

SOCKETED HARPOON HEADS  
FROM THE NORTHWEST COAST

By

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## ABSTRACT

This thesis examines a number of ethnographically collected socketed harpoon heads and valves from the Northwest Coast. The aim of this thesis is to discover correlations between the formal attributes of harpoons and recorded function. One hundred and twenty-seven specimens from the British Columbia Provincial Museum in Victoria, the National Museum of Man in Ottawa and the Museum of Archaeology and Ethnology at Simon Fraser University in Burnaby were examined and recorded. The methodology involved first of all establishing a standardized terminology for socketed harpoon heads and their constituent parts. This terminology was then applied to the descriptions of harpoon heads found in the ethnographic literature. Once the morphological-functional types had been defined for the various groups, extending from the Coast Salish in the south to the Tlingit in the north, the typology was applied to the data in order to specify the formal attributes of the previously defined types, or, conversely, to modify and redefine those types presented in the literature on the basis of the substantive data. Three morphological-functional types were defined. The first of these types is the salmon harpoon head. This type includes four subtypes, all of which are specifically associated with one or more cultural groups. The second type is the small sea mammal head used historically by the Coast Salish and Nootkan, and probably by some Kwakiutl groups, although no examples of this type attributed to the Kwakiutl

are present in the data. The third type is confined to the Nootkan groups of Vancouver Island and the Olympic Peninsula. It was used to harpoon both whales and sea lions. The results of this study will provide investigators working with ethnographically collected socketed harpoons in museum collections a substantial comparative body of information on which to base attributions of provenience and function, as well as to provide archaeologists working on the Northwest Coast with a sound typology on which to base attributions of function using the method of ethnographic analogy.

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## CHAPTER I

## INTRODUCTION

Aims and Scope of Thesis

The aim of this thesis is to construct a typology for one hundred and twenty-seven ethnographically collected, socketed harpoon heads from the Northwest Coast. The typology will attempt to discover correlations between the formal attributes of harpoon heads and recorded function. Secondly, it is hoped that the typology can be refined so as to reflect spatial differences within and between types, thus specifying metric and formal differences between, for example, Nootkan and Coast Salish salmon harpoon heads. The result of constructing a classification that reflects the functional types recognized by the native craftsman and hunters will be to provide the archaeologist with a sound basis for using ethnographic analogy in the attribution of functional use to archaeologically recovered harpoon heads or harpoon head parts.

The archaeologist has available in the archaeological record only formal attributes of the artifacts and their contextual associations. Often the latter are minimal or completely absent. Although it is possible to assign a general functional label to an artifact on the basis of size, shape,

and material, this procedure, the common sense approach, is open to the trap of ethnocentrism. The most widely used and accepted method of identifying and interpreting archaeologically recovered artifacts is ethnographic analogy (Anderson 1969:138; Ascher 1961:317; Chang 1967:229).

Though analogy operates on two levels, the focus of interest herein is analogy at the level of the discrete object, the problem of artifactual identification, rather than analogy at a higher level of abstraction (Chang 1967:229; Thompson 1958:5; Watson et al 1971:50). Analogy involving the functional identification of archaeological artifacts is a deductive argument in which the major premise is an assumption based on ethnographic information (Tuggle et al 1972:4). The form of the argument can be typified as a syllogism, an example of which would be as follows:

A. Major Premise: All harpoons of type S were used to harpoon salmon.

B. Minor Premise: Archaeological specimen S' is a harpoon of the type S.

C. Conclusion: Harpoon S' was used to harpoon salmon.

Thus the usual manner in which analogy is used as a means of archaeological identification is that similarities in form are cited between ethnographic and archaeological specimens as a basis for positing similar function in the archaeological as in the observed ethnographic instance (Binford 1967:2).

In order for analogy at the level of the discrete object to be effectively employed as a means of attributing function to archaeologically recovered specimens, at least two factors must be present. Although it can be argued that there is a historical continuity of all culture, without a situation of cultural continuity (Steward 1942; Chang 1967:229) between the ethnographic situation cited and the archaeological situation to which the former is applied, the relevance of the positive analogy is open to question (Binford 1967:2-3). Secondly, it is necessary to have defined ethnographic artifact types on which to base the analogy. For, as Thompson (1956:329) notes, "The type, not the single object, serves as the basis for analogy."

Thus in order to facilitate the use of ethnographic analogy for archaeologists working in situations of cultural continuity on the Northwest Coast, it is first of all necessary to define ethnographic types. Types are herein defined as "specific groupings of structural features which have proved historical significance" (Krieger 1944:273). Steward (1954:54-55) defines three different types: historical-index, morphological, and functional. Given the very short time depth of the sample analyzed, late nineteenth and early twentieth century, the first of these types, defined as a "time-marker" (Steward 1954:54), will not in all probability appear in the classification. A morphological type is based

solely on form--on physical or external properties  
 . . . [and] . . . is considered as a characteristic

of the culture (Steward 1954:54).

Steward (1954:55) defines functional types as those based on

cultural use or role rather than on outward form or chronological position.

Even though Steward differentiates between these two types, he does state that the "same materials may be treated in terms of functional type or of morphological type" (1954:55). Following from Steward's recognition of the fact that a single item can be classified as both a functional and a morphological type, for the purpose of this classification the types defined are considered to be morphological-functional types. That is types that not only exhibit formal correspondences but were also used for the same or similar purposes.

#### Account of Specimens Used

A total of one hundred and sixty-six specimens were examined and analyzed from the collections of the British Columbia Provincial Museum, the National Museum of Man, and the Museum of Archaeology and Ethnology at Simon Fraser University. All specimens excepting two valves were collected ethnographically. It can be assumed then that the specimens reflect the historic period from approximately 1890 onward. The total sample comprises one hundred and thirty-five complete heads, sixteen incomplete heads, three sinew bound valve pairs, twelve valves, some of which form pairs, and one valve blank. The specimens have the

following province:

Coast Salish	14
Nootkan	82
Kwakiutl	1
Bella Coola	1
Tsimshian	3
Haida	38
Tlingit	1
Northwest Coast General	26

Seventy specimens have no recorded function, three are models, whereas the remaining ninety-three have functional documentation. The functional documentation which accompanies the ninety-three specimens varies widely in specificity and reliability. Often this is a reflection of whether the piece was collected by a trained ethnographer, a collector who may or may not have had the time to record specific information, or by a local non-Indian with no knowledge or training. It is usually possible to check collection information against functional types as described in standard ethnographic works. Unfortunately there are not always adequate descriptions available on the specifics of particular functional types.

Finally it should be noted that thirty-nine of the specimens examined lie outside the scope of this thesis, as they are not socketed, but are classified as tanged harpoon heads. Tanged specimens are listed and described in Appendix B. Archaeological examples of this type have been dealt with in detail by McMurdo (1973).

## CHAPTER II

## TERMINOLOGY

A harpoon head is a detachable projectile, equipped with an attached retrieving line, that is hafted on the end of a shaft or foreshaft. The head is armed so that, upon being thrust or thrown, it is able to enter the body of the prey. In addition the head is fashioned in such a manner that it stays embedded in the wounded prey despite the latter's struggles to escape (Drucker 1943:35-36; Leroi-Gourhan 1946:326-327).

A harpoon head thus has hafting, arming, retention, and retrieval capacities that in combination define the artifact as a harpoon head. These capacities, or features of them, are present on the body of the head or are joined to it as a separate piece. The specific attributes of these features and how they are related to each other provide the basis by which the heads and their component parts can be classified.

The initial definitions, which in a sense determine the scope of this thesis, are socket and tang:

socket: basal concavity into which the harpoon foreshaft or shaft tip is placed, thus facilitating the hafting of the head.

tang: basal projection that fits into a concavity

at the distal end of the harpoon shaft.

These two alternate hafting features provide the means of defining the two major classes of harpoon heads: socketed heads and tanged heads. These two classes are congruent with Leroi-Gourhan's female and male heads (1946:327), and replace Drucker's (1943:36) categories composite and one-piece. As previously noted, only socketed heads are of direct typological concern in this thesis. The following terms are those used in the classification of socketed heads:

arming element: that anterior part of the head that allows it to enter the prey. The body of the head can either be self-armed or have a separate arming element. In the latter case it can be joined to the body by an extended, unarmed shank, or by a form of hafting which is not shanked. If the shank is not exposed anterior to the body end, but contained within the arming element channel of the body, the head, for the purpose of this classification, is not considered to be shanked. A shanked arming element can be unbarbed (Fig. 1a), or barbed. The barbs can be removed, that is, not extend posterior to the anterior body end (Fig. 1b), or they can be extended with their distal tips posterior to the anterior body end



(Fig. 1c). The two attributes are a function of both barb and shank length. Separate arming elements that do not have an exposed shank can be unbarbed (Fig. 1d), barbed (Fig. 1e), or shouldered (Fig. 1f), with the armed lateral edges extending both posterior to and laterally out from the anterior body end.

- shoulder:** where the armed lateral edge of the arming element terminates and turns at approximately 90 degrees to the shank or body of the head.
- barb:** a sharp point projecting backward from the longitudinal axis of the arming element. The longitudinal axis of the barb can be from 1 to 89 degrees away from the main axis of the arming element (See Fig. 1b, 1c, 1e).
- spur:** a sharp, or in some cases, dulled, projection posterior to the socket on the body of the head. Although they probably have the same retentive function as do barbs, spurs only occur on the body of the head and not on the separate arming element, or on the arming portion of a self-armed head. Leroi-Gourhan (1946:328-329) distinguishes between these features, whereas Drucker (1943:39) does not. Although the body of a socketed head can be both barbed and spurred, as in the case of the Thule type II

head (Mathiassen 1927, I:Plate 1, Fig. 2), such a configuration does not occur on the Northwest Coast. A head can have two spurs of equal length, two spurs of unequal length, or a single spur.

**body:** that part of the head that is not the separate arming element. A body can be self-armed, or have a separate arming element, spurred or unspurred, one-piece or two-piece.

