

A Burial Cave in the Western Aleutian Islands, Alaska

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Abstract. During the 1998 field season, the Western Aleutians Archaeological and Paleobiological Project (WAAPP) team located a cave in the Near Islands, Alaska. Near the entrance of the cave, the team identified work areas and sleeping/sitting areas surrounded by cultural debris and animal bones. Human burials were found in the cave interior. In 2000, with permission from The Aleut Corporation, archaeologists revisited the site. Current research suggests three distinct occupations or uses for this cave. Aleuts buried their dead in shallow graves at the rear of the cave circa 1,200 to 800 years ago. Aleuts used the front of the cave as a temporary hunting camp as early as 390 years ago. Finally, Japanese and American military debris and graffiti reveal that the cave was visited during and after World War II. Russian trappers may have also taken shelter there 150 to 200 years ago. This is the first report of Aleut cave burials west of the Delarof Islands in the central Aleutians.

Introduction

During 1998, the Western Aleutians Archaeological and Paleobiological Project (WAAPP) team discovered a cave, ATU-198, during archaeological reconnaissance in the Near Islands¹, Alaska (West et al. 1998: Fig.1). Hearths and work areas were evident inside the entrance to the cave. Human bones were found associated with carefully arranged stones in the cave's deep interior. A second partial stone arrangement at the rear of the cave is believed to be a burial feature, although no human bones were observed.

Prior to this discovery, and despite Hrdlička's (1945) and Jochelson's (1925) active in-

vestigations to find caves in the western Aleutians, no cave burials had ever been reported from the Aleutians west of the Delarof Islands in the central Aleutians. This is, therefore, a unique opportunity to shed light on previously unknown western Aleutian burial practices.

In 2000, with permission from The Aleut Corporation, the WAAPP team returned to conduct a thorough study of the site, concentrating on three aspects of the cave: 1) its physical origin, 2) the habitation/work area at the entrance of the cave, referred to as "Gallery 1," and 3) the human burials located at the rear of the cave, referred to as "Gallery 2" (West et al. 2000). The cave was

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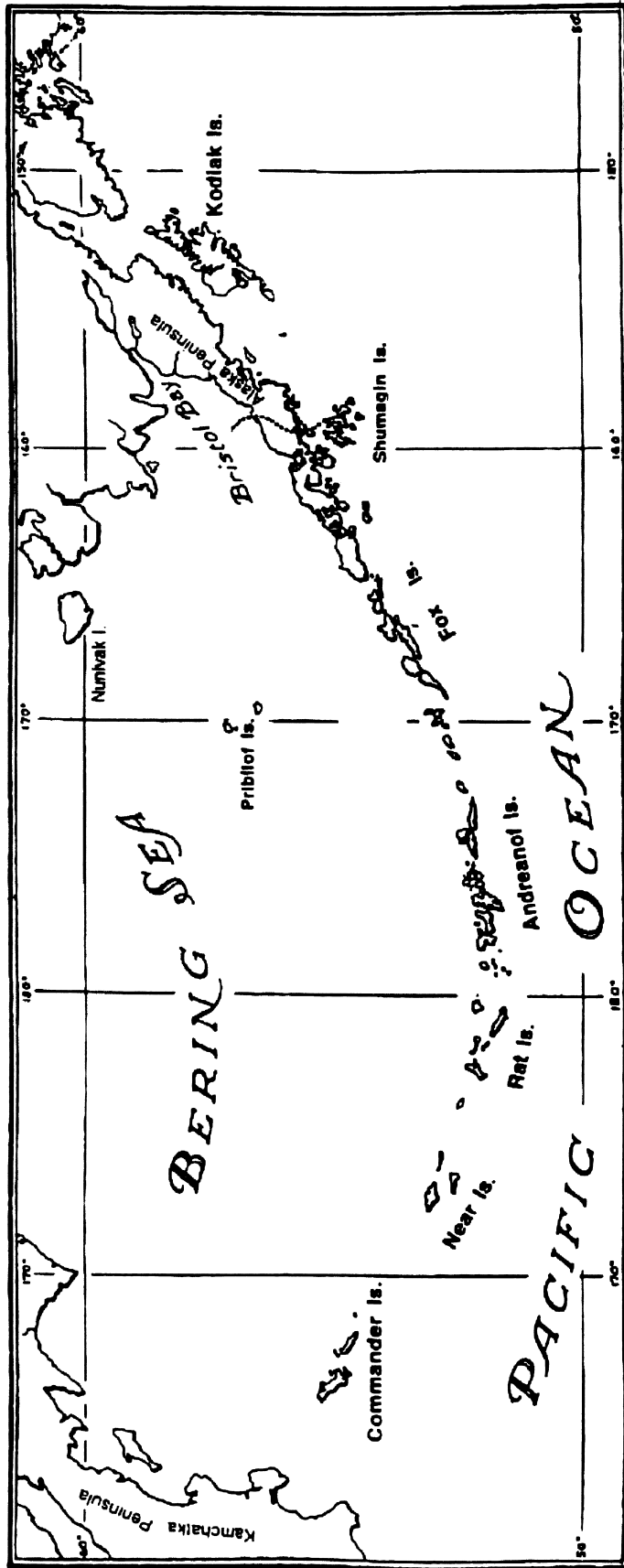


Figure 1. Map of the Aleutian chain showing the location of the Near Islands at the far western end of the archipelago (adapted from Dumond 2001, p. vi).

mapped after establishing a 2 m grid throughout. Artifacts and animal (bird, mammal, and fish) bones found on the cave floor in the habitation area at the front of the cave were collected and bagged. Burials were morphologically/metrically analyzed in the field, photographed, drawn, and returned to their original burial areas.

Origin and Description of the Cave

Natural fissures in volcanic rock formed the cave, which is located 16 m above sea level. The cave is triangular shaped and forms a 5 m wide tunnel extending 48 m into the hillside (Figs. 2 and 5). Collapsed rubble eroding from the slope directly over the cave entrance forms a steep apron (30 degrees) covered with *Elymus* grass and umbelliferous plants that obscure the cave entrance. Flotsam found just inside the entrance of the cave suggests that, currently, occasional winter storms produce waves high enough to carry modern debris into the cave entrance. Over time, the rubble eroding from the slope above the cave will close the narrow entrance.

