialistic Domestic Reform." In *The Archaeology of Inequality*, edited by Randall McGuire and Robert Paynter, 231–86. Oxford, U.K.: Basil Blackwell, 1991.
- . "The World Their Household: Changing Meanings of the Domestic Sphere in the Nineteenth Century." In *The Archaeology of Household Activities: Gender Ideologies, Domestic Spaces and Material Culture*, edited by Penelope M. Allison, 162–89. London: Routledge, 1999.
- Spennemann, Dirk H. R. "Cannibalism in Fiji: The Analysis of Butchering Marks on Human Bones and the Historical Record." *Domodomo* 2 (1987): 29–46.
- Spude, Catherine H. "Brothels and Saloons: An Archaeology of Gender in the American West." *Historical Archaeology* 39 (2005): 89–106.
- Stanley, Amy Dru. "Home Life and the Morality of the Market." In *The Market Revolution in America: Social, Political, and Religious Expressions, 1800–1860*, edited by Melvyn Stokes and Stephen Conway, 74–96. Charlottesville: University Press of Virginia, 1996.

- Steadman, David W., Susan C. Antón, and Patrick V. Kirch. "Ana Manuku: A Prehistoric Ritualistic Site on Mangaia, Cook Islands." *Antiquity* 74 (2000): 873–83.
- Steed, Jack. *The Donner Party Rescue Site: Johnson's Ranch on Bear River*. Sacramento, Calif.: privately printed, 1993.
- Stegeman, A. Theodore, Jr. "Human Cold Adaptation: An Unfinished Agenda." *American Journal of Human Biology* 19 (2007): 218–27.
- Stephens, Lorenzo Dow. *Life Sketches of a Jayhawker of '49*. San Jose, Calif.: Nolta Brothers, 1916.
- Stewart, George R. *The California Trail*. Lincoln: University of Nebraska Press, 1962.
- . *Ordeal by Hunger: The Story of the Donner Party*. Boston: Houghton Mifflin, 1936.
- Stokes, Melvyn, and Stephen Conway, eds. *The Market Revolution in America: Social, Political, and Religious Expressions, 1800–1860*. Charlottesville: University Press of Virginia, 1996.
- Stookey, Walter M. *Fatal Decision: The Tragic Story of the Donner Party*. Salt Lake City: Deseret Books, 1950.
- Street, Franklin. *California in 1850, Compared with What It Was in 1849, with a Glimpse at Its Future Destiny . . .* Cincinnati: R. E. Edwards, 1851.
- Sutter, John A. *New Helvetia Diary: A Record of Daily Events Kept by John A. Sutter and His Clerks at New Helvetia, California, from September 9 1845, to May 25, 1848*. San Francisco: Grabhorn Press, 1939.
- Switzer, Ronald R. *The Bertrand Bottles: A Study of Nineteenth-Century Glass and Ceramic Containers*. Washington, D.C.: U.S. Department of Interior, National Park Service, 1974.
- Swords, Molly. "A Clean Slate: The Archaeology of the Donner Party's Writing Slate Fragments." Master's thesis, Department of Anthropology, University of Montana, 2008.
- Swords, Molly, and Kelly J. Dixon. "School as Usual: Examinations of Writing Slate Fragments Excavated from the Donner Party's Alder Creek Camp." Poster presented at the 39th Annual Meeting of the Society for Historical Archaeology, Sacramento, California, 2006.
- Symes, Steven A., Hugh E. Berryman, and O. C. Smith. "Saw Marks in Bone: Introduction and Examination of Residual Kerf Contour." In *Forensic Osteology: Advances in the Identification of Human Remains*, edited by Kathleen J. Reichs, 389–409. 2nd ed. Springfield: Charles C. Thomas, 1998.
- Symes, Steven A., John A. Williams, Elizabeth A. Murray, J. Michael Hoffman, Thomas D. Holland, Julie M. Saul, Frank P. Saul, and Elayne J. Pope. "Taphonomic Context of Sharp-Force Trauma in Suspected Cases of Human Mutilation and Dismemberment." In *Advances in Forensic Taphonomy: Method, Theory, and Archaeological Perspectives*, edited by William D. Haglund and Marcella H. Sorg, 403–34. Boca Raton, Fla.: CRC Press, 2002.
- Tanaka, Yuki. *Hidden Horrors: Japanese War Crimes in World War II*. Boulder, Colo.: Westview Press, 1996.