**valve:** applied to the component parts of a two-piece body. The term valve was first used by Leroi-Gourhan to describe the two-piece body of a socketed head as being "composed of two semi-cylindrical, coupled and bound valves" ("*deux valve semi-cylindriques accolées et liées*") (1946:362; pp. 363, Fig. 710). Valves can be spurred or unspurred, self-armed, or equipped with an anterior channel bed to facilitate the mounting of a separate arming element. The channel bed can be bound (Fig. 2a), or unbound (Fig. 2b). These terms derive from, and replace, Drucker's type I, "channeled," and type II "scarffed" (1943:39; pp. 40, Fig. 4). The bed can be stepped or unstepped (Fig. 2c). That is, the posterior end of the bed face may or may not be continuous with the ventral

bearing surface of the valve. When not continuous, the posterior end of the bed, in profile, forms approximately a right angle with the ventral bearing surface of the valve (Fig. 2d). The end-step can be straight, at right angles to the longitudinal axis of the valve (Fig. 2a), or curved with the apex of the curve anterior to the ends of the curve in relation to the valve. The bed face of the curved variety usually extends bilaterally in a posterior direction (Fig. 2b), conforming to the curve of the end-step. The adoption of Leroi-Gourhan's (1946:329, 362) terminology which differentiates valve, spur, and barb, negates the confusion created by Drucker (1943: 39; 1950:172, element 155 [reads "bands," presumably a misprint]; 1951:19, pp. 20, Fig. 3, pp. 27, Fig. 8) who uses the term "barb" to refer to all three. Gifford (1940: 185, 186) also uses "barb" and "side barb," to refer to valves. Bennyhoff (1950:319) uses the term "scarfed spurs."

**lashing groove:** a groove or depression on the dorsal face of the body of the head, usually delineated by the presence of an anterior and posterior lashing groove step. The groove carries

the wrapping which binds the two valves of a two-piece body together and, attaches to the body the retrieving line or lanyard. In a one-piece bodied head the lashing groove simply provides a means of securing the lanyard to the head. Often there is just a single lashing groove step present, rather than a groove. The wrapping and/or lanyard is simply attached posterior to the step, the latter insuring that the wrapping and/or lanyard does not slip or loosen. See Fig. 2e and 2f.

**line hole:** a perforation through the body of the head providing for the attachment of the lanyard. See Fig. 2g.

**rivet:** a cylindrical or square pin with a head at each end that is used to unite the valves and arming element together. It is passed through a transverse hole which pierces the channel beds of the valves and the shank or stem of the intervening arming element. The protruding end is then hammered down to form the second head (See Fig. 2h).

Based on the terminology outlined above it is possible to construct four general and tentative types:

**type I:** socketed head with unbarbed, shanked arming element.

type II: socketed head with barbed or shouldered, shanked arming element.

type III: socketed head with unbarbed, arming element that is not shanked.

type IV: socketed head with barbed or shouldered arming element that is not shanked

These preliminary types will be used to describe and organize the ethnographic data on harpoon heads presented in Chapter III. In Chapter IV (p. 76) type III is redefined and type IV is discarded.

Although not of direct concern to the typology presented in this thesis, tanged heads do occur in the cultures of the Northwest Coast. In order to deal with them in the ethnographic review that follows, these additional terms are used:

shackle: a form of lanyard attachment where a thin, laterally projecting, looped, metal band is attached to the tang of a tanged metal head, usually by a rivet (Fig. 3a).

line guard: a lateral projection of the tang, associated with the attachment of the lanyard. The longitudinal axis of the line guard is at 90 degrees to that of the head. They always occur posterior to the barbs (Fig. 3b).

In addition McMurdo's (1973:33, 33a, 33b) barb attributes high, low, enclosed, extended, isolated, and dense are applied to the specimens recorded in Appendix B.

Although the term "toggling" or "toggle-heads" has been widely used when referring to socketed, valved, and spurred heads found on the Northwest Coast (see Barnett 1939:339; Borden 1970:98; Carlson 1960:98; Mitchell 1971:48), the position taken herein is to not use the term as an attribute in classification. Toggling is a mechanical description about how the head moves within the body of the wounded prey, and as such is only an inference. The concept of toggling will be discussed further in Chapter III.

## CHAPTER III

## ETHNOGRAPHIC REVIEW

The aim of this chapter is to review the ethnographic descriptions of harpoon head types found on the Northwest Coast. The review is limited to those groups dealt with by Barnett (1939) and Drucker (1950). Included are the Coast Salish, Nootkan, Southern Kwakiutl, Bella Coola, Northern Kwakiutl, Tsimshian, Haida, and Tlingit.

The information presented in this chapter is based solely on the literature and as such no reference has been made to actual specimens which are dealt with in Chapter IV. The ethnographer is often forced to describe types that are no longer used and thus not available for examination. He must not only depend on his informant's ability to remember the details of the artifact but also his ability to describe its attributes. This problem is compounded when the informant's information is second hand, as, for example, was the case with Drucker's informants' comments on the Nootkan pre-metal sealing harpoon (Drucker 1951:26).

In line with the aim of defining culturally valid types, this chapter summarizes and orders the ethnographic information in terms of culturally recognized functional types. Thus the terminology previously presented is applied

to the definition of the various functional types for each group considered.

Coast Salish: salmon:

Barnett (1939) in compiling his trait lists for the Coast Salish, gathered data from the East Saanich, West Saanich, Cowichan, Nanaimo, Pentlatch, Comox, Homathke, Klahuse, Sliammon, and Sechelt (spellings according to Duff 1964: Table 4, Tribes and Bands [1850]). The salmon harpoon head used by all groups was a type I with a two-piece, valved body and two spurs of equal length (Barnett 1939:229; 1955:83). In all cases the head had a separate arming element (Barnett 1939:229, element 32). In addition, the Homathko, and, in a qualified manner as to frequency, the Klahuse, used a unilaterally barbed arming element, presumably shanked (Barnett 1939:229, element 31).

Each group mounted the heads as a pair on fixed, divergent, hardwood foreshafts of unequal length. The arming element was of bone, the valves of bone, goat horn, or hardwood. The three elements were wrapped and bound with sinew, cherry bark, and pitch. The main cedar shaft to which the foreshafts were secured was between ten and twenty feet long. It had a separate triangular butt piece that was shaped to receive the first and second fingers of the throwing hand (Barnett 1939:229, element 24-30; 1955:83, Fig. 21).

Suttles (1951, 1952) describes the same salmon harpoon for the Coast Salish. He states that the harpoon usually



lacked the trident butt piece since it was more often thrust than thrown as was the case with the seal harpoon (1951:140; 1952:10). He notes that the head was armed with a round, shanked, arming element set between antler valves (1952:10).

Duff (1952) in his ethnography of the Upper Stalo Tait, Pilalt, and Chilliwack, notes that harpoon heads were always type I with two valves of deer, or elk, antler, or mountain goat horn. His information on arming elements was that nails had been in use for many years but that previously round bone, charred wood, or hardened elk antler had been used. The shaft was made of fir or cedar, the foreshafts of serviceberry or spiraea (1952:60).

Duff was also told of the existence of a type I head with a one-piece, self-armed body with two spurs of equal length, made from deer antler (1952:61). It should be noted that Duff expresses uncertainty about the reliability of the source of this information.

Barnett (1939:229, elements 33-35) also tentatively lists the presence of a tanged head with bilateral barbs. The information was given by a Sliammon informant but was so sketchy that Barnett could not determine whether or not the head was detachable.

#### Coast Salish: seal:

According to Barnett, the Coast Salish seal harpoon head was similar to the salmon head excepting that it was

"larger and stronger" (1955:98). Barnett appears to be claiming that the sealing head was a type I, that is, equipped with an unbarbed arming element and a two-piece valved body with two spurs of equal length. The Sliammon, Klahuse, and Homathko had the type II head with a two-piece valved body with two spurs of equal length, and a separate, shanked, unilaterally barbed, arming element (1939:223, element 222; see illustration *ibid.* 281, note 222). The Pentlatch, Comox, and Sliammon, were reported to have had a tanged head. Barnett makes the observation that this was an atypical form (1955:98-99; also 1939:233, element 220). Barnett has a footnote which refers to note 34 (1939:279) which illustrates, with a sketch, a symmetrically barbed, two barbs on each edge, tanged form, with a one-piece, self-armed body.

Suttles (1952:10) notes that the same basic head was used for salmon and seal, but instead of the round bone "point" used in the former type, the seal head was armed with a "flat shell, bone or stone blade." Suttles elaborates elsewhere (1951:106), noting that the seal head had two valves of elk bone (?) with a "blade" of antler, bone, or Mytilis californianes, "having a single barb on one side." Suttles' use of the term "blade" as opposed to "point" for salmon heads can be interpreted that the arming element for seal heads was not shanked, and, if so, would be designated type IV. The head was bound with nettle-fibre twine and pitched. The two "hide" lanyards were spliced to a line of

nettle-fibre or willow bark. The cherry bark which bound the foreshafts to the main shaft also held an antler ring through which the main line passed. There was a separate trident butt of maple wood attached with cherry bark. (Suttles 1951:106-107).

In discussing the effects of European contact on Coast Salish material culture, Suttles notes that metals replaced the "shell or bone for the points and blades (arming elements) of harpoons" but that antler continued to be used for harpoon valves (1954:43).

#### Coast Salish: porpoise:

Barnett and Suttles state that the sealing head, type II, or possibly type IV, was also used for taking porpoise (Barnett 1955:99; also 1939:233, element 234; Suttles 1951:109).

#### Coast Salish: sea lion:

Barnett reports that the head used for sea lion was similar to the sealing head, but "heavier" (1955:99). He lists the Cowichan, Pentlatch, Sliammon, Homathko, and Sechelt as having had a sea lion head similar to the seal head (1939:233, element 234). Presumably, Barnett is referring to a type II head as illustrated (1939:281, note 222). The East Saanich, and the Pentlatch, used tanged heads with one-piece, self-armed bodies and bilateral barbs (Barnett 1939:233, element 242).

Suttles (1952:11-12) describes the sea lion head of the Penelekuts of Kuper Island as being larger than the sealing head, and mounted on a single foreshaft. The "blade," arming element, was of mussel shell and the valves of antler. A Squamish informant described the sea lion head as having mountain goat horn valves and a "blade," arming element, of black stone which Suttles interprets as being slate. A Sechelt informant gave him essentially the same information (1952:13-14). Suttles' consistent use of the term "blade" may indicate that the arming element was not shanked. He does not indicate whether it was unbarbed, therefore type III, or a barbed or shouldered type IV.