Methods Used During the Field Expedition

Because this is a human burial cave, archaeologists conducted fieldwork to gather as much information as possible while leaving cave contents—both sleeping/sitting areas (Gallery 1) and burials (Gallery 2)—intact and undisturbed. From Datum 1 a tapeline was run to the base of the apron on the exterior of the cave to Datum 2 (Figs. 2–4). A second tapeline was run to the rear of Gallery 1 (Datum 3), and then angled to parallel Gallery 2, the rear of the cave where the burials were located. A 2 m grid was established using the tapelines as base lines. Features, artifacts, and human remains were plotted using this grid. Animal (bird, mammal, and fish) bones scattered on the cave floor were collected and bagged based on the established 2 m grid system. Isolated human bones were left undisturbed and in place, after being mapped and/or photographed. Elevations of the cave exterior and interior were established using a hand held level.

Two test pits (Test 1 and Test 2) were excavated in Gallery 1, and one test pit (Test 3) was dug just outside the entrance of the cave (see Fig. 2). Tests 1 and 2 were opened to discover the depth of cultural debris. Below the surface, cultural materials were rare, consisting of *Elymus* grass and pieces of wood, and only extended

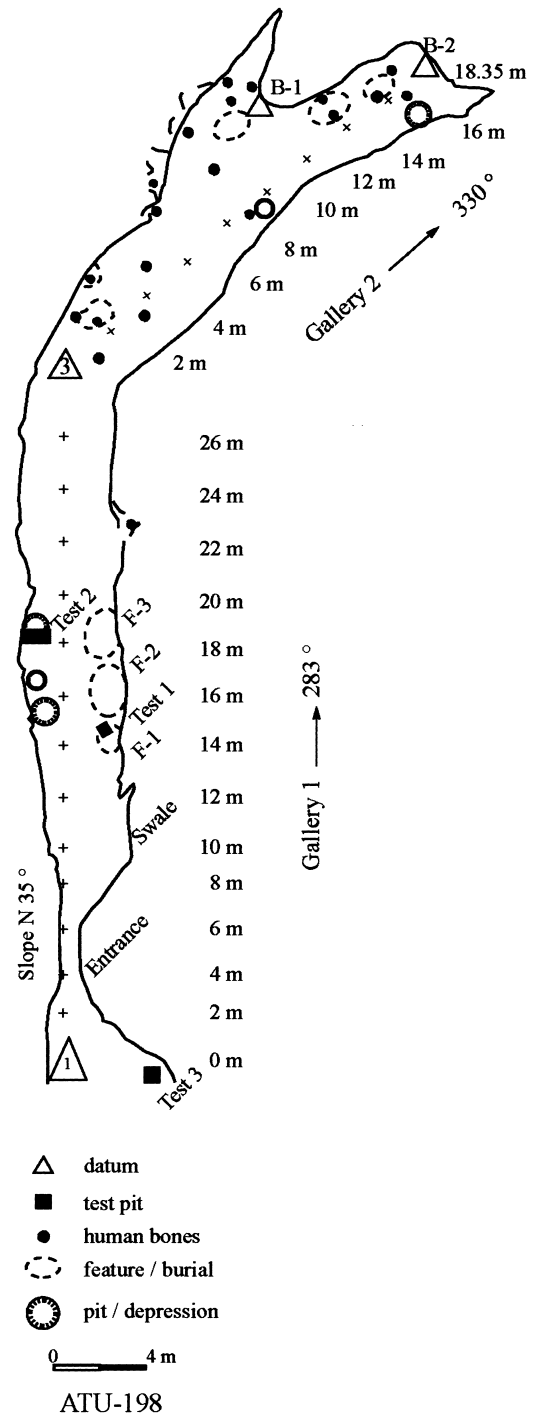
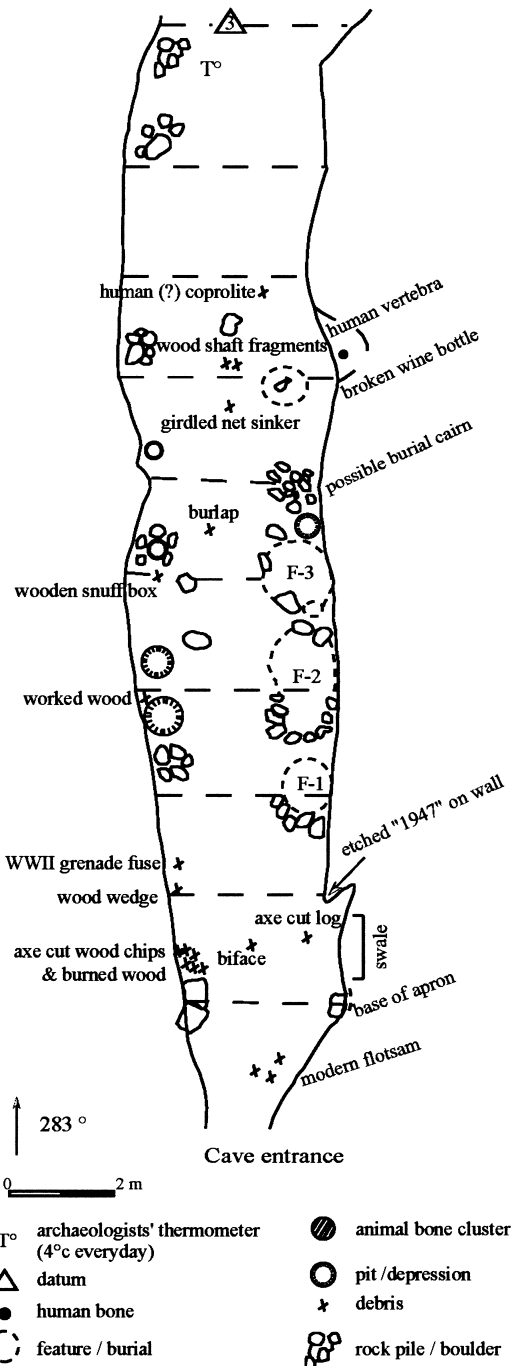


Figure 2. Plan of the burial cave. Gallery 1 represents the habitation area of the cave. Graves were discovered in Gallery 2 at the rear of the cave.



ATU-198. Gallery 1.

Figure 3. Details of Gallery 1 of the burial cave.

down to approximately 30 cm. No artifacts were recovered from Test 1. A piece of rolled birch bark (sample 738828) recovered from Test 2 was submitted for radiocarbon dating. This bark was approximately 390 years old (Table 1). Test 3 was established outside the entrance of the cave to see if any cultural remains (household debris) had been discarded there; it was completely sterile.