- Tasa, Guy. "The Donner Family Camp Site Bone." Paper presented at the 39th Annual Meeting of the Society for Historical Archaeology, Sacramento, California, 2006.
- Teleki, Geza. *The Predatory Behavior of Wild Chimpanzees*. Lewisburg, Penn.: Bucknell University Press, 1973.
- Thomas, David H. "Great Basin Hunting Patterns: A Quantitative Method for Treating Faunal Remains." *American Antiquity* 34 (1969): 392–401.
- Thomas, R. *Interesting and Authentic Narrative of the Most Remarkable Shipwrecks, Fires, Famines, Calamities [sic], Providential Deliverances, and Lamentable Disasters on the Seas in Most Parts of the World*. 1835. Reprint, Freeport, N.Y.: Books for Libraries Press, 1970.
- Thornton, J. Quinn. *From Oregon and California in 1848*. New York: Harper, 1849. Reprinted in Johnson, *Unfortunate Emigrants*, 14–120.
- Tinkham, George H. *History of San Joaquin County, California . . .* Los Angeles: Historical Record Co., 1923.
- Topping, Gary. "Overland Emigration, the California Trail, and the Hastings Cutoff." *Utah Historical Quarterly* 56 (1988): 109–27.
- Tosh, John. *A Man's Place: Masculinity and the Middle-Class Home in Victorian England*. New Haven, Conn.: Yale University Press, 1999.
- Travis-Henikoff, Carole A. *Dinner with a Cannibal*. Santa Monica, Calif.: Santa Monica Press, 2008.
- Trinkhaus, Erik. "Cannibalism and Burial at Krapina." *Journal of Human Evolution* 14 (1985): 203–16.
- Trotti, Michael Ayers. *The Body in the Reservoir: Murder and Sensationalism in the South*. Chapel Hill: University of North Carolina Press, 2008.
- Trouillot, Michel-Rolph. *Silencing the Past: Power and the Production of History*. Boston: Beacon Press, 1995.
- Tuma, Michael W. "Ethnoarchaeology of Subsistence Behaviors within a Rural African American Community: Implications for Interpreting Vertebrate Faunal Data from Slave Quarters Areas of Antebellum Plantation Sites." *Historical Archaeology* 40 (2006): 1–26.
- Turner, Christy G., II. "Cannibalism in Chaco Canyon: The Charnel Pit Excavated in 1926 at Small House Ruin by Frank H. H. Roberts, Jr." *American Journal of Physical Anthropology* 91 (1993): 421–39.
- . "Taphonomic Reconstructions of Human Violence and Cannibalism Based on Mass Burials in the American Southwest." In *Carnivores, Human Scavengers and Predators: A Question of Bone Technology*, edited by Genevieve M. LeMoine and A. Scott MacEachern, 219–40. Calgary: Archaeological Association of the University of Calgary, 1983.
- . "Teec Nos Pos: More Possible Cannibalism in Northeastern Arizona." *Kiva* 54 (1989): 147–52.
- Turner, Christy G., II, and Nancy T. Morris. "A Massacre at Hopi." *American Antiquity* 35 (1970): 320–31.

- Turner, Christy G., II, and Jacqueline A. Turner. "Cannibalism in the Prehistoric American Southwest: Occurrence, Taphonomy, Explanation, and Suggestions for Standardized World Definition." *Anthropological Science* 103 (1995): 1–22.
- and ———. "The First Claim for Cannibalism in the Southwest: Walter Hough's 1901 Discovery at Canyon Butte Ruin 3, Northeastern Arizona." *American Antiquity* 57 (1992): 661–82.
- and ———. *Man Corn: Cannibalism and Violence in the Prehistoric American Southwest*. Salt Lake City: University of Utah Press, 1999.
- and ———. "Perimortem Damage to Human Skeletal Remains from Wupatki National Monument, Northern Arizona." *Kiva* 55 (1990): 187–212.
- Twain, Mark. "A Brace of Brief Lectures on Science" (1871). In *Life as I Find It*, by Mark Twain. New York: Cooper Square Publishing, 1900.
- Tyler, Daniel. *A Concise History of the Mormon Battalion in the Mexican War, 1846–1847*. Glorietta, N.Mex.: Rio Grande Press, 1980.
- Ubelaker, D.H. *Human Skeletal Remains: Excavation, Analysis, Interpretation*. 2nd ed. Washington, D.C.: Taraxacum, 1989.
- Unruh, John D., Jr. *The Plains Across: The Overland Emigrants and the Trans-Mississippi West, 1840–60*. Urbana: University of Illinois Press, 1979.
- Valenčius, Conevery Bolton. *The Health of the Country: How American Settlers Understood Themselves and Their Land*. New York: Basic Books, 2002.
- Van Winkle, B. "Cannibals in the Mountains." In *New Perspectives on Native North America: Cultures, Histories, and Representations*, edited by Sergei A. Kan and Pauline Turner Strong, 395–413. Lincoln: University of Nebraska Press, 2006.
- Vehik, Susan C. "Bone Fragments and Bone Grease Manufacturing: A Review of Their Archaeological Use and Potential." *Plains Anthropologist* 22 (1977): 169–82.
- Vilaça, Aparecida. "Relations between Funerary Cannibalism and Warfare Cannibalism: The Question of Predation." *Ethnos* 65 (2000): 83–106.
- Villa, Paola. "Cannibalism in Prehistoric Europe." *Evolutionary Anthropology* 1 (1992): 93–104.
- Villa, Paola, Claude Bouville, Jean Courtin, Daniel Helmer, Eric Mahieu, Pat Shipman, Giorgio Belluomini, and Marili Branca. "Cannibalism in the Neolithic." *Science* 233 (1986): 431–37.
- Villa, Paola, Jean Courtin, and Daniel Helmer. "Cannibalism in Old World Prehistory." In *Physical Anthropology and Prehistoric Archaeology: Their Interaction in Different Cultural Contexts in Europe from the Late Upper Paleolithic to the Beginning of the Historical Times*, pp. 39–46. Proceedings of Simposio Internazionale, Rome, October 5–8, 1987. Rome: Istituto Italiano di Antropologia, Città Universitaria, 1988.
- Waechter, Sharon A., and Darren Andolina. "Ecology and Prehistory in Sierra Valley: Excavations at CA-PLU-1485." Report prepared for California Department of Transportation, District 2, Redding, California, by Far Western Anthropological Research Group, Inc., Davis, California, 2005.