#### Coast Salish: whale:

The Coast Salish as a rule did not hunt whales (Suttles 1951:106). Those descriptions given Jenness (n.d.: 19) are considered by Suttles (1951:11-12) to be essentially "an account of Nootka practise." Barnett (1939:233, element 246) lists the possible evidence of whaling among one Coast Salish group, the Cowichan. The evidence for whaling among the Coast Salish indicates that it was practised by a few individuals, but was not a shared, cultural complex as it was among the Nootkan groups of the west coast.

#### Coast Salish: other species of fish:

According to Barnett (1955:83), sturgeon were harpooned with heads that were similar to the salmon, type I

head. He notes that Paul Kane (1925:147) describes shafts that were seventy feet long. Barnett describes the technique as a "quick jab" that "imbedded the toggle heads" (1955:83). Such a description might imply the use of a barbed arming element, which would contradict his statement that the sturgeon head was similar to the salmon head.

Suttles (1951:119) reports that sturgeon were harpooned in Boundary Bay by both Lummi and Semiahmoo using the same harpoon used for seal and porpoise. He notes that the barbed arming element either caught in light wounds, or "pierced completely . . . and turned at right angles to the line, holding as a toggle" (Suttles 1951:120). It is not clear what is meant by "pierced completely." Suttles may mean that the head went clear through the fish's body and acted as a toggle in the same manner as described for salmon heads (see page 52).

Duff describes sturgeon fishing on the Fraser River using socketed heads with two-piece valved, two spurs of equal length, bodies of mountain goat horn, with separate arming element described as being a "wide cutting blade of ground slate" (1952:68). It is not mentioned whether the arming element was barbed or unbarbed, shanked or not shanked. Duff quotes the Fort Langley Journal of 1827 which also records sturgeon harpoon shafts of fifty feet in length (1952:68).

Other fish listed as being taken with harpoons include steelhead (Duff 1952:67; Suttles 1951:134), trout,

suckers, and greylings (Duff 1952:70). Duff notes (1952:60) that many sizes of harpoons were made from large sturgeon harpoons to small varieties for trout. Duff collected a trout harpoon (BCPM 7002) from Ohamil on the Fraser River. This specimen has three type I heads with two-piece, mountain goat horn, valved bodies, two spurs of equal length, and a separate arming element made from square metal nails, mounted on three, fixed, serviceberry foreshafts. The three foreshafts are bound to a socketed piece which apparently was bound to the anterior end of the main shaft so as not to be detachable (Duff 1952:60-61; pp. 55, Fig. II, g).

#### Nootkan: salmon:

Drucker gathered information on material culture from the Hopachist, Tsishaat, Clayoquot (1950:161), Ahousat, Hesquiat, Muchalat, Moachat, Nuchatlet, Ehatizat, and Kyuquot (1951:6). The salmon head used was a type I with a two-piece, bone, valved body, and a separate, bone, arming element. The three elements were bound together with nettle-fibre and covered with pitch (Drucker 1951:19; pp. 20, Fig. 30; 1950:167, element 41; 1955:33, Fig. 9c). In most cases two heads were mounted on divergent, fixed, hardwood foreshafts of unequal length, attached to a main fir shaft approximately eight to ten feet in length. Variation did exist in the number and arrangement of heads (Drucker 1951:19-21; pp. 20, Fig. 3).

Nootkan; seal:

The sealing head known historically had a bilaterally barbed, separate, "long" shanked, metal arming element, the removed barbs of which were at right angles to the spurred, two of equal length, bone or horn valves. In some specimens the three elements were attached by rivets. When rivets were not used, a pitched wrapping of nettle-fibre or sinew was used (Drucker 1951:26; pp. 27, Fig. 8; 1950:171, element 125). Drucker reports that his informants offered the opinion that the "premetal harpoon heads may have been pointed [armed] with shell, being essentially small editions of the whaling harpoon heads" (1951:26). Thus the historically known sealing head is classified as a type II, whereas the precontact form may have been a type III with a separate, unbarbed, arming element that was not shanked. The shaft was of fir to which two yew foreshafts of unequal length were fixed with nettle-fibre and wrapped with cherry bark. A trident butt piece was inserted at the posterior end of the shaft. Before the advent of pelagic fur sealing, the main shafts were approximately two fathoms in length, opposed to their later length of about one fathom (Drucker 1951:26). According to Drucker (1951:46), only hair seal were hunted aboriginally, with fur seal becoming important after the beginning of the sealing schooner trade in the latter half of the nineteenth century. The same head as had been used for hair seal was also used for fur seal. The question raised by this assertion is whether or not the historically known

sealing head described by Drucker was a development from Nootkan involvement in the pelagic sealing trade, or had it developed previously as a response to a readily available supply of metal, and was simply used in the commercial pursuit of the fur seal? It should be noted that recent faunal data (unpublished) from the Makah village of Ozette on the outer coast of the Olympic Peninsula indicates that this southern division of the Nootkan took fur seal aboriginally.

#### Nootkan: porpoise

The historic sealing, type II, head, was also used by the Nootkans for taking porpoise (Drucker 1950:172, element 151; 1951:26, 46; Koppert 1930:67). Waterman (1920:56) reports that the Makah used the same head for seal and porpoise, identifying it as the same as those illustrated by Boas (1909:489, Fig. 156a, Fig. 157) for the Kwakiutl. Boas identifies the head illustrated in Figure 157 as a porpoise harpoon head. It is a type II head, eighteen centimetres long, with two, bilaterally applied, removed barbs, on a separate shanked arming element, riveted to two valves with two equal length spurs. Figure 165a is not identified as to function. It is a type IV head with a separate, bilaterally shouldered, not shanked, arming element, and a two-piece, valved body with two spurs of equal length.

Swan (1869:30) notes that the Makah took three varieties of porpoise with harpoons of a smaller size than those used for whales. Unfortunately he does not describe the head.



Nootkan: sea lion:

Sea lions were hunted using the sealing head (Drucker 1950:172, element 147; 1951:26, 46). Drucker appears to be referring to the historic type II head.

Nootkan: sea otter:

Both Koppert (1930:63) and Drucker (1950:173, element 182) report that the same head was used to take both seal and sea otter. Koppert comments that the sea otter head was "made similar to the whale harpoon [head]" with an arming element of mussel shell, four inches long, and valves of deer antler (1930:65; pp. 66, Fig. 40). The head illustrated in Figure 40 is a type II with a two-piece, valved, body with two spurs of equal length, and a separate, bilaterally shouldered, shanked, arming element. The latter is obviously metal, not shell.

According to Drucker (1951:46) and Koppert (1930:64), sea otters were hunted using both the bow and arrow and the harpoon. The procedure being that the animal was initially shot with arrows, and then recovered using the harpoon. The surround technique, practised in historic times, is seen by Drucker (1951:46) as a late development in response to the demands of the sea otter trade.

Nootkan: whale:

The complex of equipment used by the Nootkan whalers has been described in detail by Waterman (1920) and Drucker (1951). In terms of the focus of this study, only a summary

of the harpoon head itself will be given.

The harpoon head was a type III with a two-piece, valved body with a separate arming element (Drucker 1950:172, elements 155, 156; Gunther 1972:218; Waterman 1920:33, Fig. 12c). The two valves were of elk antler (Waterman 1920:30) or whale bone (Koppert 1920:60) with the separate, unbarbed arming element made of mussel shell (*Mytilus californianus*) and, at a later date, metal (Drucker 1951:31). The two valves were attached by a "seizing" (Waterman 1920:34) made with the unlayered elements of the whale or sea lion sinew lanyard and covered with yellow cedar bark and an outer layer of cherry bark (Drucker 1951:28). The thin, flat, arming element had convex, armed, unbarbed edges with a large basal notch to fit around the wrapped, valved body of the harpoon. The arming element was inserted between the valves and secured by applying spruce pitch (Waterman 1920:31; Drucker 1951:28) or, perhaps in some instances, pine pitch (Koppert 1930:60). This method of attachment made much simpler the replacement of the easily shattered aboriginal mussel shell arming element (Waterman 1920:32; Drucker 1951:28).

The elk antler or whale bone valves have a slightly convex dorsal outline. The spurs are approximately triangular in cross-section, thinning at the posterior tip to a point. The foreshaft channel is semi-circular in cross-section, which in combination with the opposite valve forms a conical socket for the anterior tip of the yew harpoon shaft. Between the foreshaft channel and the unbound,

straight (?) stepped, blade channel bed is a flat bearing surface. Opposite each contact area on the convex dorsal face is a long, shallow, lashing groove (see Waterman 1920: 33, Fig. 12, a). One of the valves was longer than the other and was called 'man'. The shorter valve was named 'woman' (Drucker 1951:28). It is not stated whether the two spurs were therefore of unequal length. The head illustrated by Drucker (1955:33, Fig. 9a) appears to have two spurs of equal length. Both valves were often decorated, usually with a punctate design of magical significance (Drucker 1951:28). According to Newcombe (ms.) the etched designs on the valves represent either the haletlik or the thunderbird.

#### Kwakiutl: salmon

Information on harpoon types for the Kwakiutl is not at all well documented. Drucker (1950) reports on the Southern Kwakiutl Koskimo, Kweeha (Kwexa), and the Northern Kwakiutl Owikeno, Bella Bella, Haihais, and Haisla. Barnett (1939) gathered some information from a Southern Kwakiutl informant from Campbell River.

The Kwakiutl groups investigated by Drucker (1950:167, element 41) all used the type I head with a separate arming element and a two-piece valved body, with two spurs of equal length, mounted on either a single or double, fixed fore-shaft (Drucker 1950:167, element 39,40). Except for the Haisla, the other four groups used the trident harpoon butt piece (Drucker 1950:167, element 44). In addition the

Koskimo and the Kweeha used a butt piece with finger holes. Apparently the two traits were mutually exclusive, being used on different harpoons (Drucker 1950:167, element 45; pp. 238, note 44).

