

Figure 1. Southwestern Alaska.

AN ARCHAEOLOGICAL SURVEY ALONG KNIK ARM¹

by

D. E. Dumond and Robert L. A. Mace

This paper presents the results of an archaeological survey and of limited test excavations conducted in 1966 on a portion of the northwestern side of Knik Arm — the northernmost extension of Cook Inlet — in the vicinity of Anchorage, Alaska. Under the sponsorship of the University of Oregon, the project was intended to explore a specific aspect of the recent pre-history of the Tanaina. The field program was directed by Albert C. Spaulding, who was accompanied by two assistants, one of them the junior author of this paper.

BACKGROUND

Since 1960, research has been conducted by the University of Oregon in Katmai National Monument and nearby areas on the northern portion of the Alaska Peninsula. Initial efforts (in 1960, 1961, and 1963) were directed toward the northwestern side of the Peninsula, specifically to that area which drains by way of the Naknek system of lakes and rivers into Bristol Bay (figure 1). A notable result was the indication that for the past four thousand years the portion of the Peninsula north and west of the Aleutian Range participated in the cultural manifestations archaeologically represented much farther north — a sequence in which a basic Arctic Small Tool horizon gives way in unbroken suc-

¹The field research reported here was supported by National Science Foundation Grant GS-1037 to the University of Oregon, with Albert C. Spaulding as principal investigator. Permission to excavate was generously given by Mr. Victor Fischer, Mr. Joseph Hong and the Department of Natural Resources of the State of Alaska; their cooperation is appreciated. Carol S. Dumond drew the illustrations for this paper. Description of the field results is the work of the junior author. A. C. Spaulding read the paper in draft and contributed welcome suggestions. Responsibility for the actual writing of this paper, including comparisons, conclusions, and shortcomings rests with the senior author.

cession to a Norton-like horizon, which yields ultimately to Western Thule-like and recent Eskimo assemblages (*Cressman and Dumond 1962; Dumond 1962; 1963*). This sequence has been taken to represent the cultural remains of speakers of properly Eskimoan languages (*Dumond 1964; 1965*).

Later (in 1964 and 1965), attention was turned to the Pacific coast of the Peninsula (Figure 1), with excavations at two major sites in the Monument. The radiocarbon-dated sequence now undergoing analysis spans about six thousand years, and exhibits considerable similarity to that reported by Clark (*1966a*) for Kodiak Island. It is in no more than the past two millennia, however, that this Pacific coastal sequence becomes closely similar to that of the Naknek drainage some seventy-five miles to the northwest. That is, in the second or third century of the Christian era — somewhat after the inception of the Norton-like period of the Naknek drainage — there begins a time of gradually increasing similarity. By the end of the first millennium A.D., collections from the two sides of the Peninsula are virtually identical.

In this, the archaeology seems to accord well with the evidence presented by linguists, who have considered that the inhabitants of Kodiak Island and adjacent portions of the Alaskan mainland at the time of European contact spoke a dialect of the western Eskimo language which was relatively closely related to the speech found on the shores of Bristol Bay (*Dumond 1965, with references*). The increasing closeness in the archaeological sequences on the two sides of the Alaska Peninsula is thought to coincide with an increasing closeness of language, presumably as the speech of people to the north of the Peninsula was taken up in the south. Although it seems unlikely that a massive population replacement was involved, it has been suggested that there was within the Christian era some degree of migration in the same direction. It has also been argued that there is presently no finally compelling reason to think that before the beginning of the Christian era the inhabitants of Kodiak Island and the adjacent Pacific coastal region were necessarily Eskimoan or even Eskaleutian in speech (*Dumond 1964; 1965*).

But if the early inhabitants of the Pacific Eskimo area were not Eskimos, who were they? The nearest non-Eskimo group at the time of contact, of course, was the Tanaina, inhabiting virtually the entire shoreline of Cook Inlet (Figure 1), but generally

supposed to be very late arrivals from the interior. It was this situation — an area in which Indians had apparently supplanted Eskimos — which attracted De Laguna to Cook Inlet in 1930 (*De Laguna 1934: 7*), but her efforts were especially concentrated farther south and her results were more specifically applicable to the vicinity of Kachemak Bay (*De Laguna 1934: 148*). Although it did not seem likely that the Athapaskan-speaking Tanaina, with primary and obvious connections in the interior, had ever played a significant part in early cultural development on the coast, it now seemed again desirable to try to fix the time of their earliest arrival there. Accordingly, an attempt was made to locate sites for excavation in the portion of the coast extending farthest into Tanaina territory, on the northern extension of Cook Inlet.