- Walker, Cameron. "Donner Party Hearth Yields Bones; DNA Analysis Planned." *National Geographic News*, July 22, 2004. http://news.nationalgeographic.com/news/2004/07/0722_040722_donnerparty.html.
- Walker, L. "Home Making: An Architectural Perspective." *Signs* 27 (2002): 823–35.
- Walker, Phillip L., and Jeffrey C. Long. "An Experimental Study of the Morphological Characteristics of Tool Marks." *American Antiquity* 42 (1997): 605–16.
- Walker, W.H. "Where Are the Witches of Prehistory." *Journal of Archaeological Method and Theory* 5 (1998): 245–308.
- Wall, Diana diZerega. "Family Meal and Evening Parties." In *Lines that Divide*, edited by James A. Delle, Stephen A. Mrozowski, and Robert Paynter, 109–41. Knoxville: University of Tennessee Press, 2000.
- Walter, T.L., R.R. Paine, and H. Horni. "Histological Examination of Bone-Tempered Pottery from Mission Espiritu Santo (41VT11), Victoria County, Texas." *Journal of Archaeological Science* 31 (2004): 393–98.
- Walton, Pricilla L. *Our Cannibals, Ourselves*. Urbana: University of Illinois Press, 2004.
- Wasley, James. "California Letter." *Wisconsin Tribune* (Mineral Point), March 1, 1850.
- Weddell, P.M. "Location of the Donner Family Camp." *California Historical Society Quarterly* 24 (March 1945): 73–77.
- Weidenreich, Franz. "Did *Sinanthropus pekinensis* Practice Cannibalism?" *Bulletin of the Geological Society of China* 19 (1939): 49–63.
- . "Morphology of Solo Man." *Anthropological Papers of the American Museum of Natural History* 43 (1951): 205–90.
- . "The Skull of *Sinanthropus pekinensis*: A Comparative Study on a Primitive Hominid Skull." *Paleontologia Sinica*, new series D, 10 (1943): 1–298.
- Wells, Jonathan Daniel. *The Origins of the Southern Middle Class, 1800–1860*. Chapel Hill: University of North Carolina Press, 2004.
- West, Elliot. "American Pathways: An Exploration of Trails and the American Imagination." *Montana The Magazine of Western History* 51 (2001): 31.
- Wetherell, David. "Accounts of Fighting and Cannibalism in Eastern New Guinea during the Missionary Contact Period, 1877–1888, as Told to Charles Abel." *Pacific Studies* 26 (2003): 37–52.
- White, Richard. *It's Your Misfortune and None of My Own: A New History of the American West*. Norman: University of Oklahoma Press, 1991.
- White, Tim D. "Cut Marks on the Bodo Cranium: A Case of Prehistoric Defleshing." *American Journal of Physical Anthropology* 69 (1986): 503–509.
- . "Once Were Cannibals." *Scientific American* 285 (2003): 86–93.
- . *Prehistoric Cannibalism at Mancos 5MTUMR-2346*. Princeton: Princeton University Press, 1992.
- White, Tim D., and Nicholas Toth. "Engis: Preparation Damage, Not Ancient Cut-marks." *American Journal of Physical Anthropology* 78 (1989): 361–67.
- and ———. "The Question of Ritual Cannibalism at Grotta Guattari." *Current Anthropology* 32 (1991): 118–38.