The informant from Campbell River used a double fixed foreshaft harpoon with a trident butt piece mounted with type I heads that had two-piece valve bodies, with two equal length spurs, and a separate arming element (Barnett 1939: 229, elements 24, 25, 26, 32, 39). Barnett also records the use of a bilaterally barbed, one-piece, self-armed, tanged salmon harpoon head (Barnett 1939:229, elements 33, 34, 35; pp. 279, note 34).

Boas (1909:489) reports that salmon head arming elements consisted of sharpened "splints" of bone or wire nails.

Kwakiutl: seal:

Two heads were used by the groups polled by Drucker. Two of the groups, the Kweeha and Haihais, used a socketed, two-pieced valved body, with a separate barbed arming element, either a type II or IV head (Drucker 1950:171, element 125). Mounted as a pair by the former on a double, fixed, foreshafted harpoon, and singly by the latter group (Drucker 1950:171, elements 123, 124). The Koskimo, Owikeno, and Bella Bella used a tanged, one-piece, self-armed, bilaterally barbed head (Drucker 1950:171, elements 126, 127). Whereas the Koskimo mounted the tanged head as a pair on a fixed,

double foreshafted harpoon, both the Owikeno and Bella Bella mounted the head on a single foreshafted implement (Drucker 1950:171, elements 123, 124). Drucker's Haisla informant denied sea mammal hunting for his group (Drucker 1950:241, note 122). Barnett (1939:233, elements 219, 220) recorded the use of the fixed, single, foreshafted sealing harpoon with a tanged head for the 'Lekwiltok'.

Drucker (1950:241, note 125) describes the socketed, two-piece, valved and spurred, two of equal length, bodied, with a separate arming element, sealing head as a "slightly enlarged edition of the salmon harpoon head" excepting that the arming element was barbed. In the same note he refers to Boas' (1909:489) Figures 156a and 157. Figure 157, the "modern" form, is a type II with extended, bilateral barbs on the arming element. It is unclear what Drucker is referring to as the "ancient" type, as Figure 156a is a line drawing of a complete harpoon that does not depict in any detail the structure of the heads. Perhaps he intended to refer to Figure 156b which illustrates a type I bone head with a two-piece, valved and spurred, two of equal length, body and a separate arming element, described by Boas (1909:489) as having been used "both for salmon-fishing and for porpoise-hunting."

Niblack (1890:Plate XXX, Fig. 150) illustrates a socketed, two-piece, valved and spurred, two of equal length, body with a separate, bilaterally barbed, metal, arming element, with a long shank which has two pairs of asymmetrically

applied, removed, barbs. Niblack identifies the harpoon head as being a "seal or salmon spear" collected by James G. Swan from Fort Rupert.

Kwakiutl: porpoise:

The Koskimo, Kweeha, Bella Bella, Haihais, Haisla (Drucker 1950: 172, elements 150, 151) and Lekwiltok (Barnett 1939:233, element 234) are all reported to have taken porpoise with the same harpoon as used for sealing. This means that the Kweeha, Haihais, and Haisla used the type II or type IV head with a two-piece, valved body, with two equal length spurs, and a separate barbed arming element. The Koskimo, Owikeno, and Bella Bella used a tanged head with a one-piece, self-armed, barbed body. Drucker's (1950:243, note 151) Haisla informant described a "variant type of harpoon (the southern sealing implement) with double points" corresponding to Boas' (no reference) "account of Kwakiutl harpoons." The reference may be to Boas' (1909) Figure 157 and 156b, discussed above.

As an illustration to accompany a traditional account of the Kwakiutl manufacture of a porpoise harpoon, collected by George Hunt, Boas (1909:494) depicts an unusual socketed head which has a one-piece body equipped with a single spurred, open (Leroi-Gourhan 1946:329, footnote 2) socket. The head is self-armed with the shank carrying four unilaterally applied barbs. Unfortunately Boas does not give any further information on this head.

Kwakiutl: sea lion:

The only Kwakiutl group reported to have hunted sea lions with harpoons were the Haishais (Drucker 1950:172, element 147). The presence of this activity is only given a probable status by Drucker (1950:242, note 147) who notes that the harpoon was used for retrieving wounded animals that had been clubbed or shot. The harpoon used would have had a single foreshaft mounted with a type II or IV head with a two-piece valved and spurred, two of equal length, body and a separate, barbed arming element.

Kwakiutl: sea otter:

Drucker (1950:173, element 182) records that the Koskimo, Owikeno, Bella Bella, Haihais, and Haisla took sea otter using the seal harpoon. In the case of the Haisla the head would have been a type II or IV as discussed above. The other groups would have used a tanged head with a one-piece, self-armed, barbed body.

Kwakiutl: whale:

The Kwakiutl groups did not hunt whales (Drucker 1950:172, element 153; Barnett 1939:233, element 246).

Bella Coola: salmon:

Unfortunately little attention has been given to Bella Coola material culture. Drucker's (1950) element list appears to be the only source on Bella Coola harpoons. They used both a single and double headed harpoon mounted with

type I heads with a two-pieced valved and spurred, two of equal length, body with a separate arming element (Drucker 1950:167, elements 39, 40, 41).

Bella Coola: sea mammals:

The Bella Coola hunted hair seal using a single fore-shafted harpoon with a type II or IV head with a two-piece valved and spurred, two of equal length, body, with a separate, barbed arming element. No other sea mammals were present in Bella Coola territory excepting the occasional sea lion (Drucker 1950:242, note 146).

Tsimshian: salmon:

Drucker recorded data on harpoons from the Hartley Bay (Kitkiata), and the Skeena River Coast Tsimshian, as well as the upriver Gitskan at Hazelton (Kitanmaks) and Kispiox (1950:162). All three groups harpooned salmon using a type I head with a two-piece valved and spurred, two of equal length, body, and a separate arming element, mounted on a single foreshaft (Drucker 1950:167, elements 39,40). In addition the Hartley Bay group used a double foreshafted harpoon.

Tsimshian: seal:

The Hartley Bay and Skeena River groups took seal with a single foreshafted harpoon mounted with a tanged head (Drucker 1950:171, elements 124, 126, 127, 128). The Gitksan had no sea mammals in their territory.



Tsimshian: porpoise:

The Hartley Bay group hunted porpoise with the tanged seal head noted above.

Tsimshian: sea lion:

The Skeena River groups took sea lion with the tanged sealing head (Drucker 1950:172, elements 146, 147). In discussing the absence of sea lion hunting among the Hartley Bay group, Drucker (1950:242, note 146) mentions that the related Kitkatla group were noted sea lion hunters.

Tsimshian: sea otter:

Sea otter were taken by the Hartley Bay group using the tanged sealing hand.

Haida: salmon:

Both the Masset and Skedans informants reported to Drucker (1950:167, element 39) the use of a single headed salmon harpoon. In addition the Skedans informant reported the use of a double headed form (Drucker 1950:167, element 40). Both were mounted with a type I head with a two-piece, valved and spurred, two of equal length, body with a separate arming element (Drucker 1950:167, element 41). Dawson (1880:144b) described the Haida salmon head as a type I with a sharp "blade-like" arming element lashed to two horn valves. He does not specify whether or not both valves were spurred, and if they were, whether the spurs were of equal length. The anterior tip of a seven and one-half inch

detachable foreshaft fitted into the socket formed by the valves, whereas the proximal end, which had a "flat leaf-shaped" expansion fitted into the socket at the anterior end of the main shaft. The head is attached to the foreshaft which in turn is secured to the main shaft by twelve to eighteen inches of cord. Drucker (1950:238, note 41b) also records that a detachable foreshaft was used with the type I head described above.

Niblack (1890:Plate XXIX, Fig. 137) illustrates a harpoon head which Drucker calls a "true togglehead[s] with detachable foreshaft[s]" (1950:167, element 41b). The head illustrated by Niblack is a type I with a two-piece, self-armed, valved body with a single spur. One valve is both self-armed and spurred, whereas the other valve is neither armed nor spurred, simply having a hafting function. The head is secured to a detachable foreshaft which in turn is attached to the main shaft as described by Dawson (1880:144b).

#### Haida seal:

The Haida seal harpoon had a tanged, barbed head, originally of bone, but in historic times of metal, with a hole in the tang which held a loop of copper wire or a metal shackle for lanyard attachment. The metal heads were usually made by the Haida themselves from old files (Drucker 1950:171, elements 126, 128; pp. 241, note 126; Dawson 1880:144b; Niblack 1890:228). Drucker (1955:33, Fig. 9d)

illustrates an elaborate bone harpoon head of this type which is barbed along the two edges and the one observable face. It has a separate arming element. The tang has a single line hole.

Niblack (1890:Plate XXIX, Fig. 133a, 134a) illustrates two seal harpoons of the tanged variety. Both are of steel, one is bilaterally barbed, the other trilaterally or quadrilaterally. Both are equipped with shackles. Both are self-armed, lacking the separate arming element as in the specimen illustrated by Drucker (1955:33, Fig. 9d).

#### Haida: porpoise:

Information gathered by Drucker (1950:172, element 150) indicates that the Haida did not hunt porpoise with a harpoon, if at all (Drucker 1950:243, note 150). Neither Dawson (1880) or Niblack (1890) report porpoise hunting by the Haida.

#### Haida: sea lion:

The Masset group took sea lions by clubbing them on the rocks (Drucker 1950:172, element 148). The Skedans group may have used sealing equipment with a tanged head (Drucker 1950:172, element 147) but Drucker is not confident about the presence of this trait (Drucker 1950:242, note 147).

A Skidegate informant reported that the Haida harpooned sea lions on the rocks at Cape St. James, killing them in the water with a club (Newcombe and Newcombe 1913: 141).

Haida: sea otter:

Both the Masset and Skedans groups took sea otter with the barbed and tanged sealing head (Drucker 1950:173, element 182). Although Niblack initially identifies the specimen illustrated in Figure 137 (1890:Plate XXIX) as a salmon head, he also refers it as being "adapted to the capture of other kinds of fish and even the sea otter" (1890:289).