ARCHAEOLOGY ON KNIK ARM

An initial survey of the area in late summer of 1965 by A. C. Spaulding and the senior author of this paper indicated the presence of a number of apparently aboriginal archaeological features in the area in question, although no evidence of deposits of any depth was found. In 1966, the more extended program was launched by Spaulding, with the results which follow. Locations of sites mentioned are indicated in figure 2.

Fischer-Hong Site

About a mile south of the village of Knik, the site is centered approximately one-third mile northwest of Knik Arm (SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of S25, T16N, R3W of Seward Meridian), on the edge of an unnamed creek draining White Lake. The site consists of twelve major depressions. Three of these were relatively large and rectangular, equipped with an attached smaller, rectangular, lateral depression; one was excavated (designated FH-1). Two other depressions were deep and circular with relatively long, narrow depressions attached to them in a manner suggesting semi-subterranean entryways; one was tested (designated FH-2). Seven other depressions were circular pits more than one meter in diameter. There were in addition numerous circular depressions of less than one meter in diameter, occurring either separately or in pairs.

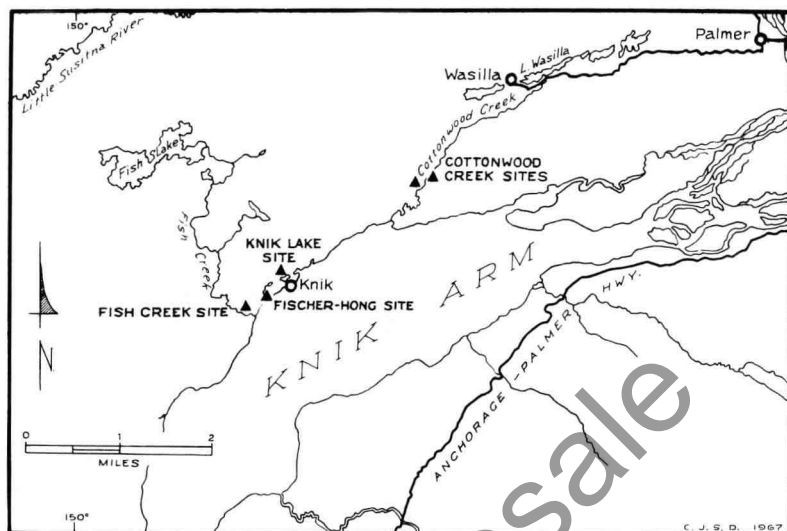


Figure 2. Knik Arm and Vicinity.

FH-1

Although excavation of this presumed habitation unit was not carried to completion, work was extensive enough to indicate that the structure had been a two-roomed construction similar to that illustrated by De Laguna (1934: Fig. 5). A square main room, about 6 m. by 6 m. in size, opened on the side opposite the door into a smaller room, 2.5 m. square. Several well-deteriorated sections of wood suggested that wooden walls of the unit had collapsed inward after its abandonment. The center of the floor of the main room was some 20 cm. below the outside ground level, but somewhat higher than the floor area against the walls; this center area yielded cracked rock and charcoal. A large pile of cracked rock in the smaller attached room suggested that it may have been at least partly used as a steam bath.

Contents included scraps of moose bone (some cut with a metal saw), a boulder chip or tci-tho, four flakes, one piece of sheet copper, fragments of window glass, several small pieces of mica (possibly from a metal stove), and a piece of unidentified shell, perhaps slightly worked. Whether all of these items are valid house associations is uncertain; at least the moose bone is

suspected of having been thrown into the depression by later inhabitants of the area who lived in a nearby log cabin, now abandoned.

FH-2

This circular-to-rectangular depression was attractive because of the long trench extending from one side of it, suggesting a semi-subterranean entrance. The bottom of the pit seemed to lie about one and one-half meters below general ground level, with its edges piled up as much as nearly one-half meter above general ground level; the "entry" extended about six meters from the pit. The unit was tested by two trenches, sufficient to provide probable dimensions of the original pit. In the main body, the "floor" was of compacted sand, relatively level, not charcoal-stained. The bottom of the "entry" was rounded and relatively unstained.

On the bottom of the main depression, under only a small amount of humus, were found the incomplete skeletal remnants of two persons, including cranial fragments, maxilla, mandible, arm and leg long-bones. Tooth wear was extreme. These remains occurred with a layer of charcoal more than 10 cm. above the compacted layer considered to be the floor, and were not taken to constitute a burial. It was concluded that they represented material thrown into the pit sometime after its original construction, perhaps even after its abandonment. There were no artifacts or other contents. It is not certain that this depression was ever a habitation.