- Whyte, T.R. "Distinguishing Remains of Human Cremations from Burned Animal Bones." *Journal of Field Archaeology* 28 (2001): 437.
- Wier, Jean. *The Papers of Jean Elizabeth Wier*. MSS86/1720. Reno: Nevada Historical Society.
- Wiggins, Don. "An Investigation of Emigrant Trails in Section 1, T 17 N, R 16 E." Report prepared for the Tahoe National Forest, Nevada City, California, 1999.
- Willey, P., and Donald L. Hardesty. "'Our Trubels Geting to Callifornia': The Donner Party, the Sierra Nevada Mountains, and the Winter of 1846-47." *Proceedings of the American Academy of Forensic Sciences* 6 (2000): 294.
- Wilson, Kenneth. *New England Glass and Glassmaking*. New York: Thomas Y. Crowell, 1972.
- Wilson, Rex L. *Bottles on the Western Frontier*. Tucson: University of Arizona Press, 1981.
- Wise, H. A. "From Los Gringos" (1849). In Johnson, *Unfortunate Emigrants*, 133-35.
- Wistar, I. *Autobiography of Isaac Jones Wistar, 1827-1905: Half a Century in War and Peace*. New York: Harper, 1937.
- Wolff, Janet. "The Culture of Separate Spheres: The Role of Culture in Nineteenth-Century Public and Private Life." In *The Culture of Capital: Art, Power and the Nineteenth-Century Middle Class*, edited by Janet Wolff and John Seed, 117-34. Manchester: Manchester University Press, 1988.
- Wrangham, Richard. *Catching Fire: How Cooking Made Us Human*. New York: Basic Books, 2009.
- Wurst, Lou Ann, and Robert K. Fitts, eds. "Introduction: Confronting Class." *Historical Archaeology* 33 (1999): 1-6.
- Wyatt, E. JoMay, Roy Pescador, Kelly J. Dixon, and William O. Granath, Jr. "Scanning Electron Microscope Analysis of an Archeologically Significant Slate." Paper presented to the Microscopy Society of America Annual Conference, Honolulu, 2005.
- Xiang, Z. F., and C. C. Grueter. "First Direct Evidence of Infanticide and Cannibalism in Wild Snub-Nosed Monkeys (*Rhinopithecus bieti*)." *American Journal of Primatology* 69 (2007): 249-54.
- Yue, Gang. *The Mouth That Begs: Hunger, Cannibalism, and the Politics of Eating in Modern China*. Durham, N.C.: Duke University Press, 1999.
- Zentall, Thomas R., and Bennett G. Galeff. *Social Learning: Psychological and Biosocial Perspectives*. Philadelphia: Lawrence Erlbaum, 1988.
- Zoetis, T., M. Tassinari, C. Bagi, K. Walthall, and M. Hurtt. "Species Comparison of Postnatal Bone Growth and Development." *Birth Defects Research (Part B)* 68 (2003): 86-110.

Contributors

WILL BAGLEY has written and edited more than twenty books on overland emigration, frontier violence, railroads, mining, and the Mormons and has won best books awards from the Western History Association and the Denver Public Library, as well as the Western Writers of America Spur Award. He is series editor of the Arthur H. Clark Company's documentary history *Kingdom in the West: The Mormons and the American Frontier*. His most recent book is *So Rugged and Mountainous: Blazing the Oregon and California Trails, 1812–1848*, the first of four volumes of his *Overland West: The Story of the Oregon and California Trails* series.

KELLY J. DIXON is an associate professor of anthropology at the University of Montana. She specializes in historical archaeology in the American West, with interests in the archaeology of colonization, landscapes, boomtowns, and extractive industries. She is the author of *Boomtown Saloons: Archaeology and History in Virginia City* (2005) and several other publications on African American and Overseas Chinese communities, the archaeology of entertainment, and historical archaeology and public culture. She is currently developing interdisciplinary archaeological research at historic sites in Montana and examining global cases of cultures in contact.

KELSEY GRAY is a graduate student at University College London. She received her B.A. in anthropology at Appalachian State University in 2009. Her research interests include bioarchaeology, paleopathology, leprosy, and bone histology.