Tlingit: salmon:

The most common type of salmon harpoon head reported for the Tlingit appears to be the tanged, multiple barbed head with line hole (Drucker 1950:168, element 41a). Although formerly of bone (see de Laguna 1972:1029, Plate 112), metal became the predominant material in historic times (Krause 1956:120; pp. 385, Fig. 41). Emmons (n.d.:6-7) describes the bone variety as being three to eight inches long, averaging one-quarter inch in thickness, flattened and rounded at the tang "through the thickest part of which was a small hole," and having one to four unilaterally applied barbs. He also notes that when iron was introduced, the latter form remained popular but more elaborate heads were constructed having bilateral or even "saggital" (quadrilateral?) barbs. Emmons also mentions bone heads with separate metal arming elements (see Drucker 1955:33, Fig. 9d). The two iron heads illustrated by de Laguna (1972:385) in Figure 41 are eight and four inches long, have three barbs each, unilaterally applied, with a tang that is rectanguloid in outline. The larger head

has a lanyard attached through the line hole, whereas the smaller head, although it has a line hole, has lanyard wrapped around the restriction between the posterior barb and the tang. The metal head illustrated in Plate 117 (de Laguna 1972:1034) is unilaterally barbed with a line hole in the tang and is approximately four inches long. The barbs are blunt, particularly when compared to the distinctly pointed barbs of the two specimens in Figure 41.

Drucker (1950:167, element 41) does not record the presence of the type I head with two spurs of equal length and separate arming element. He does note the presence of the "true toggleheads with detachable foreshafts" (Drucker 1950:168, element 41b) which is here classified as a type I head with a two-piece valved body, one of which is self-armed and spurred, the other valve is neither armed nor spurred. Emmons (n.d.:7-8) also mentions the presence of the single spurred, self-armed, type I head with a two-piece valved body mounted on a detachable foreshaft. Emmons (n.d.:7-8) also notes that the head which was mounted on the detachable foreshaft could be a type I with a separate arming element and two valves, both spurred. He does not state whether or not the spurs were of equal length. According to Emmons (n.d.:7) the two varieties of type I heads mounted on detachable foreshafts were "rarely found north of Frederick Sound."

Niblack (1890:289, Fig. 137e) illustrates a type I bone head with a two-piece valved body. One valve is self-

armed and has a spur that is noticeably longer than the spur of the other valve. Both valves have a medial, constricted, lashing groove.

Niblack (1890:290, Fig. 150a) illustrates a rather variant head which he claims was also used for salmon. It is a socketed head with two valves of an unspecified material, and a separate, unilaterally barbed, metal, arming element. The arming element is much longer and larger than the valves, and is attached to them by a long shank. The anterior portion of the arming element has a diamond-like outline with one large, pronounced barb. The diminutive size of the valves, and the large barb indicate that the valves sole function was to provide a socket for hafting.

#### Tlingit: seal:

Two types of heads are reported to have been used by the Tlingit for taking seal. The most common type was tanged (Drucker 1950:171, element 126; Emmons n.d.:24; de Laguna 1960:111; 1972:376; pp. 377, Fig. 39; pp. 1029, Plate 118; pp. 1034, Plate 117).

Some Tlingit groups also used the socketed head, termed by Drucker as a true togglehead with detachable fore-shaft (1950:171, element 128a). Presumably he is referring to a two-piece, self-armed, valved, and single, or two unequal length, spurred head. De Laguna (1960:111) also reports the use of a "togglehead" composed of two pieces of bone for harpooning seals. Unfortunately she does not give more detailed information.

Tlingit: porpoise:

Drucker's (1950:172, element 150) Chilkat and Sanyakwan informants denied the presence of porpoise hunting for their respective groups, although the Sanyakwan informant gave the opinion that their northern neighbours did hunt porpoise (Drucker 1950:243, note 150). De Laguna (1972:377) reports that the same tanged head as used for fur seal was used to take porpoise.

Tlingit: sea lion:

De Laguna (1972:376) reports that the tanged sealing head was used for sea lions. Drucker (1950:172, elements 146, 147) reports that the Sanyakwan Tlingit hunted sea lion using the tanged sealing head.

Tlingit: sea otter:

Although the Tlingit probably used the harpoon arrow to a greater extent for taking sea otter (de Laguna 1972:370), both Drucker (1950:173, element 182) and de Laguna (1972:376; 1960:111) note that they did use the tanged seal head for capturing sea otter.

Based on the ethnographic information presented above, the four basic types presented in Chapter II can be further specified forming the following subtypes:

- Ia: two valves, each with an equal length spur and a separate, shanked, unbarbed arming element. Mounted on a fixed foreshaft. (See Fig. 4)

- Ia': as above but mounted on a detachable foreshaft (See Fig. 6)
- Ib: one-piece body with two spurs of equal length, self-armed, unbarbed. Mounted on a fixed foreshaft (See Fig. 7).
- Ic: two valves, one valve is self-armed and spurred. The other valve is neither spurred nor armed. Mounted on a detachable foreshaft (See Fig. 8).
- Id: two valves, one is self-armed and spurred. The other valve is unarmed, with a spur that is much shorter than that of the armed valve. Not known if mounted on a detachable foreshaft (See Fig. 9).
- IIa: two valves, each with an equal length spur. A separate, shanked, barbed or shouldered arming element. Mounted on a fixed foreshaft (See Fig. 10).
- IIIa: two valves, each with an equal length spur. A separate not shanked unbarbed arming element. Mounted on a fixed foreshaft or on the anterior shaft tip (See Fig. 25).
- IVa: two valves, each with an equal length spur. A separate, not shanked barbed or shouldered arming element. Mounted on a fixed foreshaft (See Fig. 24).

The correspondences between these subtypes and function and linguistic group or subgroup are summarized in Table I, and briefly discussed below.

### Salmon

All groups used type I heads. Only the Tlingit are



reported to have made much use of tanged heads for taking salmon. The Ib head reported for the Coast Salish has the same essential attributes as the standard Ia head, excepting its construction which was one-piece. The Tlingit and Haida differed from the other groups in mounting their type I heads on detachable foreshafts. Both groups used Ia as well as Ic, and possibly Id, heads mounted on detachable foreshafts.

#### Trout:

The trout head, reported only for the Coast Salish, was a Ia, perhaps somewhat smaller than the Ia salmon head.

#### Sturgeon:

The postcontact head, with a metal arming element, was a IIa, probably the same head as was used for seal or porpoise. The precontact head, with a nonmetal arming element, was probably a barbed IVa. The Coast Salish are the only group, of those considered, to have harpooned sturgeon.

#### Seal, porpoise, sea lion, sea otter:

The three northern groups, Tsimshian, Haida, and Tlingit, all used tanged heads in the harpooning of sea mammals. In addition the Haida may have used a Ic for sea otter, the Tlingit, the Ic or Id heads for seal. The Kwakiutl, Lekwiltok, Koskimo, Owikeno, and Bella Bella are also reported to have used tanged heads.

The Nootkan groups in historic times used a IIa sealing head to harpoon all sea mammals excluding whales. The IIa head was usually barbed, but was occasionally shouldered. The barbs were usually extended. The precontact head may

have been a IIIa, a smaller edition of the whaling head, or a IVa with either barbs or shoulders.

There is some evidence that the Coast Salish Pentlatch, Comox, and Sliammon used tanged heads for harpooning seals. In addition the Pentlatch and East Saanich are reported to have used tanged heads for sea lion. None of the Coast Salish groups are reported to have hunted sea otter.

The socketed head used historically by the Salish for seal, porpoise, and sea lion was the subtype IIa. The pre-contact head, with a nonmetal arming element, used for seal and porpoise appears to have been a barbed subtype IVa. The sea lion head may also have been a IVa, barbed or shouldered, or possibly an unbarbed IIIa. The sea lion head may also have been larger than the head used for taking seals and porpoises.

#### Whale:

Whaling was confined to the Nootkan groups of Vancouver Island and Cape Flattery on the Olympic Peninsula. The head used was the subtype IIIa.

## CHAPTER IV

## THE DATA

This chapter presents the classification of the one hundred and twenty-seven socketed specimens that comprise the substantive data of the thesis. As previously noted the data are held by three Canadian institutions. The fifty-eight specimens from the National Museum of Man were examined during the greater part of one week spent in Ottawa during April of 1973. The seven specimens at the Museum of Archaeology and Ethnology, Simon Fraser University, were examined during trips to Burnaby over the last six months. The sixty-two specimens in the Ethnology Division of the British Columbia Provincial Museum embody that portion of the data which has been constantly available for re-examination during the period of study.

After the initial examination and analysis, attributes that had not been considered important, were found to be crucial in formulating the classification. In some cases the presence or absence of these attributes on the Ottawa specimens had not been recorded. These gaps, particularly when they existed for well documented pieces considered to be crucial to the classification have been filled to some extent through the cooperation of the staff of the National Museum.

Specimens from the British Columbia Provincial Museum are simply referred to by catalogue number, e.g. 7002(1). Specimens held by Simon Fraser University are prefixed by the abbreviation SFU, as in SFU 3519a. Specimens from the National Museum of Man are also referred to by catalogue number alone. In the case of artifacts from the Northwest Coast they are always prefixed by the Roman numeral VII followed by a capital letter which denotes the cultural province of the particular artifact, e.g. VII-F-27. The letter 'A' denotes Tlingit, 'B' Haida, 'C' Tsimshian, 'D' Bella Coola, 'E' Kwakiutl, 'F' Nootkan, 'G' Coast Salish and 'X' Northwest Coast General. Uncatalogued specimens from the National Museum of Man and Simon Fraser University have the prefix NMM- and SFU- respectively, followed by a capital letter as in SFU-A. Catalogue information, metric data, as well as a description of each socketed specimen examined in this chapter, are presented in Appendix A.

The types and subtypes defined and discussed in Chapters II and III are now applied in an examination of the one hundred and twenty-seven socketed specimens. Metric data for the defined subtypes and/or types are summarized in Tables IV through XVI.

Type I: socketed heads with unbarbed, shanked arming elements,

Number: twenty-five, all complete heads.

Function: two fish, three trout, ten salmon, one seal, nine have no functional documentation.

Provienc: seven Coast Salish, five Nootkan, six Haida,  
seven Northwest Coast General.

Subtype Ia: two valves, each with an equal length spur and a  
separate, shanked, unbarbed arming element.