OTHER TESTS

Numerous other test pits in the site vicinity, both in depressions and elsewhere, yielded no implements or other indications of significant concentration of cultural remains, nor was anything revealed by a careful surface search of a new highway right-of-way which was bulldozed directly through the site during the season.

Cottonwood Creek Vicinity

This area extends about one mile along the bluff overlooking Knik Arm to the southeast, and about one-fourth to one-half mile inland, and is roughly bisected by Cottonwood Creek in its lower course (in the SW $\frac{1}{4}$ of S31 and SE $\frac{1}{4}$ of S36, T17N, R2W of Seward Meridian). It was found to contain approximately fifty

pits of more than one meter in diameter. Five or six of these appeared to be of the relatively large rectangular variety with attached room. The rest were circular, and up to as much as six or seven meters in diameter, although most were smaller. Many were apparently located in pairs, while at times several — four or five — appeared grouped in a roughly straight line. Pits with diameters smaller than one meter were numerous. No deep circular pits with apparent subterranean entryways were observed.

Several tests were sunk in and around two large, rectangular, two-roomed depressions immediately adjacent to each other on the west side of Cottonwood Creek. Only one test pit, between the two depressions and in what turned out to be a very shallow midden deposit, yielded cultural material: charcoal, moose and bird bones, four boulder chips, a broken iron knife blade, and four flakes.

Two of a cluster of about six roughly circular pits spread in linear fashion along the east side of Cottonwood Creek were trenched. One of these, indeterminate in precise shape, yielded a little charcoal and a lens of cracked rock about one-half meter below the surface and not associated with any visible floor level. If the depression represented a one-time house, its form had been effectively obliterated. No implements were recovered. The other depression tested was somewhat more than two meters in diameter, and relatively shallow; it yielded multiple layers of birch bark, upon the lower one of which rested an anvil stone. There were no other specimens.

Other test pits in the Cottonwood Creek area yielded nothing.

Presumably this site is that reported to De Laguna (1934: 140) by indigenous informants as located about one mile above the mouth of Cottonwood Creek; she did not visit the site.

Knik Lake

A garden on the north shore of the lake (SE $\frac{1}{4}$ of NW $\frac{1}{4}$, S24, T16N, R3W of Seward Meridian) was reported by modern residents to have at one time yielded a ground stone splitting adze. This garden area was explored but yielded nothing. On a hill slightly north of the garden appeared six circular pits about two meters in diameter, and about one-half to one meter deep. Two of these were trenched. Both, with floors in hard glacial gravel at about one meter below ground level, were sterile.

About 100 m. south of this pit cluster, a large rectangular house with an attached room was located. Excavation of two corners and a center section yielded charcoal, bone fragments, a single split piece of wood without visible tool marks, three boulder chips, and a piece of sheet copper. An additional small pit about 1.5 m. in diameter in the immediate vicinity of the house yielded a piece of worked wood, birch bark, and two glass beads.

This may well be the Knik Lake site mentioned and visited by De Laguna (1934: 141).

Specimens Recovered

The total artifact yield from the presumed occupation sites so far described is recapitulated here:

Boulder chips (tci-thos), chiefly of basalt	8
Anvil stones, basalt, water-rolled	1
Iron knife, fragmentary	1
Unidentified shell, perhaps worked	1
Glass beads (1 blue, 1 white)	2
Flakes (slate, basalt, quartzite, chalcedony)	8
Fragments of sheet copper	2
Mica	
Glass (window)	

Fish Creek

This site is located approximately one mile directly southwest of the village of Knik (NE $\frac{1}{4}$ of NE $\frac{1}{4}$, S34, T16N, R2W of Seward Meridian), and is undoubtedly that visited by De Laguna (1934: 141) in 1930, following the written discussion of the area by Mason (1928).

Mason (1928) described a carved stone lamp located in the Alaska Historical Museum in Juneau, which was reportedly discovered on June 15, 1913, by Charles Ulanky in the course of plowing his farm at Fish Creek. The specimen was said to have lain at a depth of about a foot, and to have been found with skeletal remains and an amulet of Chinese manufacture (Keithahn 1946: 54; Mason 1928: 180-1) — items which will be ignored here for want of more specific provenience information (see also De Laguna 1934: 141). The discovery of the lamp, at least, was apparently confirmed by De Laguna (1934: 141).

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Apparently identical to other pits common in the region, none of these was excavated at this site.