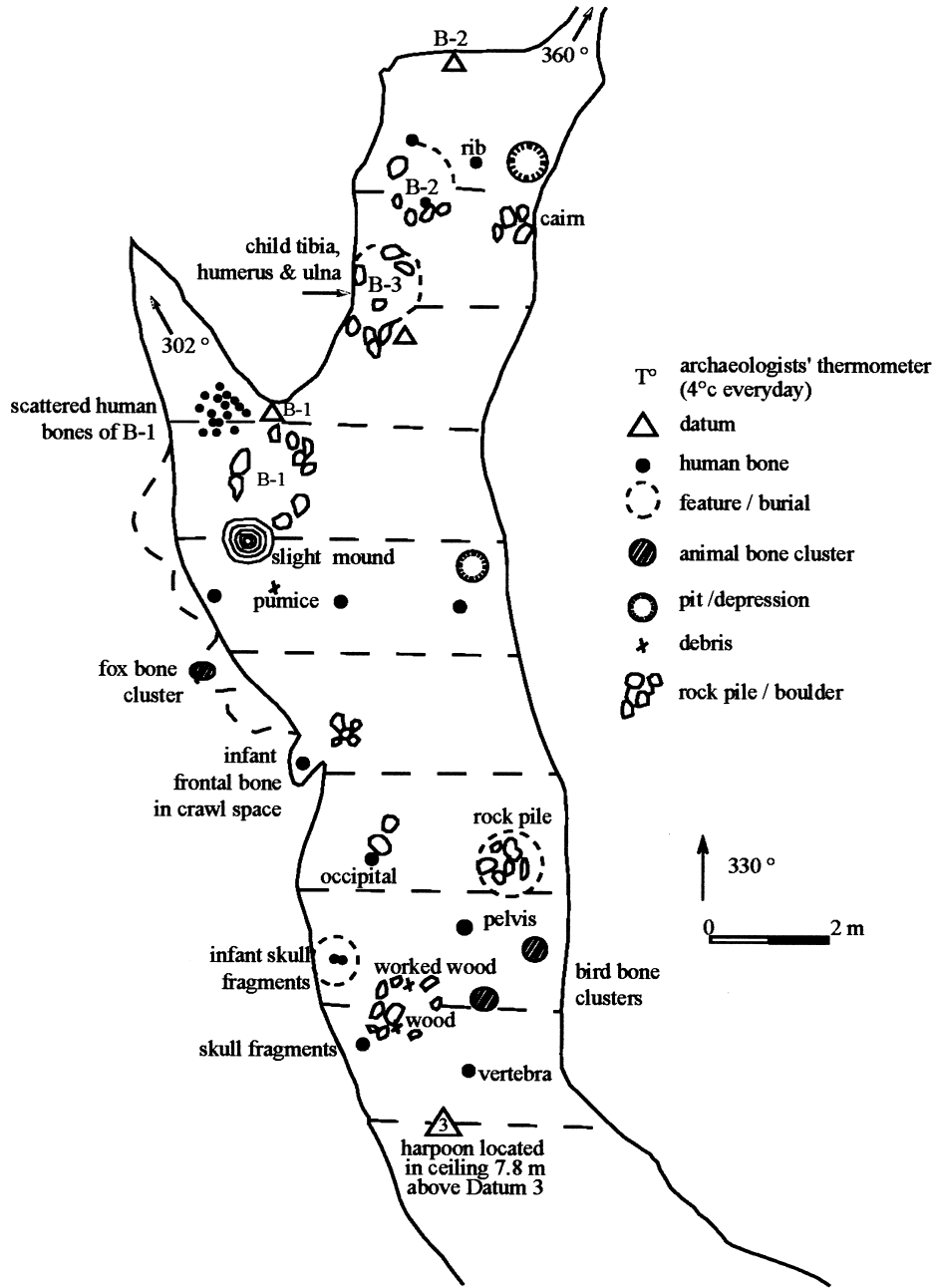
Radiocarbon Dates

Organic preservation in the cave was excellent. Four organic samples from the sleeping/sitting areas at the entrance to the cave were submitted for dating. These included three samples of worked wood and grass, both found in abundance there. The fourth sample was a roll of birch bark recovered from Test Pit 2. The dates for these objects range from 390 B.P. to 100 B.P. A human rib bone and a piece of charred organic material from Burial 1 were also submitted for dating, yielding dates ranging from 1,200 to 800 years ago. Radiocarbon dates are presented in Table 1.

Radiocarbon dates suggest that human burials and their associations (charred material) are much older than activities represented by sleeping/sitting areas at the cave entrance. Numerous human bones were discovered on the floor at the rear of the cave, and the relatively younger date of charred materials found in this area possibly indicates that activities associated with human interments occurred over long periods of time, possibly hundreds of years.

The oldest date from the island, 2200 B.P., comes from a village site, ATU-193, located on the north side of the island (Table 2) (Lefèvre et al. 2001; West et al. 1998). Dates from the village site flanking the cave to the north, ATU-197, are younger than those of Burial 1. One date from the village site flanking the cave to the south, ATU-199, indicates a more recent occupation; another one from the same village site overlaps the burial ages and suggests that the human remains could represent former occupants of the ATU-199 community.

Organic materials associated with the sleeping/sitting areas at the entrance of the cave are considerably younger than Burial 1. The extraordinary preservation of the grass, a hand grenade fuse, a wine bottle, and a graffiti date of 1947 scrawled on the cave wall in Gallery 1 immediately suggested that these “living” areas might have been created by both Japanese and American soldiers during and after World War II. However, buried remains in the test pits and the dates



ATU-198. Gallery 2

Figure 4. Details of Gallery 2 of the burial cave.

Table 1. Radiocarbon dates from the Near Islands Burial Cave ATU-198.

Field No.	Lab. No.	Material	Type of Date	Date in Years B.P.
Gallery 1:				
738828	Beta-146028	Birch Bark	AMS	390 ± 40
738786	Beta-146027	Grass	Standard	160 ± 60
738824	Beta-146029	Wood	Standard	100 ± 70
173648	Beta-125194	Wood	Standard	100 ± 40
Gallery 2:				
738812	Beta-146025	Human Rib	Standard	1160 ± 60
738816	Beta-146026	Charcoal	Standard extended counting	790 ± 90

Table 2. Radiocarbon dates from ATU-193, ATU-197, and ATU-199.

Site No.	Feature	Lab No.	Material	Date in Years B.P.
ATU-193	Feature 44	Beta-121087	Charcoal	2210 ± 60
ATU-197	Feature 79, level 3	Beta-121082	Charcoal	540 ± 80
ATU-197	Feature 76	Beta-121083	Charcoal	360 ± 60
ATU-199	Feature 19	Beta-121084	Charcoal	230 ± 60
ATU-199	Feature 20	Beta-121085	Bone	960 ± 60

indicate that Aleuts or possibly Russian trappers used this space prior to the 1940s visits by soldiers.