Subtype Ia, Coast Salish

The seven Coast Salish specimens (See Table IV) are grouped as two pairs and a set of three. The latter (7002[1], [2], [3]) are mounted on a triple, fixed, foreshafted trout harpoon. The valves are of mountain goat horn, squared-off at both ends. The arming element channel beds of 7002(3) are laterally bound and, although not observable, presumably had straight end-steps as per Duff's illustration of an exploded view of one head (1952:55, Fig. II, g). The channel beds of 7002(1) and (2) are covered with wrapping, but as all three heads are armed with a square in cross-section metal nail, it is assumed that all six valves have bound and straight end-stepped channel beds.

The metal arming elements of 2435a and b (Fig. 4) have cylindrical shanks fitted into bound channel beds. The valves are also of mountain goat horn with squared spur and anterior ends. The two heads were mounted on a double, fixed foreshafted harpoon, documented as being used for taking "fish." The remaining pair (10313a and b), documented as salmon heads, have land mammal bone valves with pointed spur ends. The arming elements are again metal with cylindrical cross-section. Because the anterior valve ends are obscured by wrapping, the attributes of the channel beds are not observable.

Although the sample is extremely small, Duff's statement that trout heads were smaller than salmon heads is borne out (1952:60). The valves of 7002(1), (2)&(3) range between 48 and ca. 57 mm. in length, whereas the four "fish" and salmon heads range between 64 and ca. 73 mm. in length.

Specimen 7003, collected by Wilson Duff from Yale, is described as follows:

Model of salmon harpoon head. Real one would have bone point, mountain goat horn valves. Made by P. Charlie.

The head in question has wooden valves and a steel nail as an arming element. The channel beds are bound with straight end-steps. The three pieces are bound together with commercial string which also secures a light cord lanyard. The head is 104 mm. long, the valves both 23 mm. in length.

#### Subtype Ia, Nootkan

The five specimens (See Table V) comprise three individual heads and one pair. The anterior valve ends of all specimens are obscured by wrapping. It is reasonable, however, to assume that all have arming element channel beds that are bound, as the arming element shanks are cylindrical in cross-section for four specimens, with the fifth (1063) being square. None of the valve spur ends are squared, either being pointed or rounded.

The valves of 1063 and VII-F-178 are of mountain goat horn. Those of the pair, VII-F-307(1) and (2), are made of bone or antler. The largest head, VII-F-482, 154 mm. long,

has wooden valves. This latter specimen, collected in 1929 by H. I. Smith at Alberni, is not documented as to function. Specimen 1063 and the pair VII-F-307(1) and (2) are documented as salmon heads. Specimen VII-F-178, collected by C. F. Newcombe at Neah Bay between 1890 and 1904, is the smallest of the Nootkan heads, measuring 79 mm. in length. It is the only type I head that has a recorded function, sealing, that is not concerned with the harpooning of fish. If the catalogue entry is not a mistake, the use to which this head was put represents an unusual and atypical adaption of a salmon type head to a function normally performed by a sealing type head, in historic times, a subtype IIa.

#### Subtype Ia, Northwest Coast General

None of these specimens have functional documentation. They are composed of two pairs and two individual heads (See Table VI). One of the latter heads is paired with a subtype Ib, discussed below. The pair, VII-X-179(1) and (2), have cylindrical brass arming elements. The valves of VII-X-179(1) are both of mountain goat horn whereas VII-X-179(2) has one valve of mountain goat horn and one of bone or antler. In the latter head the length of the spurs exposed posterior to the wrapping varies by 5 mm. The difference is not considered significant. The head is therefore classified as a subtype Ia with equal length spurs (5 mm. difference or less) rather than a subtype Id where the difference in spur length exposed posterior to the body would be greater than 5 mm. The latter figure is tentative and only has relevance for the sample under consideration. The details of the arming element channel

beds were not observed but it is reasonable to assume that they are bound and probably have straight end-steps. Neither head has squared-off spur tips.

Specimen N.M.M.-A has a cylindrical, land mammal bone, arming element with valves that appear to be made of sheep horn. The details of the anterior valve ends were not recorded, but given the cylindrical shanked arming element, it is probable that the channel beds are bound. The spur tips are not squared.

The paired specimens, VII-X-192(1) and (2) (Fig. 5), have land mammal bone arming elements. The shanks are concavo-convex in cross-section with tapered, biconvex in cross-section, anterior tips. The concave face of each shank is formed by the marrow channel. The valves of each specimen are of sheep or cow horn. Unfortunately the anterior valve ends of both specimens are covered with nettle (?) fibre and a serving of cherry bark. The spur tips are rounded in outline.

Specimen N.M.M.-C has a metal arming element that is nearly square in cross-section (5x6mm) and mountain goat horn valves with spur tips that are not squared. The anterior valve end attributes were not recorded. This head forms a pair with specimen N.M.M.-B discussed below.

#### Subtype Ia', Haida

Both heads (Table VIII) have thin, flat, rectangular, metal arming elements (Fig. 6). The channel beds of specimen 1458 are unbound, and although not clearly observable, the valves of VII-B-215, are in all probability likewise unbound.



All the Nootkan and Coast Salish Ia heads have square or cylindrical shanked arming elements. In three specimens the channel beds are bound, and although not observable in the nine remaining specimens, it is fairly certain that they are also bound.

The valves of VII-B-215 are of mountain goat horn. Those of 1458 are of sheep or cow horn. The latter have a lashing groove step on their dorsal faces 6mm. from the anterior rounded ends. Specimen VII-B-215 has a lashing groove on the dorsal face of each valve, 51 mm. long in both cases. None of the Nootkan or Coast Salish Ia heads appear to have lashing grooves or steps.

Both heads are mounted on detachable wooden foreshafts. The foreshaft of specimen 1458 measures 167 mm. in length. It is round in cross-section. The anterior tip has two flat tapering faces giving it a wedge-like shape. The posterior end has expanding shoulders which then taper along convex edges to a rounded base. The faces taper to the base and are slightly biconvex in cross-section. The foreshaft is not attached to the head. The foreshaft of specimen VII-B-215 is similar in form, measuring 229 mm. in length. The head is connected to the foreshaft by a twisted sinew lanyard 310 mm. in length.

These two specimens are separable from the Ia heads on the basis of their thin, flat, rectangular arming elements, their unbound channel beds, and the presence of the detachable foreshafts.

Subtype Ib: one-piece body with two spurs of equal length, self-armed, unbarbed.

Specimen N.M.M.-B (Fig. 7) is the one example in the data of a subtype Ib head. It is made from a single piece of mountain goat horn. Interestingly it is paired with a subtype Ia, N.M.M.-C, discussed above. The head measures 99 mm. in length. The only mention of the subtype Ib head encountered in the literature is by Duff (1952:61) in his ethnography of the Upper Stalo Coast Salish. Duff's Tait informant noted that the Ib head was used for salmon and trout. Specimen N.M.M.-B has an encircling lashing groove step at the proximal end of the conical arming portion of the head. The two spurs are symmetrically opposed as they are in all the Ia heads examined. The spur tips are pointed.

Subtype Ic: two valves, one valve is self-armed and spurred, The other valve is neither spurred nor armed.

The two specimens that fit subtype Ic, 9816a and b. (Fig. 8), closely resemble the head illustrated by Niblack (1890:Plate XXIX, Fig. 137). In both specimens the armed and spurred valve as well as the unarmed and unspurred valve are of metal. The latter have a half-conical form and are joined to the armed valve by pitched, string wrapping. The wrapping secures the remains of a thin, flat, rawhide lanyard, attached in the centre of the convex dorsal face of the unarmed and unspurred valve, leading back from its posterior edge. The lanyard attachment is thus at 180 degrees to the axis of the spur. In all subtype Ia heads the lanyard is attached

between the spurs, at 90 degrees to their longitudinal axes.

Both heads are mounted on detachable foreshafts similar in form to the one that accompanies the head illustrated by Niblack (1890:Plate XXIX, Fig. 137), and the foreshafts described above for subtype Ia' specimens 1458 and VII-F-215. For head 9816a which is 94 mm. long (See Table IX), the foreshaft measures 269 mm. in length. Specimen 9816b is 80 mm. in length, with its foreshaft 244 mm. long. Both foreshafts have the remains of the same thin, flat, rawhide lanyard attached by a pitched, string wrapping just anterior to the expanded butt. In its complete form the lanyard attached the head to the foreshaft as per Niblack's illustration (1890: Plate XXIX, Fig. 137).

As previously noted, Drucker calls this subtype "true toggleheads with detachable foreshafts" (1950:167, element 41b). He states that "except for some late metal types," that is, subtype Ic, "toggling heads . . . do not occur" on the Northwest Coast (1943:36). In the case of toggling heads the "pull of the line rocked the inserted harpoon head over more or less crosswise," whereas in the case of the "typical three-piece Northwest Coast harpoons," Drucker here includes subtypes Ia, IIa, Iva, and possibly IIIa, "the pull was nearly straight back against the spreading" valves (1951:27, footnote 5).

Subtype Id: two valves, one is self-armed and spurred. The other valve is unarmed with a spur that is much shorter than that of the armed valve.

In both specimens, 1459(1) and (2) (Fig. 9), the armed and spurred valve is of metal whereas the unarmed valve is of sheep horn (Table X). Both valves of specimen 1459(1) have lashing grooves on their dorsal faces. The wrapping which binds the two valves together obscures the lashing grooves which are presumably present on the dorsal valve faces of 1459(2). The difference in spur lengths exposed posterior to the body wrapping is 23 mm. for 1459(1) and 21 mm. for 1459(2).

The two heads are joined by a continuous, one-piece, ca. 145 mm. in length, spruce root lanyard. It is attached at each end between the two valves on the body edge. Although there are no foreshafts present or recorded, a main shaft, specimen 1459, was collected. It is cylindrical in cross-section, approximately 418 cm. long. Both ends are squared-off with encircling metal bands (grommets). The anterior end is approximately 25 mm. in diameter. It has an off-centre, irregularly cylindrical socket that is 10 mm. in diameter and ca. 36 mm. deep. It is not clear how the two heads were hafted to the main shaft.