About ten meters west of the Fish and Game cabin appears a large depression (designated FC-1) which will be discussed below. A trench was dug on the stream embankment immediately south of the depression in hope of finding a midden deposit, but it yielded nothing. Two additional trenches were excavated ten and twenty meters east of the cabin into very slight depressions on a low grassy terrace; these yielded only some charcoal, burned birch bark, and cracked rock.

FC-1

This roughly rectangular depression is at present about 30-40 cm. deep, 17 m. long and 9 m. wide, and is located on a small bench about 3 m. above and 6 m. to 10 m. north of the creek. It may well be the pit described by De Laguna in the quotation above, although it appears larger than that she mentioned.

Two trenches were dug along the longitudinal axis of the depression. Both revealed a thin (less than 1 cm.) charcoal layer of varying distinctness at a depth of from 20 to 35 cm. below ground level, which was interpreted as a living floor or floors, and which seemed to be penetrated by a single row of posts, apparently running the length of the house in its center. Because of the pressure of time, neither of the trenches was extended to what were interpreted as outside walls of the house. The trenches cut through a number of pits apparently not associated with the charcoal floor, some of them intrusive into the floor and clearly recent. Other small pits appeared to predate the house floor, which itself manifested a number of irregularities as it followed the contours of some small depressions. Birchbark was very plentiful, especially in a number of the small pits (of various times) which may have been lined with it. Often several successive layers of bark appeared. Two of the apparently intrusive pits yielded fish bones. During excavation opinions varied as to whether the specimens recovered were contemporary with the charcoal floor and with each other. In the final analysis, indications of association can only be termed ambiguous.

All specimens known to have come from the site are listed below. De Laguna's finds are from the midden, except for a single whetstone from the house she tested. The 1966 finds are from the house alone.

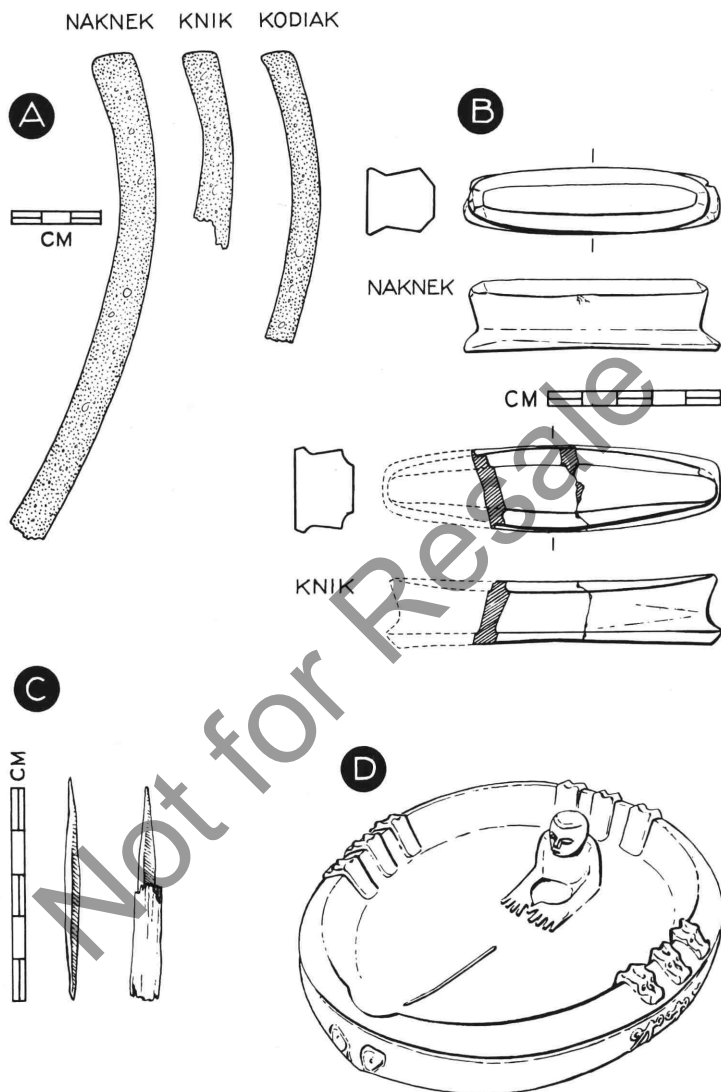


Figure 3. Artifacts from Fish Creek on Knik Arm, with some Comparable Examples Referred to in the Text. A, profiles of rim sherds from Fish Creek and elsewhere; B, labrets from Fish Creek and the Naknek Drainage; C, copper pins from Fish Creek; D, stone lamp from Fish Creek (drawn from photographs in *Kashevaroff 1927*, *Keithahn 1946*, with reference to photographs and description in *De Laguna 1934*, *Mason 1928*; maximum length 32 cm.).