Human Burials

During the 2000 field season, with permission from The Aleut Corporation, West collected and analyzed the disturbed human bones associated with Burial 1. Identification was performed in the field without the aid of a comparative skeleton. Some individual bones were collected for additional analyses. While analyzing the bones, West discovered that the disturbed bones associated with the burial represented, not one, but at least three individuals: 1) an elderly person, 2) a juvenile to young adult, and 3) a very young child. The bones representing the three individuals, as well as bones that could not be assigned to a specific individual are listed in Table 3.

Individual 1

Very worn teeth as well as bones of the vertebral column, ribs, arms, legs, hands, and feet indicate

that the remains are those of an elderly adult. Individual bones were in very good condition, and the skull, mandible, pelvis, and most bones of the arms and legs were absent. Archaeologists thoroughly investigated the cave, but the missing bones were never found. Three hypotheses have been proposed to explain the presence of the partial skeleton: 1) the cave may represent a secondary burial. In other words, after the individual died, his/her body may have been left to decompose in another location, then some, but not all of the bones were transported to the cave and interred. This burial method is not otherwise attested to in the Aleutians. 2) Foxes may have disturbed the burial and dragged some of the bones away. The numerous fox bones recovered in the cave (see description below), as well as the strong smell of these carnivores, still perceptible at the time of our visits, indicate that Arctic foxes also used the cave as a shelter. One must, nevertheless, note that carnivore gnawing was not observed on any of the remaining bones. 3) Human visitors, either Russian fur trappers or soldiers occupying the island during and after World War II, may have removed some of the bones from the cave. This seems the most likely

Table 3. Identified human bones from the Near Islands Burial Cave ATU-198. L=left; R=right; NA=not applicable; UT=unable to tell.

Type of Bone	Individual 1				Individual 2				Individual 3			
	L	R	NA	UT	L	R	NA	UT	L	R	NA	UT
<i>Skull</i>												
Skull fragment											2	
Teeth												1
<i>Vertebral column</i>												
Atlas (1st cervical)											1	
Axis (2nd cervical)			1									
Other cervical vertebrae			4								3	
Thoracic vertebrae			9				4				1	
Lumbar vertebrae			2									
Sacrum			1									
<i>Thorax</i>												
Clavicle										1		
Superior rib		1										
Central rib	5	4										
Rib shaft fragment				5				4				5
Rib, neck region												4
<i>Arm</i>												
Humerus										1		
Radius		1										
<i>Hand</i>												
Scaphoid				1								
Metacarpal 1	1											
Metacarpal 3		1			1							
Metacarpal 4		1			1							
Metacarpal 5		1			1							
<i>Leg</i>												
Femur												2
Tibia						1						
Patella	1				1							
Fibula		1		1								
<i>Foot</i>												
Metatarsal 1												
Metatarsal 2												
Metatarsal 3												
Metatarsal 4												
Metatarsal 5												
Sustentaculum	1	1			1							
Talus	1	1										
Intermediate cuneiform			1									
Navicular	1	1										
Cuboid		1										
Lateral cuneiform		1										
<i>Phalanges</i>				9								3

explanation for the scattered and partial remains, because the missing bones represent the largest and most easily recognizable elements of the human body (see Guggenheim 1945).

In 1998, West noted that the vertebral column suffered from extensive arthritis and possibly showed signs of lesions associated with tuberculosis. A thoracic vertebra and a lumbar vertebra from Burial 1 were sent to The Arthritis Center of Northeast Ohio for x-rays and morphological analysis of trauma and pathological conditions. Dr. Bruce Rothschild, who did the analyses, confirmed that the human buried in the cave suffered from arthritis—in particular, spondyloarthropathy, a form of inflammatory erosive arthritis. He also noted that, “the zygapophyseal joints . . . show osteophytes of osteoarthritis, but also show erosions and remodeling characteristic of spondyloarthropathy” (Rothschild, personal communication 2000). “Spondyloarthropathy’ is the name applied to several varieties of arthritis characterized by a tendency to reactive bone formation, ossification at sites of tendon, ligament, or capsule insertion, asymmetrical pauciarticular peripheral joint erosions and fusion, and axial (spine and sacroiliac) joint disease” (Rothschild and Martin 1992:101). On the other hand, osteoarthritis “is a non-erosive type of arthritis,” and is the most common form of arthritis, occurring in virtually all humans above the age of 75 (Rothschild and Martin 1992:82). Rothschild (personal communication 2000) does not believe that either type of arthritis is necessarily related to the rigors of a hunting-gathering way of life in a harsh environment, but rather are diseases associated with old age. X-rays confirmed that this individual did not suffer from tuberculosis.

Individual 2

The remains of a juvenile or young adult are represented by isolated teeth, vertebrae, rib fragments, leg, hand, and foot bones (Table 3). This individual was aged by determining the fusion rates on individual bones. The arches in the thoracic vertebrae have fused to the bodies, but the epiphyses of the bodies are unfused and absent. Fusion of epiphyses to vertebral bodies occurs when an individual reaches 18 years of age (Steele and Bramblett 1988). In addition, a left distal epiphysis of a tibia was identified. The fusion of this epiphysis to the long bone shaft occurs at 16 to 17 years in females and 18 to 19 years in males (Steele and Bramblett 1988). The unfused element indicates that the individual was at least under nineteen

years old at time of death. Additionally, teeth of this individual were mature, but showed minimal wear. This individual was probably a teenager nearing adulthood when he/she died. Again, most of this individual’s bones were missing, possibly having been collected by later visitors to the cave.

Individual 3

The third individual was a very young child at the time of his/her death (Table 3). The age of this individual was determined based on the identification of a deciduous central incisor. The root of the tooth is fully formed, but no resorption has occurred. A fully formed deciduous incisor is present in an individual between 18 months \pm 6 months to 4 years \pm 12 months (Steele and Bramblett 1988). Vertebrae provided further indications of the age of the individual. The arches of the cervical vertebra had fused to the body. Fusion of the arch to the body of the vertebra occurs when a person is between 3 and 6 years old, beginning with the cervical vertebrae (Steele and Bramblett 1988). Evidence derived from examination of teeth and vertebral fusion suggests this individual was at least 3 years old when he/she died and was probably between 3 and 4 years \pm 12 months when he/she died.

Other Human Remains

Metatarsals (foot bones) that could not be confirmed as belonging to either the elderly individual or the juvenile are listed in Table 3. Numerous additional, isolated human bones, found scattered throughout the cave, are listed in Table 4 and are described below:

12–14 m from Datum 1: A left clavicle measuring 141 mm in length belonged to an adult. Not particularly robust, this could have been a female. While this clavicle may represent another individual, we cannot rule out the possibility that it may be associated with the elderly person or juvenile recovered from Burial 1.