The two subtype Id specimens are similar in form to the Tlingit bone head illustrated by Niblack (1890:289, Fig. 137e). Niblack (1890:288) calls it a "salmon spear head." He does not state how it was mounted. It should be noted that when Drucker (1943:36) states that toggling heads are missing from the Northwest Coast except for "some late metal types," he refers not only to Niblack's Fig. 137 (1890:Plate XXIX) but also to Fig. 137e (1890:289)(Drucker 1943:36, footnote

11). The confusion lies in the fact that Fig. 137e illustrates a bone implement rather than a metal one. If this error on Drucker's part is not of importance, it would seem that he considers both subtypes Ic and Id to be toggling heads.

Although Drucker states that the two equal length spurs of the "typical" Northwest Coast harpoon head are the significant attributes which do not allow them to toggle (1951:27, footnote 5), he unfortunately does not state what attribute or combination of attributes allow the Ic head to toggle (1943:36; 1950:167, element 41b; 1951:27; 1951:27, footnote 5). The significant difference between Ia and Ic head is that the latter has only one spur rather than two bilaterally opposed, equal length spurs as in the former subtype. The single spur presumably allowed the Ic subtype to toggle or "turn(s) at right angles to the line" (Murdock 1892:218). Presumably the significantly different lengths of the two spurs of the subtype Id head also allowed it to toggle.

Though Drucker labels the Ic, and possibly the Id, subtype as being "true toggleheads with detachable foreshafts" (1950:167, element 41b), the simple presence of the detachable foreshaft is not sufficient for Drucker to classify the accompanying head as a toggling type:

A detachable wooden foreshaft was used with the tripartite harpoon head (read subtype Ia)(Drucker 1950:238, note 41b).

Drucker notes that the presence of the detachable foreshaft with a subtype Ia head is a "peculiar combination."

Type II: socketed head with barbed or shouldered, shanked arming element.

Number: thirty-six, thirty-two are complete heads and four are valves.

Function: three fur seal, one hair seal, two seal, one sea lion, one sea otter, one "killing halibut," twenty-seven have no functional documentation.

Providence: four Coast Salish, twenty Nootkan, two Haida, and ten Northwest Coast General.

Subtype IIa: two valves, each with an equal length spur. A separate, shanked, barbed or shouldered arming element.

There are twenty-eight heads and four valves that are classified as subtype IIa (See Table XI). Twenty-three of the twenty-eight heads are bilaterally barbed. Only one of these heads, 2197, has more than two barbs. There are five unilaterally barbed heads, three of which, SFU 3454 a & b, VII-F-213, have single barbs. The two other unilaterally barbed specimens, 8616, 11540, have two barbs. None of the IIa heads are shouldered.

Subtype IIa, Coast Salish

All four Coast Salish subtype IIa heads (See Table XII) have metal arming elements with rectangular shanks. Two of these have single, unilaterally applied, extended barbs (S.F.U. 3454 a & b). The other two specimens, 2418 (Fig. 10),

10899, have bilaterally applied, symmetrical barbs. The barbs of specimen 2418 are extended whereas those of 10899 are removed. The shank of the latter specimen is enclosed within the lateral boundaries of the valves. In the case of the other three heads the shanks extend laterally beyond the boundaries of the valve edges.

The arming element channel beds of all four specimens are flat and unbound with straight end-steps. The arming element and sea mammal bone valves of head 10899 are joined together by two rivets. A single lashing groove step posterior to the channel beds on the dorsal valve faces facilitated the attachment of the missing lanyard. The valves of the other three specimens, none of which are joined to the arming element by rivets, have both an anterior lashing groove and a medially placed lashing groove step. The lateral edges of the arming element shanks are notched with the wrapping which secures the shank to the valves placed in the notches and the aligned lashing grooves. The valves 2418 are of antler, and those of S.F.U. 3454 a and b are either bone or antler.

The unilaterally barbed heads, probably a pair, are documented as sealing heads, specimen 2418 as a fur seal head, and 10899 has no recorded functional attribution.

#### Subtype IIa, Nootkan

There are a total of nineteen Nootkan specimens classified as subtype IIa (See Table XIII). Fifteen heads have metal and one has a land mammal bone arming element (14177).

Fifteen are bilaterally barbed, fourteen of which have two symmetrical barbs. One specimen, 2197, has four barbs applied as two slightly asymmetrical pairs. One specimen, VII-F-213, has a single unilaterally applied barb.

Two heads (14179, 14184) have metal valves. Four heads (2197, 14176, 14177, 14182) have valves identified as land mammal bone, one (14180) as antler, one separate valve (VII-F-156) as mountain goat horn, with the remaining nine heads and two separate valves undifferentiated as to whether the valve material is bone or antler.

The lateral arming element channel bed attributes of eleven specimens were recorded (See Table II). Five heads were observed to have valves with laterally unbound channel beds. Three of these have straight end-steps, one is unstepped, and one was not recorded. The unbound and straight end-stepped valves have single lashing groove steps and are joined to their arming elements by rivets. The valves of the unbound and unstepped specimen are also joined to the arming element by rivets but have two lashing groove steps on each dorsal face. The anterior step on one valve appears to form a lashing groove. The one specimen with an unbound channel bed but with unobservable posterior channel bed ends has neither lashing steps or grooves. The wrapping which covers the anterior and medial valve portions also makes it impossible to determine the presence or absence of rivets.

Three heads and three separate valves have bound channel beds. Two valves, VII-F-154 (Fig. 11) and VII-F-155, are



probably a pair, thus representing a single head. The latter two specimens have expanded, straight end-steps and probably were attached to an arming element that had a shank end similar to that of the arming element illustrated in Figure 12a. Neither valve has rivet holes, lashing grooves or steps. The third single valve, VII-F-156 (Fig. 13), has a bound, straight end-stepped channel bed with two in-place rivets. It has a single lashing groove step on its dorsal face just posterior to the anterior end of the foreshaft channel. The three heads with bound valves have their channel bed posterior ends covered with wrapping. In two cases the presence or absence of rivets was not observable. One specimen, 14182, has two rivets. All three specimens have a single lashing groove step on each valve dorsal face.

There are eight heads with unrecorded lateral and end channel bed attributes. None have lashing grooves or steps. The presence or absence of rivets was not observable.

Fourteen specimens have no information as to function. Three specimens are documented as fur seal heads. Two of the latter three have two symmetrical, bilateral barbs. (VII-F-180, VII-F-399), whereas the third head (VII-F-213) has one unilaterally applied barb. One specimen (VII-F-402) with two bilaterally applied symmetrical barbs is documented as a hair seal harpoon head. The fifth documented head, 2197 (Fig. 14), with two pairs of slightly asymmetrical barbs, is recorded as being used for taking sea otter.

None of the valves are decorated except for those of specimen VII-F-307(1).

Subtype IIa, Haida

The single specimen attributed as Haida has a rather shaky provenience. Although its catalogue number, VII-B-569, indicates that it is Haida, the accompanying catalogue description "Dagger, iron blade, Skidegate Haida, C.F.N. 1895-01.," suggests that either the description or the number is misplaced. This specimen is 163 mm. long, its valves measure 90 and 93 mm. in length with unbound, unstepped channel beds 35 mm. long and 12 mm. wide. The valves are of brass, the arming element of iron or steel with two bilaterally applied symmetrical barbs. The tree pieces are joined together by two rivets. Neither valve has lashing steps or grooves. Lanyard attachment is facilitated by a drilled line hole across the transverse axis of both valves on their ventral faces posterior to the proximal end of the arming element channel. This specimen has no functional documentation.

Subtype IIa', Haida

This head, VII-B-558, is similar to the Ia' heads discussed above except that the arming element has two bilaterally applied, symmetrical barbs. The channel beds are unbound with their posterior ends unobservable. The bone or antler valves are joined to the metal arming element by at least one rivet. A single lashing groove step is observable on the dorsal face of each valve. The head is attached by a cord lanyard to a detachable foreshaft similar in form to

those which accompany the Haida Ia' and Ic heads. This head was collected at Masset by C. F. Newcombe, ca. 1895-1901, and is documented as being used to "kill halibut" The head measures 115 mm. in length with valves 77 and 76 mm. long.

Subtype IIa, Northwest Coast General

There are six heads and one single valve that are attributed as Northwest Coast General (See Table XIV). Five heads have metal arming elements. Four of these have two symmetrical, bilaterally applied barbs. The fifth specimen (8616) has two unilateral barbs. The sixth, 11540, has a land mammal bone arming element with two unilaterally applied barbs (Fig. 15).

The valves of this latter specimen are also of land mammal bone. The single valve (11209) and the valves of two heads (VII-X-176[1] & [2]) are of either bone or antler. The valves of 4780 are of sheep or cow horn, 8616 antler, and those of 11202(1) mountain goat horn.

The lateral and end channel bed attributes of 4780, 11540, and VII-X-176(1) & (2) are not observable. The two former specimens have neither lashing grooves nor steps. The two latter heads have a single lashing groove step on the dorsal face of each valve. Wrapping makes the presence or absence of rivets unobservable on all four heads.

Specimen 8616 has a bound channel bed with neither lashing grooves nor steps. Both the presence or absence of rivets and channel bed end attributes are unobservable. Head 11202(1) and valve 11209 have unbound channel beds. The bed

of the latter specimen has a straight end-step and a single rivet hole. The presence or absence of these attributes are not observable on the head. Neither specimen has lashing grooves nor steps (See Table II). Valve 11209 (Fig. 16) measures 76 x 17 x 10 mm. Its channel bed measures 16 x 14 x ca. 1 mm. Its foreshaft channel measures 35 x 11 x ca. 6 mm.

None of these Northwest Coast General IIA heads have documentation regarding function.

#### Type II, non-subtype IIA heads

There are four type II heads that are not classifiable as subtype IIA.

Specimen 14178 (Fig. 17) has a metal, bilaterally symmetrical barbed arming element, one barb is incomplete, and two copper (?) valves. One valve is spurred whereas the other is unspurred. It is truncated just posterior to the point where the ventral face of the other valve's spur angles out. This head is thus similar in spur attributes to the Ic heads discussed above. Lanyard attachment is facilitated by the presence of a drilled line hole just anterior to the closed end of the foreshaft socket. The line hole and socket appear to have been drilled after the two valves and arming element were welded together. The channel beds are unbound and unstepped.