1913 Finds (*Keithahn 1946; Mason 1928*)

Stone vessel (figure 3, D)	1
Carved diorite or similar igneous stone, oval, 32 x 28 x 4 cm. in size; grooved and decorated exterior; rim decorated with animal heads pre- sumed to be those of seals, with rudimentary bodies inside the bowl; a carved human figure rises from the bowl.	

1930 Finds (*De Laguna 1934: 141-2, pl. 20, 7-11*)

Rubbed slate:	
Fragment of double-edged blade	1
Single-edged knife	1
Possible adze blade	1
Flaked slate, blade with chipped edge	1
Whetstones	3

1966 Finds

Potsherds (figure 3, A)	6
Temper of stream-rolled pebbles to 7 mm. in size, thickness 12-14 mm.	
Labret (figure 3, B)	1
Coal, fragmentary. To fit in a single slot below the mouth. Specimen was probably 10 cm. in unbroken length.	
Copper awl or pin (figure 3, C)	2
Ca. 50 mm. long, 3-4 mm. thick in square cross section. One is hafted in the end of a burned stick.	
Rubbed slate, nondescript fragmentary points or knives	3
Ground and cut bone:	
Birdbone awl, 102 mm. long	1
Cut and polished fragments	3
Whetstone, grainy metamorphic rock	3
Flakes (basalt, quartzite, cobble fragments)	7
Small sheets of mica (believed intrusive, from later pit)	

DISCUSSION AND COMPARISON

Fischer-Hong, Cottonwood Creek, and Knik Lake Sites

The identification of the Tanaina with a square and frequently semi-subterranean wooden house, often equipped with an ante-chamber serving as bath or sleeping room, seems well attested in

the literature (*Osgood 1937: 55-62*; see also *De Laguna 1934: 144*; *Townsend 1965: 100ff., with references*). That the house designated FH-1 at the Fischer-Hong site was of the sort referable to late Tanaina occupation was confirmed by Bailey Theodore, a Tanaina resident at Knik who first described the location of the site to Spaulding and the senior author in 1965.

That structures of this kind are generally productive of only few artifacts seems also evident (*Kent and others 1964: esp. 123*; *Irving 1957: 40-42*; *De Laguna 1934: 136 and passim*; see also *Rainey 1939: 360*). Indeed, the only such structures which upon excavation have yielded even a minimally respectable quantity of implements are houses on Lake Iliamna (*Townsend and Townsend 1961*); and these have since been discovered to have been constructed on the site of an earlier occupation, which may have contributed the bulk of the finds (*John B. Townsend, personal communication*).

Although structures of this sort appear to have been of late precontact date in the northern portion of Tanaina territory — specifically, at the headwaters of the Susitna (*Irving 1957: 41-42*) — the same structures in the southern portion of the Tanaina territory, as on Cook Inlet and Lake Iliamna, usually yield items such as iron, brass, and glass beads dating from the Russian period or later (*Kent and others 1964*; *De Laguna 1934: pl. 56*; *Townsend and Townsend 1961*). Only three sites in the Cook Inlet area tested by De Laguna were attributed by her to pre-Russian Indian occupation; two of these, without reported houses, yielded fewer than a dozen specimens, while the other with a two-roomed depression yielded no specimens (*De Laguna 1934: 15, 17-18, 21, 22*).

It seems certain that the Tanaina were spread over much of Cook Inlet by the 1770's and 1780's, when they were encountered by a number of Europeans, including Cook, Portlock and Dixon, Meares, and Douglas. In 1786 the Russians established a post among them on the Kenai Peninsula (*Osgood 1937: 19*). That the first occurrence of iron and glass beads in the area was even earlier, however, seems indicated by Cook's reports in 1778 of the presence of both among natives of Cook Inlet and of Prince William Sound (*De Laguna 1956: 60-61, with references*); these are presumed to have had their source in trade with the Russians. The first Russian visit to the Aleutian Islands was in the 1740's.

In summation, there seems no reason to consider that these apparently unmixed sites characterized by two-roomed houses and objects of European manufacture, represent other than a post-contact Tanaina occupation. At the earliest, the sites should not predate the middle of the eighteenth century.

Fish Creek Site

In the course of his discussion of the decorated stone lamp recovered here in 1913, Mason (1928: 189) concluded that at one time the entire length of Cook Inlet was under Eskimo occupation. In view of the appearance of pottery and the labret in this same site in 1966, this view is tempting.