DONALD L. HARDESTY is a professor of anthropology at the University of Nevada, Reno. He received his Ph.D. in anthropology from the University of Oregon. His research interests include historical and industrial archaeology, historic preservation, and environmental anthropology. Hardesty has done archaeological fieldwork for more than forty years in the American West. He is the author of several books, including

Ecological Anthropology, *Mining Archaeology in the American West*, *The Archaeology of the Donner Party*, and *Assessing Site Significance*. Hardesty is a past president of the Society for Historical Archaeology, the Mining History Association, and the Register of Professional Archaeologists.

KRISTIN JOHNSON is a librarian at Salt Lake Community College who specializes in bibliographical, biographical, and genealogical research. She has been studying the Donner Party for nearly two decades and is the editor of *Unfortunate Emigrants: Narratives of the Donner Party* (1996). In addition to serving as the project historian for the Donner Party Archaeology Project, she served as editor of *Crossroads*, the newsletter of the Utah Crossroads Chapter of the Oregon-California Trails Association (OCTA). The Donner Party Bulletin and Web site are products of her years of research.

SEAN MCMURRY is a doctoral student specializing in historical archaeology at the University of Nevada, Reno. She received a B.A. in anthropology from Colorado State University in 2003 and an M.A. in anthropology from the University of Nevada, Reno in 2007. Her research interests focus on foodways, gender, and community in the nineteenth- and twentieth-century American West.

JO ANN NEVERS is *wel mel ti*, the northern branch of the Washoe Tribe. Her ancestor was the scout who led gold-seekers across the Sierra Nevada and tried to assist the Donner Party. Nevers worked for the Washoe Tribe and is retired from the Bureau of Indian Affairs. She is the author of *Wa She It Deh: A Washo Tribal History* (1976) and has contributed to numerous archaeological and ethnographic studies in Washoe country. She is currently a member of the Washoe Tribe Cultural Resource Advisory Committee.

SHANNON A. NOVAK is an associate professor of anthropology at Syracuse University. She is a bioarchaeologist whose research interests include gender and political violence, evolutionary theory and social organization, and the symbolic and political manipulation of dead bodies. Trained in skeletal biology at the Smithsonian Institution, she has extensive experience in the analysis of human remains from prehistoric, historic, and forensic contexts. Her field experience includes studies in Jordan, England, Croatia, Guatemala, and the United States. She is the author of *House of Morning: A Biocultural History of the Mountain Meadows Massacre* (2008), winner of the 2010 James Deetz Book Award.

GWEN ROBBINS SCHUG is an assistant professor of anthropology at

Appalachian State University. She is an osteologist whose research interests include bioarchaeology of children, paleodemography, bone growth and histology, and paleopathology. She is the author of research publications on compact bone ontogeny, paleodemography for subadult skeletal populations, and prehistory of leprosy in India. She is also author of a book forthcoming from the University Press of Florida entitled *Bioarchaeology and Climate Change: A View from South Asian Prehistory*. Her research has been supported by the American Institute of Indian Studies, an Fulbright Fellowship, and the George Franklin Dales Foundation. She is the recipient of the William C. Strickland Outstanding Young Faculty Award (2009–2010) at Appalachian State University.

PENNY RUCKS began working with the Washoe people in the 1980s as an archaeologist and tribal liaison for the USDA Forest Service at the Lake Tahoe Basin Management Unit. By 1998, she had become a private consultant conducting ethnographic inventories and assisting agencies with documenting traditional cultural properties and Native American consultation, principally with Washoe, Northern Paiute, and Western Shoshone communities. She maintains a particular connection to Washoe country and people. This is her fourth collaborative study with Jo Ann Nevers.

JULIE M. SCHABLITSKY is an archaeologist on the research faculty at the University of Oregon and chief archaeologist at the Maryland State Highway Administration. She specializes in historical archaeology with interests in the recovery of human DNA from artifacts and the portrayal of archaeology on television. Her current research includes postmedieval Scotland, the birthplace of John Paul Jones, and colonial sites in Maryland. Julie edited and contributed to *Remains of the Day: Forensic Applications in Archaeology* (2006) and *Box Office Archaeology: Refining Hollywood's Portrayals of the Past* (2007).

G. RICHARD SCOTT served as a professor of physical anthropology at the University of Alaska, Fairbanks and currently serves on the faculty at the University of Nevada, Reno. He has taught numerous academic courses, including forensic anthropology and bioarchaeology. His research focuses on the dental anthropology of Southwest Indians, Norse in the North Atlantic, Alaskan Eskimos, and Basques and Spaniards. Scott has published numerous articles and reviews on dental anthropology, Arctic research, and Native American population affinities. He also coauthored *The Anthropology of Modern Human Teeth* (2000).