16–18 m from Datum 1: A piece of left frontal bone of a skull could have belonged to an individual of any age, minimally 8 to 10 years old, based on its general size. A right femoral shaft that is 158 mm long was also recovered in this locale. The femur lacks both proximal and distal epiphyses. According to long bone shaft measurements (Finnegan 2000; Merchant 1973; Merchant and Ubelaker 1977), this individual was between 12 and 18 months old at time of death.

Table 4. Isolated human bones from the Near Islands Burial Cave ATU-198. L=left; R=right; UT=unable to tell; NA=not applicable.

Provenience	Bone	Side	
12–14 m from Datum 1	clavicle	L	
16–18 m from Datum 1	frontal	L	
	femur shaft	R	
18–20 m from Datum 1	femur shaft	L	
2–4 m from Datum 3	ischium	L	
	rib fragment	UT	
4–6 m from Datum 3	frontal with metopic suture	NA	
	femur shaft	R	
6–8 m from Datum 3	femur shaft	R	
8–10 m from Datum 3	humerus shaft	L	
	radius	R	
	pubis	R	
	cervical vertebra arch	NA	
	thoracic vertebra arch	NA	
	thoracic/lumbar? arch	NA	
	middle phalanx	UT	
	3 rib fragments	L	
	2 rib fragments	R	
	16–18 m from Datum 3	femur shaft	R
		femur shaft	L
humerus shaft		R	
3 thoracic vertebra arches		NA	
maxilla		R	
2 rib fragments		R	
temporal		L	

18–20 m from Datum 1: A left femoral shaft also 158 mm long is developmentally at the same stage as the femoral shaft recovered from 16–18 m from Datum 1. This left femur probably represents the same individual as the right femur previously described. This individual was between 12 and 18 months old at time of death.

2–4 m from Datum 3: The left ischium, with unfused epiphyseal surfaces, represents a youngster between 6 to 8 years old based on diaphysis circumference, length, and general morphology (M. Finnegan, personal communication 2001). A human rib fragment was also recovered from this location.

4–6 m from Datum 3: A skull fragment of a very young child was discovered in a low niche near the middle of the cave. The frontal bone of this individual exhibited a metopic suture. At birth, a suture separates the frontal bone (forehead) of the skull; this suture usually fuses before an in-

dividual reaches two years of age (Steele and Bramblett 1988). A right femoral shaft, measuring 108 mm, is estimated to represent an individual 10 to 12 months old at time of death (Finnegan 2000; Merchant 1973).

6–8 m from Datum 3: An eroded left femoral shaft, 107 mm long, represents an individual slightly older than the individual represented by the right femoral shaft recovered 4–6 m from Datum 3. This individual is estimated to have been 12 to 15 months old at time of death (Merchant 1973; M. Finnegan, personal communication 2001).

8–10 m from Datum 3: A left shaft of a humerus, approximately 118 mm long, was damaged proximally and distally. This individual was between 12 and 15 months old at time of death. A right radius, suffering distal erosion, measured approximately 89 mm long and was probably between 18 to 30 months old at time of death

(Merchant 1973; Merchant and Ubelaker 1977). A single individual, estimated to be between 1 and 3 years old at time of death, is represented by a right pubis, 4 vertebral fragments, and a sacral segment. Vertebral fragments include an unfused arch of a cervical vertebra, the complete arch of an upper thoracic vertebra, and an arch fragment of a lower thoracic/lumbar vertebra. A complete middle phalanx (finger), 17 mm long, could not be assigned to a specific age. Three left and two right rib fragments have been judged to have belonged to a child based on their comparatively small size.

16–18 m from Datum 3: Various human bones were recovered from this area which represents the extreme back of the cave. A right femoral shaft was too incomplete to measure, but could have belonged to an individual who was 12 to 15 months old based on morphology and size. A fragment of a left distal femoral shaft morphologically matches the right femoral shaft fragment described above. A right humerus shaft, measuring 119 mm, probably represents an individual who was between 24 and 30 months at time of death. Three unfused vertebral arches, representing thoracic vertebrae, were recovered. Based on the above combined criteria, this individual was probably over 12 months old at time of death (Bass 1971). A right maxilla with nearly complete alveola but missing associated teeth was recovered. The alveola contained tooth sockets for: a central and lateral incisor, canine, and both deciduous milk molars. An unerupted M¹ germ suggests that this individual was 18 to 24 months old at time of death. Two ribs represent a young individual. One complete rib was 61 mm long. Based on the rib length and circumference, this individual was between newborn and 12 months old at time of death (Fazekas and Kosa 1978). The petrous, housing the internal ear, of a left temporal bone was also recovered. This individual was a juvenile at time of death based on its general size.

A minimum number of one adult and five very young individuals are represented by these isolated finds. Two individuals, represented by right femora, are estimated to have been between 10 to 12 months old at time of death; one individual, represented by a right femur, is estimated to have been between 12 and 18 months old at time of death; and one individual, represented by a right femur, is estimated to have been between 12 and 15 months old at time of death. A right humerus represents a fifth individual, estimated to have been between 24 and 30 months old at time of death. A left clavicle was that of an older adult.

However, the clavicle might belong to the elderly individual or juvenile in Burial 1 or represent another individual.

Artifacts

Relatively few artifacts, and only one obvious grave item, were recovered from the cave. A small, irregular piece of ocher, measuring several centimeters in diameter, was found in the pit associated with Burial 1. All other artifacts were recovered from Gallery 1 and are associated with the sleeping/sitting areas. Following is a brief description of some of them.

Net sinker: A net sinker, found 20–22 m from Datum 1, is 9.5 cm long and 6.0 cm wide. A groove extends around the circumference of the sinker. This is a fishing implement commonly found in archaeological sites across the Aleutian chain.

Biface: A biface, found 10–12 m from Datum 1, is 8.2 cm long, 39 cm wide, and 12 cm thick. This artifact is also routinely present in Aleutian sites.

Carved snuffbox: A wooden snuffbox, located 18 m from Datum 1, was identified by Vince Tutiakof of The Aleut Corporation. The snuffbox is 5.0 cm wide and 3.9 cm high. The base is oval, measuring 4.6 cm by 2.3 cm. Both the top and bottom rims are engraved. This is clearly an historic artifact as tobacco was unknown in the islands prior to Russian contact.

Barbed harpoon point: A carved bone harpoon point is curved, and its total length is 31.7 cm. The proximal end of the weapon measures 1.4 cm in diameter at the base and the broken tip measures 8 cm by 12 cm. The harpoon point had three distinct barbs carved along the shaft of the bone, and two of these have broken off. Harpoon points are found virtually in every site and across a wide time span in the Aleutians. This long, unilaterally barbed point may represent a late prehistoric type, but tool chronologies are still in the process of development (Corbett 1991; Desautels et al. 1971; West et al. in press). The harpoon point was discovered in the ceiling of the cave directly above Datum 3. This odd location suggests that someone found the cleft in the cave ceiling and purposefully placed the point there.