At first glance the house — if such it was — excavated in 1966 appears obviously different from those described for the other sites on Knik Arm. The most similar ethnographically-known structure, however, is that which Osgood (1937: 62) describes as the summer house used both for dwelling and for smoking fish by the Tanaina of the upper portion of Cook Inlet. Such houses had,

a length of about fifty feet. Sides and roof the Indians construct by placing strips of birch bark over a framework of poles . . . The smoke house has only one ridge pole and no smoke hole, the smoke escaping at the eaves.

Considering its single line of central posts, its length, and the birchbark found in it, it seems reasonable to identify the house tested in 1966, at least tentatively, as a recent Tanaina summer smoke house. This accords well with the fact that De Laguna was given a name for the site by a Tanaina informant who stated it was reputed to have been a summer camp.

What, then, is to be made of the implements which were recovered from the apparently mixed layer in the floor of the structure? The more distinctive items — pottery, labret, copper, and lamp — will be considered in turn.

POTTERY

The paste of the sherds from Fish Creek is identical to that of ceramics of the Naknek drainage of the Alaska Peninsula of the period following A.D. 1000, and it is also closely similar to all ceramics known from Kodiak Island. The form of the rim of the

Fish Creek specimen is that of the most common (58 of 104) rim sherds of the Naknek drainage of the Brooks River Camp phase, where it is one form among three present (see illustration, Figure 3, A). Pottery of this form and paste does not appear on the Alaska Peninsula earlier than A.D. 1000, and it has not yet been found in deposits dating after A.D. 1500, although the sample of rims from the period A.D. 1500 to 1800 is extremely small. Certainly the form does not appear in the nineteenth century Russian period, when the sample is considerably larger.

Pottery of exactly similar paste and in forms common in the Naknek drainage appears in the site of Kukak Bay on the Pacific coast of the Alaska Peninsula, in deposits radiocarbon dated to the vicinity of A.D. 1200. The exact rim form of the Fish Creek material does not appear, although again the sample of rim sherds from the Pacific coast is very small (these citations are based on unpublished data; see *Cressman and Dumond 1962*).

A nearly identical form (Figure 3, A) is illustrated by Heizer (1949: Figure 1, 1) from Olga Bay on southern Kodiak Island, where it appeared apparently in a "later prehistoric" context (Heizer 1949: 55). It is shown as one among nineteen rim and lip forms. As elsewhere on Kodiak, temper is large, rounded gravel. Whether this form is among those referred to in the brief description of Kodiak pottery by Clark (1966b) is not clear. Nevertheless, Clark's data indicate fairly convincingly that complex lip forms — with ridges, grooves, etc. — tended to increase through time at the expense of simpler forms such as that of the Fish Creek find. The earliest C-14 date which could apply to pottery users on Kodiak Island is in the vicinity of A.D. 1000 (Clark 1966b: 173).

In both the Naknek drainage and on the Pacific, the prehistoric pottery users have been generally considered to have been speakers of Eskimo languages (e.g., Clark 1966a; 1966b; Dumond 1964; 1965). And De Laguna (1947:245) has thought that two gravel-tempered sherds excavated by her at Kachemak Bay represented the last of the Pacific Eskimos to be in residence there before the arrival of the Tanaina. Osgood (1937:77) indicates that the Tanaina had no memory of ever having made pottery.

But both Osgood and De Laguna cite Jacobsen (*Woldt 1884: 370-373*) and his early excavation at a town called Soonroodna — the exact whereabouts of which is not now known — as evidence

that the Tanaina once made pottery. In the summer of 1883, Jacobsen spent three days digging in the ruins of the deserted village which had been said by his Indian guide to be the town in which his own forebears had lived. Pottery described by Jacobsen as resembling that then in use on the lower Yukon (a very reasonable description of virtually all the pottery of the Pacific coastal area) was found in various places in the town, at times apparently associated or mixed with items of European manufacture. His first pit, however, is the only one in which the stratigraphy is unambiguously described. In it, the pottery was confined to an underlying stratum separated from overlying historic materials by a layer of clean sand and gravel, "as though a great flood had covered the place for a long time" (*Woldt 1884: 372*); mammal bone from the lower stratum appeared older and more decomposed than that in iron-bearing levels.

Under these circumstances, it seems unwise to conclude that the use of pottery by the Tanaina is evidenced. Rather, it seems at least equally likely that the pottery fragments found by Jacobsen were derived from an underlying layer not necessarily related to the historically known Indian occupation of the site.

At present it seems reasonable to say that pottery of the sort found at Fish Creek was not known on the Pacific coast of Alaska before A.D. 1000; while rims of the Fish Creek form may have persisted there until as late as the time of the arrival of the Russians, they are more characteristic of earlier times. There is no substantial evidence that pottery was ever used by the Tanaina.

LABRET

A coal labret very similar to the Fish Creek specimen (Figure 3, B) was found in the Naknek drainage in a deposit dating from A.D. 1500 or slightly thereafter, assigned to the Brooks River Bluffs phase. In the Naknek area, an association of the labret with pottery like that at Fish Creek would be reasonable.

The use of similar labrets is described for the Koniag at the time of early Russian contact (*Hrdlicka 1944: 45, with references*) in an unmistakable manner — specifically, the men were said to cut their lower lips through from side to side, "so that it looks as if they had two mouths," or so that "by feeding or drinking parts of the nourishment would have to be introduced

twice into the mouth.” De Laguna (1956: 205) cites Cook in descriptions of the Chugach to the same effect, that the incision “assumes the shape of lips and becomes so large as to admit the tongue through.”

Rather similar broad labrets of both bone and stone, from the Uyak lower and upper levels, are illustrated by Heizer (1956: pl. 79, pl. 50). Clark (1966a: Fig. 6, E) presents one similar example from a pre-ceramic context on Kodiak, believed to date from the first millennium A.D., and another (1966b: Fig. 10, G) from a later, ceramic assemblage of after A.D. 1500.

All of these are from historic Eskimo or from prehistoric components believed to relate to Eskimo speakers. On the other hand, Osgood cites Cook to the effect that the Tanaina used fewer lip ornaments and more nose ornaments than did the Eskimo people of Prince William Sound (Osgood 1937: 54). De Laguna and her collaborators (1964: 163-4) have stressed that the labret is predominantly a northwest coast and southern Eskimo trait, which appears almost not at all among peoples of the interior.

Under these circumstances, it seems reasonable to conclude that a labret such as the Fish Creek find would be more at home in an Eskimo than in a Tanaina context. In terms of the occurrence of similar items in southwestern Alaska one would expect such an item to appear any time from somewhat before the end of the first millennium A.D. to the arrival of the Russians.

COPPER PINS

The similarity of the unhafted pin to that set in wood (Figure 3, C) suggests that both pins may have functioned in the same way. Similar pins, most of them a trifle longer, and sharpened at both ends like the Fish Creek specimens, are reported by De Laguna and others (1964: 149, Fig. 18) from Yakutat Bay; although identified as native copper they were recovered from deposits which also included some iron. A somewhat longer copper pin was recovered from a prehistoric context on Prince William Sound (De Laguna 1956: 206, pl. 42). Others, apparently prehistoric, are from the site of Dixthada in Athapaskan territory on the Tanaina (Rainey 1939: Fig. 3, 11). The Fish Creek pin imbedded in a wooden shaft fragment resembles

pieces tipped with iron illustrated by Osgood (1937: pl. 11) and attributed to recent Tanaina.

That native copper was used by native peoples of south-central Alaska at least in late prehistoric times, seems generally accepted. Cook, in his visit to Prince William Sound in 1778, reports both a refusal of local people to take copper in trade (cited in *De Laguna* 1956: 5) and the presence of numerous copper weapon points. Iron and blue glass beads, however, were also present (*De Laguna* 1956: 60, 61, with references), presumably from Russian sources. But copper appeared to precede iron and glass beads in archaeological deposits both in Prince William Sound and Yakutat Bay (*De Laguna* 1956: 64-5; *De Laguna and others* 1964: 86). Some copper objects are reported late in the prehistoric sequence at Kachemak Bay (*De Laguna* 1934: 118), for that matter from the same layer as the two small pieces of gravel-tempered pottery recovered there (*De Laguna* 1934: 68). Osgood (1937: 77) concludes that it is probable that the Tanaina pounded copper aboriginally.

Nevertheless, copper appears to have preceded indubitable European objects on the Alaskan coast by only a relatively short period. It therefore seems reasonable to conclude that even if they are precontact products, the copper pins in the Fish Creek site would not be expected to appear much before about A.D. 1700. Whether they would be more apt to be discovered in Indian or in Eskimo deposits of that time is by no means certain.