Spoons of cormorant breastbones: Four spoons made from cormorant breastbones were recov-

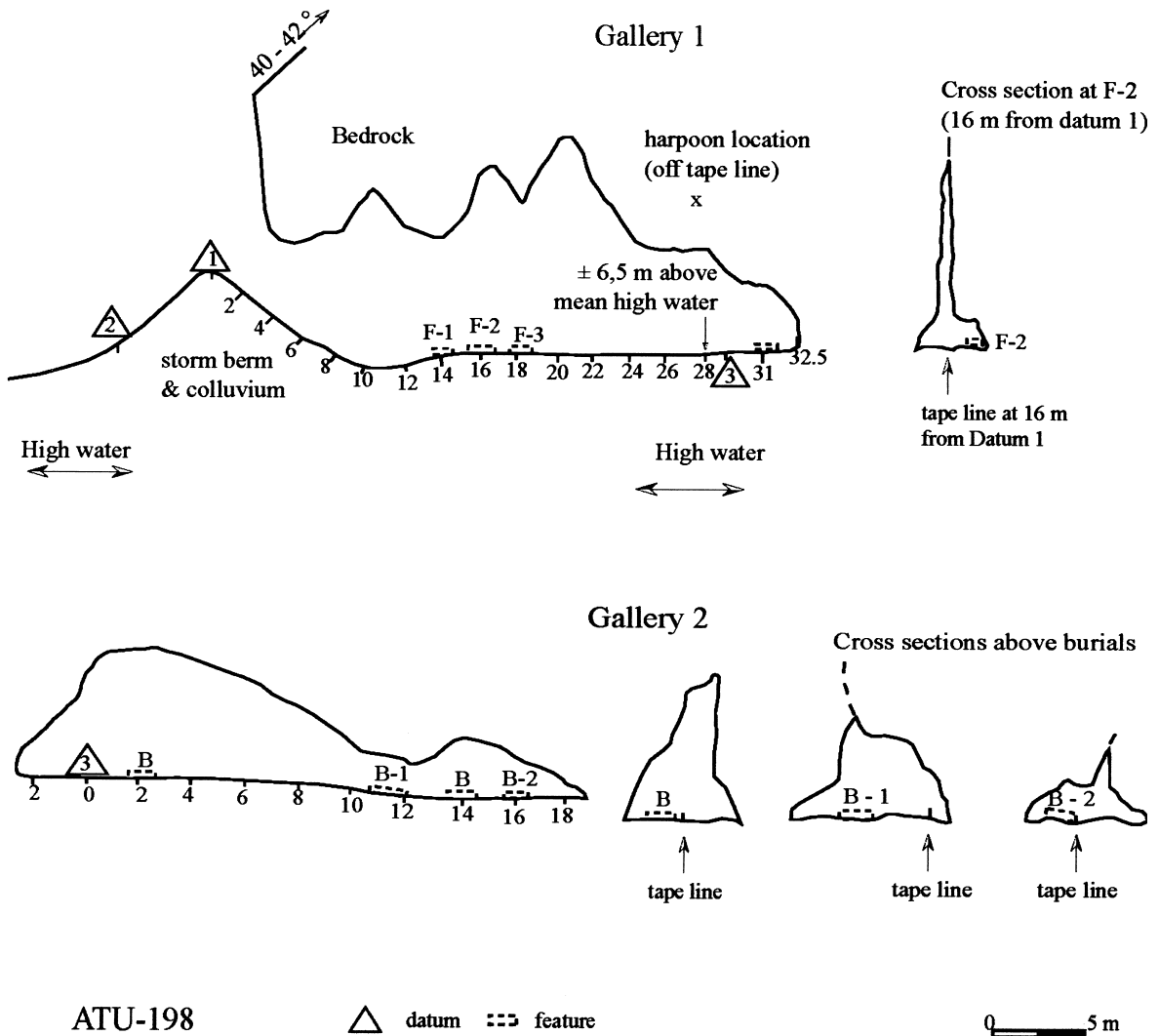


Figure 5. Profile showing details in ceiling height and cross section of Galleries 1 and 2 of the burial cave.

ered in the cave at three different locations: one at 10–12 m from Datum 1; one in Feature 1, 13.5–15 m from Datum 1; and one in Feature 2, 15–18 m from Datum 1. Such artifacts, although uncommon, are not unusual in Aleut contexts. A spoon similar to those found in the burial cave is illustrated in Jochelson (1925: 88, pl. 26); it comes from Uglu'dax', on Umnak Island. Hrdlička (1945: 65–66), in his description of Aleut furniture and utensils, noted that spoons "... escaped notice by nearly all the observers." In his description of archaeological remains, he (1945: 456 Fig. 198) noted, "spoons made from bird sternum from various localities" and indicated that these "characteristic and unique

Aleut spoons were made nicely from the breast bone of ducks and other larger birds. . . ."

Wooden boat fragments: Several pieces of bent wood, some fastened with nails, were found in Gallery 1 of the cave. These are historic artifacts, either remains of old Russian ships or early twentieth century dories, used by the Near Island Aleuts.

Japanese teacup: A ceramic teacup, missing its handle, was found on the ground at the cave entrance. The design on the cup shows a Samurai warrior with sword kneeling before a tea service inside a room in a house. The most plausible

explanation for the presence of this object in the cave is that a Japanese soldier discarded it in the cave entrance during World War II.

Other post-contact items: In addition to the artifacts described above, a WWII grenade fuse, a broken wine bottle, axe-cut wood chips, and burlap fragments were found in Gallery 1.

Except for the red ochre linked to Burial 1, all artifacts were clearly associated with the more recent sleeping/sitting areas. The objects can be classified into three groups: 1) typical Aleut artifacts, such as the net sinker, the barbed harpoon point, the spoons, and the biface. These could have been left in the cave either by the early inhabitants of the island who used the cave to inter their dead, or by more recent Aleuts who used the cave as a shelter; 2) post-contact objects, either Russian or of Russian influence, such as the wooden snuffbox, axe cut wood chips, and the wooden boat fragments; and 3) military debris such as the grenade fuse and the Japanese cup.