DECORATED LAMP

Lamps with decorated bowls appear in some variety in south-central and southwestern Alaska. Although none duplicates the Fish Creek lamp (Figure 3, D) specifically in its incorporation of a human figure, decorated lamps were found in considerable quantity in the Uyak Site (*Heizer* 1956: esp. 137, 140; *Hrdlicka* 1944: 151, 276, 447), where they were heavily concentrated in the lower levels (*Heizer* 1956: 31ff.). Especially noteworthy is an example with a bear's head placed in the bowl in the position occupied by the human figure in the Fish Creek specimen (*Heizer* 1956: 41, pl. 26, a). Clark (1966a) is inclined to equate the Uyak lower levels with his Three Saints phase on Kodiak Island, which is partly characterized by the presence of decorated lamps. Radiocarbon evidence suggests the Three Saints phase to cover most of the first millennium A.D., ending about

A.D. 1000. The succeeding Koniag phase Clark reports to yield undecorated stone lamps. Such dating accords with the small amount of information from the Pacific coast of the Alaska Peninsula where the single decorated lamp recovered (1965) was from a deposit of the first millennium A.D.

De Laguna (1934: 177ff.) discusses four lamps with human figures emerging from the bowl, in addition to the two reportedly from Fish Creek. One of them is of unknown provenience; a second is from Kenai Lake on the Kenai Peninsula; a third is reportedly from Kaltag on the Yukon, in Athapaskan territory. The fourth was excavated by De Laguna in a Kachemak III period deposit on Yukon Island. A Kachemak III date is in accord with Clark's dating of the decorated lamps from Kodiak.

Lamps are not a common feature of Athapaskan culture. Of the Tanaina, Osgood reports that whereas lamps were said to have been made at Kachemak Bay, Kenai, and Iliamna, they were specifically said to have not been used by people of Susitna and the upper Inlet region — exactly that area which includes Fish Creek — where light was provided by the tails of candle-fish (Osgood 1937: 108).

In sum, it seems most reasonable to expect decorated lamps to be found in non-Tanaina surroundings, and in a period ending by about A.D. 1000.

DISCUSSION

Although the exposure of the house at Fish Creek was limited, it is probable that the structure was Tanaina.

The copper implements seem no more reasonably attributable to one ethnic group than to the other. Their date must be relatively late, probably no earlier than A.D. 1700 or thereabouts, and perhaps later. Indeed there seems no reason to think that they should not have been directly associated with the late Tanaina house.

The lamp, labret, and pottery seem more typically properties of the Pacific Eskimo. These three items may represent a complex — that is, products of a single time — of about A.D. 1000. On the other hand, it seems more likely that they do not. Specifically, it appears probable that the lamp predates the pottery. Of the three, the lamp certainly and the pottery probably were products of a prehistoric period; the labret may have been either prehistoric or historic. Therefore, likelihood of at

least intermittent use of this fishing spot over a substantial number of years is suggested.

Because the Tanaina are generally considered to be the most atypical of the Alaskan Athapaskans, the possibility remains that these three items were properties of a prehistoric group of Tanaina under Eskimo influence. But in view of the weakness of the ethnographic evidence of association of any of these products — lamp, labret, and pottery — with the Inlet Tanaina of later times, and of the lack of similar items reported from historic Tanaina sites, one would be forced to conclude that the Tanaina were more Eskimo-like during the prehistoric period than during later times. In view of the apparent tendency for Indians near the coast to become more like their neighbors, the Eskimos, as time goes on, such a situation seems unlikely.

The most reasonable explanation seems to be that occupations of two different peoples are represented, in which a later Tanaina summer house was placed upon an earlier Eskimo site.

CONCLUSIONS

It must be stressed that the problem which has been approached here is that of the position of the Tanaina in relation to other peoples of the nearby coast. This paper has not concerned the position of the Tanaina in relation to other Athapaskans; hence some lines of evidence of potential value to Tanaina prehistory — such as the evidence presented by Athapaskan linguistics — have not been appropriate to this discussion.

Although the evidence is minimal, it is possible on the basis of material presented here to reach the following conclusions, phrased as hypotheses:

1. That the vicinity of Knik Arm, and probably all of Cook Inlet, was at least seasonally occupied by the Pacific Eskimos or their direct ancestors beginning some time before A.D. 1000 (on the evidence of the lamp), and lasting until after A.D. 1000 (on the evidence of the pottery) and perhaps as late as A.D. 1700 (if the copper pertains to their occupation).

2. That the Tanaina moved to occupy Knik Arm no earlier than A.D. 1650 (on largely negative archaeological evidence) and no later than A.D. 1780 (on historical evidence), and therefore had no significant influence on the early development of the culture of the Pacific coast.

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Department of Anthropology,
University of Oregon,
Eugene, Oregon