Paleoparasites

Soil samples were collected from the cave for parasite analyses. An additional two samples were collected from two areas associated with Burial 1. Two samples were collected from features 1 and 2, sleeping/sitting areas located at the front of the cave. Samples were sent to Françoise Bouchet, Laboratoire de Paléoparasitologie, Université de Reims (France). Bouchet previously identified egg cases of roundworm (*Ascaris*) and tapeworm (*Diphyllobothrium*) from a structure made of whalebone on Buldir Island (Bouchet et al. 1999) and from the body cavity of the 6–7 year old Aleut child exhumed on Adak Island (Bouchet et al. 2001). Analyses are in progress, but Bouchet has recovered egg cases of the tapeworm in soil samples associated with the sleeping/sitting area at the front of the cave. The tapeworm uses sea lions and a variety of freshwater or marine fish as intermediary hosts before it develops in the abdominal cavities of humans (Bouchet et al. 2001). Aleuts, relying on a steady diet of undercooked or raw meat of sea lions and marine fishes such as salmon could have easily contracted the *Diphyllobothrium* parasite. Additionally, a coprolite, believed to be human, collected from the cave during the 2000 field season, was sent to Bouchet for parasite analysis. This analysis is currently in progress.

Fauna

Animal bones were collected from the surface of the cave floor in 2 m coordinates. The bones were washed and dried in the field. Then they were separated into three basic taxa: fish, birds, and mammals. Mammal and bird bones were sent to Christine Lefèvre, and fish bones were sent to Susan Crockford for identification and analyses. Results of these analyses are presented in Table 5 and discussed below.

Mammal Identification

A total of 127 bones were identified as non-human mammals. A rib fragment was attributed to an unidentified Cetacea. Eight Steller's sea lion bones were recovered in the same area, 6–10 m from Datum 3. At least two individuals are represented: one adult represented by a fragment of premaxillary bone, four teeth, and a carpal bone, and one juvenile represented by an unfused femur. Bones of harbor seal were more numerous (36), and mainly located between 16 to 22 m from Datum 1. They represent the partial skeleton of at least two individuals.

With the exception of 8 bones attributed to unidentified non-human mammals, the remaining 73 bones represent Arctic foxes. Two major clusters were observed: one, represented by 15 bones, was located near Feature 3 (18–22 m from Datum 1); another cluster, comprising 41 bones, was located in the crawl space 6–8 m from Datum 3. The anatomical distribution of the remains indicates that these clusters represent two individuals that probably died in the cave. The last 17 bones might represent a third individual.

The presence of Arctic foxes on the island prior to Russian contact is unclear (Bailey 1993); however, the carnivores apparently were introduced to the island by the Russian government in 1750 (Black 1984), and they were undoubtedly present at the end of the nineteenth or beginning of the twentieth centuries.

Bird Identification

A total of 1,061 bird remains representing 16 species were recovered in the burial cave. Cormorants were by far the most numerous species represented, with 71% of the number of identified specimens (NISP). The presence of 50 sternums (breastbones) indicates that at least 50 cormorants were transported into the cave. This represents

Table 5. Animal remains recovered from the Near Islands Burial Cave ATU-198. NISP=Number of identified specimens; MNI=Minimum number of individuals.

Taxon		NISP	MNI
MAMMALS			
Cetacea		1	1
Steller's Sea Lion	<i>Eumetopias jubatus</i>	8	2
Habor Seal	<i>Phoca vitulina</i>	36	2
Arctic Fox	<i>Alopex lagopus</i>	74	5
Mammal, Unidentified		8	
TOTAL MAMMALS		127	
BIRDS			
Albatross	<i>Diomedea albatrus</i>	2	1
Storm Petrel	<i>Oceanodroma Furcata/leucorhoa</i>	4	1
Cormorant	<i>Phalacrocorax</i> sp.	752	50
Eider	<i>Somateria</i> sp.	84	10
Goose	<i>Branta/Chen</i> sp.	33	4
Small Duck		1	1
Ancient Murrelet	<i>Synthliboramphus antiquus</i>	9	3
Parakeet Auklet	<i>Cyclorhynchus psittacula</i>	3	1
Rhinoceros Auklet	<i>Cerorhinca monocerata</i>	9	2
Horned Puffin	<i>Fratercula corniculata</i>	28	4
Tufted Puffin	<i>Lunda cirrhata</i>	52	5
Murre	<i>Uria aalge/lomvia</i>	6	3
Glaucous-Winged Gull	<i>Larus glaucescens</i>	13	2
Glaucous Gull	<i>Larus hyperboreus</i>	31	4
Black-Legged Kittiwake	<i>Rissa tridactyla</i>	32	6
Sparrow	cf. <i>Melospiza</i> sp.	1	1
Birds, Unidentified		1	1
TOTAL BIRDS		1,061	
FISH			
Longnose Lancetfish	<i>Alepisaurus ferox</i>	5	
Pacific Cod	<i>Gadus macrocephalus</i>	46	
Atka Mackerel	<i>Pleurogrammus monopterygius</i>	3	
Rock Greenling	<i>Hexagrammos lagocephalus</i>	2	
Banded Irish Lord?	<i>Hemilepidotus</i> cf. <i>gilberti</i>	2	
TOTAL FISH		58	

half of the minimum number of individuals. An additional two young chicks and four 5 to 6 week old individuals are represented in the collection. Currently, two species of cormorants breed in the western Aleutians: red-faced (*Phalacrocorax [Sticocarbo] urile*) and pelagic (*Phalacrocorax [Sticocarbo] pelagicus*) shags (Siegel-Causey 1988, 1991). A third species, the double-crested cormorant (*Phalacrocorax [Hypoleucus] auritis*) has been reported to breed west of the Alaska Peninsula in the past, but the information is subject to debate (Siegel-Causey et al. 1991). Both red-faced and pelagic shags are common in the

western Aleutians year round and nest in colonies on small islands and narrow cliff ledges near the sea. During 1998, small groups of cormorants were observed on small, rocky islands near the shore in the vicinity of the cave. The presence of cormorant chicks in the faunal assemblage suggests that people sometimes inhabited the cave during the summer. Veniaminov ([1840] 1984:360) described bird hunting methods, and indicated that the most profitable, although most dangerous hunting techniques, included using snares and nooses along cliffs where the birds live.

Fish Identification

Crockford identified a total of 58 fish remains representing five species. Pacific cod (*Gadus macrocephalus*) overwhelms the assemblage, representing 79% of the assemblage. Compared with modern comparative samples in Crockford's laboratory (in the Anthropology Department, University of Victoria, B.C., list available on request), the cod recovered in the cave represent fish over ca. 60 cm in total length (TL). Of these, the vast majority of cod remains (89%) represent fish over ca. 85 cm TL. One particular cod specimen, represented by an intact cranium, is estimated to have measured over ca. 100 cm TL. Among other species identified in the cave assemblage, the longnose lancetfish (*Alepisaurus ferox*) is estimated to have measured at least 150 cm TL (modern lancetfish can reach 200 cm). Only three other species are represented, and all are specimens at the high end of the maximum size range for their taxa. Atka mackerel (*Pleurogrammus monopterygius*) are represented by three specimens, one about 35–45 cm TL and two about 45–50 cm TL. Rock greenling (*Hexagrammos lagocephalus*) is represented by two specimens, both representing fish ca. 30–40 cm TL.

The last taxon, a member of the Cottidae family, could not be positively identified to species. Although clearly a member of the genus known as Irish lords (*Hemilepidotus* sp.), the two specimens clearly do not belong to the Red Irish lord (*H. hemilepidotus*) or the Butterfly sculpin (*H. papilio*) species, both species well represented in the reference collection. They do not match well with reference specimens of Yellow Irish lord (*H. jordani*), although this may be due to the relatively small sizes of comparative samples. Due to their estimated size (ca. 40 cm TL), the cave specimens represent fish too large to be the Longfin Irish lord (*H. zapus*, maximum known length ca. 28.7 cm TL) and thus could only represent an especially large Yellow Irish lord or Banded Irish lord (*H. gilberti*), a species not currently known as far east as the Aleutians in the Bering Sea (Mecklenburg et al. 2002). As species identification of this sculpin might result in a new record for the western Aleutians, further efforts are being made to confirm its taxonomic identity.

The fish bones recovered from the cave are remains from relatively deep dwellers that would require a boat and hook-and-line technology for capture. Only the lancetfish is known to be regularly beach-cast by storms (Mecklenburg et al.

2002). Given the very large size of many of the fish represented, it is extremely unlikely that these remains represent carcasses scavenged by Arctic fox. Indeed, the fish assemblage suggests that the rich coastal marine resources of the region were being actively harvested by prehistoric Near Island hunter-gatherers.

The faunal spectrum of the ATU-198 burial cave does not differ much from any other faunal spectrum of Aleutian sites (among others: Denniston 1972; Lefèvre et al. 1997; Yesner 1977). Pinnipeds, codfish, cormorants, and alcids, abundantly recovered in Aleutian middens, also represent the majority of the cave faunal sample. This suggests that the bones represent animals hunted by humans rather than fox scavenged carcasses.

Discussion

Jochelson (1925) reported domestic use of caves in the western Aleutians. The evidence from ATU-194 suggests that western Aleuts used these natural, geological features for more than one purpose throughout time. The radiocarbon evidence presented here indicates that the cave was initially used as a burial crypt. Later the cave was used as a temporary shelter for Aleut hunters and, possibly, Russian trappers before being visited by World War II participants.

Aleuts used a spectrum of methods to inter their dead. These include sarcophagus burials in wooden/stone coffins (Weyer 1929), pit burials (Aigner and Veltre 1978), cave and mummified burials (Dall 1876; Hrdlička 1945), and burials in niches and rock clefts (Dall 1876; Pinart 1875), in side chambers of dwellings (Black and Liapunova 1988), and in middens (Veltre 1980). The variations in methods of burial throughout the Aleutian chain might be related to: 1) uneven availability of caves, rockshelters, and niches suitable for interment of individuals, 2) changes in burial practices over time, 3) status differences within communities, 4) changes in ideological or religious beliefs, and/or 5) variability of cultural practices due to the distances that separate some Aleut populations throughout the island chain. However, a paucity of radiocarbon dates associated with Aleut burials hinders possible explanations of variations in mortuary practices over space and time. Nevertheless, the discovery of a burial cave in the Near Islands demonstrates that western Aleuts, as well as their brethren to the east, interred their dead in caves.

At the Near Islands burial cave ATU-198, the analyzed human bones represent a minimum number of eight individuals: one elderly adult, a juvenile, and at least six children. However, stone circles and stone piles at the rear of the cave probably contain intact human remains. The archaeological team did not excavate undisturbed graves. Demographically, this cave is similar to Near Islands burial-house interments in that it consists of relatively few older individuals and a larger number of younger individuals and children (Corbett 1991; Corbett et al. 2001). Other researchers report that Aleut corpses were frequently placed in a flexed position during interment (Black and Liapunova 1988; Laughlin 1980; McCartney 1984). The disturbed state of the bones suggests that corpses, probably placed intact within the cave at time of burial, were subsequently scattered about the cave floor by later human visitors.

Burial practices seem to vary based on age. Although older individuals—juveniles and adults—were interred in shallow graves demarcated by large stones, corpses of very young individuals were frequently tucked under overhangs and niches along the sides of the cave. This made their bones more vulnerable to disturbance by scavengers. It has been suggested that cave burials were sometimes reserved for higher-ranking individuals or those with special occupations (e.g., whale hunters) in Aleut society (Black and Liapunova 1988). The presence of so many young individuals in the Near Islands cave suggests that rank/occupation did not always hold sway regarding Near Islands burial practices.

A small piece of red ocher, associated with Burial 1, represents the only grave object at the cave. Ocher is often associated with Aleut burials (Laughlin 1980). The disturbed nature of the burials makes it impossible to say whether other grave goods may have once been associated with these burials. The cultural objects described in this paper are clearly associated with the sleeping/sitting area at the front of the cave, and are not burial objects.

The most famous Aleut burials are represented by the spectacular mummy caves located in the eastern Aleutians (Dall 1878; Hrdlička 1945). Prior to the discovery of the Near Islands burial cave, no similar practices had been documented west of the Delarof Islands in the central Aleutians. Both Jochelson (1925) and Hrdlička (1945) undertook active investigations to find caves in the western Aleutians. Jochelson (1925) found caves, but none that had been used for burials. Until now, the most complex burials in the western Aleutians

were represented by the interment of several individuals in small house-like structures (Corbett 1991; Corbett et al. 2001). Elaborate burials found in the eastern portion of the archipelago have been correlated with complex socio-political organization. The more elaborate burials from the eastern portion of the archipelago supported arguments that inhabitants of the western islands had a less complex socio-political organization than did the neighboring peoples toward the east. The Near Islands were considered as isolated from the rest of the archipelago and it was assumed that the more elaborate burial types were never diffused to, nor adopted by western Aleuts (Collins et al. 1945, Hrdlička 1945; Jochelson 1925). The Near Islands burial cave, along with other recent research by the Western Aleutians Archaeological and Paleobiological Project (Corbett et al. 2001, Lefèvre et al. 2001, West et al. in press), suggests that western Aleut culture did not develop in isolation and possibly rivaled the sophistication of its neighbors to the east.

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Endnotes

1. The Aleut Corporation has requested that the name of the island upon which the burial cave is located not be named in this paper.

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