Two specimens (11202[2] & [3]) have one-piece, socketed unspurred bodies (Fig. 18). Both socketed bodies are made from a single piece of metal that has a conical shape with a single, unjoined seam where the two longitudinal edges of the

metal meet. String wrapping on the dorsal faces secure incomplete lanyards, as well as obscuring the anterior ends of each socket, thus making it impossible to determine how the metal arming elements are joined to the sockets. Both arming elements are bilaterally barbed with two symmetrical, removed barbs and a rectangular shank.

The fourth specimen (11202[4]) is similar in construction to the above two heads (Fig. 19). It also has a bilaterally barbed metal arming element with two symmetrical, removed barbs. The rectangular shank is longer and the barbs shorter. The conical body differs in being made from two unspurred, wooden valves. Almost the entire dorsal face is obscured by a string wrapping which secures the incomplete lanyard. The lanyard is set in a very long lashing groove.

None of these specimens have any functional documentation. The three unspurred specimens have no specific provenance other than Northwest Coast General. The single spurred specimen is Nootkan.

#### Types III and IV

Types III and IV, as tentatively defined in Chapter II (pp. 12), are differentiated on the basis of the presence or absence of barbs or shoulders on the arming element. This means that out of a total of sixty-three specimens that can be classified as either type III or IV, only thirty-nine, which is the number of complete heads, can be assigned to one of the two types. Twenty-four specimens, thirteen heads which lack arming elements, eight single valves and three joined

valve pairs cannot, given the present definitions, be differentiated. This problem arises from the fact that the type definitions are taken from ethnographic descriptions which are of course based on complete specimens. Before assessing the validity of the previously defined types III and IV, an examination of the sixty-three specimens originally thought to be classifiable as such, will be presented.

Out of a total of fifty-two heads, fifty specimens have two valves with equal length spurs. The two exceptions, VII-F-384 and VII-F-681 (Fig. 20) have conical shaped bodies made from two unspurred wooden valves, similar in form to that of specimen 11202(4), discussed above. The thin, metal arming elements are excurvate in form, and are not shanked. The lateral edges of VII-F-384 are unbarbed, whereas the proximal end of one lateral edge of VII-F-681 forms a square shoulder with the body. Neither arming element appears to have a basal notch. Although the valves of both specimens are wrapped and pitched, there is no evidence of a lanyard or for a means of lanyard attachment. If this is in fact the case, neither specimen can be classified as a harpoon head.

Specimen VII-F-384 was collected by E. Sapir at Alberni ca. 1913-14 and is documented by him as being a "Butt-end support of fishing spear or sealing spear." Specimen VII-F-681 was collected by A. A. Aarronson and is documented as an "old spear head for sealing." Its province is listed as Nootkan. The functional documentation collected by Sapir appears to support the position that they were not

harpoon heads, but does not clarify the specific use to which they were put. A possible interpretation is that they were used to kill the harpooned animal once it was brought along side the canoe.

Besides the two unspurred specimens discussed above, there are four heads that vary significantly in valve and arming element attributes from the majority of specimens and as such are treated separately. Two specimens, 1339 and 1340 (Fig. 21), are similar heads that both lack their arming element. The decorated valves are of bone, perhaps sea mammal. The valves are secured together with a pitched wrapping of string and bark which attaches short bark lanyards, ca. 123 cm. long in the case of 1339, ca. 70 cm. for specimen 1340. Both specimens have single lashing groove steps on each valve. The valves have flat, unbound channel beds. The thickness of the channels tapers wedge-like from the anterior ends to the unstepped proximal ends of the channel beds which converge together. The wrappings do not pass between the channel bed faces at their proximal ends. The valves of 1339 are both 100 mm. long, those of 1340 are 79 and 80 mm. in length.

Although both heads are incomplete, the catalogue entries indicate that they were originally equipped with mussel shell (Mytilus californianus?) arming elements. Specimen 1339 exhibits a pitch free channel, ca. 2 mm. wide, extending as a depression on the bark wrapping, directly posterior to the arming element channel on the non-lanyard edge. This

attribute indicates that at least one inner edge of the arming element extended below the arming element channel, laying against the body wrapping. The arming element was probably attached by means of pitching. There is no evidence as to whether the arming element was unbarbed, barbed or shouldered.

The functional documentation for specimen 1339 is contradictory: "Whale harpoon, blade made of mussel shell. Seal and sea lion spears." The documentation for 1340 reads "Sea lion harpoon, blade mussel shell." Both specimens were collected in the Barkley Sound area ca. 1909.

Specimens 10151a & b are unusual in being the only heads examined that have slate arming elements. Unfortunately they are not very well documented. They were acquired by either C. F. or W. A. Newcombe as part of the "Humphrey Collection." The catalogue information simply notes that they are models which were collected at Chemainus. Both heads have valves of sea mammal bone with flat unbound channel beds. The posterior ends of both arming element channels are obscured by pitched cherry bark wrapping. Neither head has a lanyard nor the remnants of one.

The thin slate arming element of specimen 10151a is triangular in form with beveled edges and bilateral shoulders (Fig. 22). The cherry bark wrapping at the base of the shoulders juts out beyond the lateral edges of the valves, perhaps indicating the presence of a stem.



The thin slate arming element of 10151b has an excurvate form with beveled edges and a large triangular notch (Fig. 23). The method of hafting is unusual in that the arming element is not attached to the valves in the middle of the basal notch, as is the case with specimen VII-F-419 (Fig. 24), but to one of the 'barbs' formed by the notch. The result is that the arming element has a very large unilateral barb. The stem that facilitates the hafting is secured to the valves by two separate wrappings of pitched cherry bark. The posterior wrapping has a lashing groove step at its anterior margin on the dorsal face of each valve.

#### Nootkan 'whaling-type' heads

There are fifty-seven specimens grouped under the rubric Nootkan 'whaling type' heads (Table XV). Fifty-two specimens are documented as Nootkan, four as Northwest Coast General, and one specimen as Kwakiutl.

None of the arming elements are shanked. They are equipped with a large basal notch, usually trianguloid in form. Seventeen are excurvate and unbarbed (Fig. 25), one is excurvate and bilaterally barbed (Fig. 24), two are excurvate with a unilateral shoulder (Fig. 26), and one is excurvate with two bilateral shoulders (Fig. 27). Eight arming elements are incurvate-excurvate and unbarbed (Fig. 28). One is pentagonal and unbarbed (Fig. 29). Four unbarbed specimens were not recorded as to outline form.

All complete specimens have thin metal arming elements except for one, VII-F-40 (Fig. 30), which has a Mytilus

californianus arming element, the reported pre-contact material used (Drucker 1951:31).

The valves of the twelve 'whaling-type' heads that lack arming elements, but are equipped with lanyards, are secured to each other by a braided sinew wrapping that passes through the posterior end of the arming element channel (See Waterman 1920:34). This attitude is also observable on eight heads that have their arming element. This attribute is not present on the eight single valves and the three joined valve pairs. It is also not present on specimen VII-F-419 which has an arming element but lacks a lanyard. The valves in this case are not bound together with sinew but by a commercially produced string.

Forty-one of the fifty-seven specimens have unbound valve channel beds (Figs. 31, 32, 33). Sixteen are not recorded. None of the specimens have bound channel beds. It is highly unlikely that any of the sixteen unrecorded specimens are bound in that all have a thin, flat, arming element that is not shanked.

Of the forty-one unbound specimens, twenty-nine have posterior channel bed ends that are not observable (See Table II). Twelve specimens have channel bed ends that are observable. Ten of these have curved end steps (See Figs. 31, 32, 33) and two have straight end-steps. The two valves with straight end-steps, 2195a & b, are atypical in that they were recovered from a shell midden at Friendly Cove. All other valves and heads were collected ethnographically. In thirty-nine specimens the presence or absence lashing grooves or

steps was not observable. In eighteen specimens the presence of a single lashing step on the dorsal valve face was recorded (See Figs. 31, 32, 33). No other combination of steps or grooves was observed. In the case of specimen 5060b only one valve was observed to have a lashing groove step, the other valve's dorsal face is obscured by wrapping. The step on the latter valve is thus only attributed. Nine of the ten specimens with bound and curved end-stepped channel beds have the single lashing groove step on each valve dorsal face. The presence or absence of this trait is unobservable on the tenth specimen (2188).

None of the specimens show the presence of rivets. The presence or absence of rivets is not observable on thirty-one specimens. Twenty-six specimens definitely lack rivets.

Sixteen specimens have decorated valve spurs. One specimen, VII-F-401, has decoration on just one valve spur, decoration being absent from the other spur. Specimen 2195a (Fig. 34a) shows decoration on the valve spur whereas 2195b is eroded to such an extent that the presence of decoration is not observable. Head VII-F-85 is unusual in having the dorsal faces opposite the channel beds decorated as well as the dorsal faces of the valve spurs. Thirty-nine specimens have undecorated valve spurs.

One head is documented as being used for seal, eight as sea lion, nineteen as whaling heads, two as main whaling heads, and four as auxiliary whaling heads. The one head that is documented as being used for sealing, VII-F-305, came to the National Museum of Man as part of a collection that

belonged to the Department of Indian Affairs. The function recorded for a head of this type is so atypical, and the collection information so sketchy, that the attribution must be dismissed as erroneous. Twenty-three specimens have no functional documentation.

The average head length for documented sea lion heads is 154 mm. ranging between 126 and 167 mm. (See Table XVI). This contrasts with the 177 mm. average length of all Nootkan 'whaling-type' heads which range between 126 and 192 mm. (See Table XV). Valve length varies between 101 and 137 mm., with the average being 127 or 124 mm. The smaller figure includes estimated measurements. This contrasts with the total sample of Nootkan 'whaling-type' specimens where valve length ranges from 101 to 192 mm. with the average being 136 mm.

Five of the eight documented sea lion specimens are complete heads, one, VII-F-419, is a head without a complete wrapping and lanyard, and two are valve pairs bound together. Six of the specimens were collected at Alberni by E. Sapir in 1910 and ca. 1913-14. Specimen 2196 was collected by C. F. Newcombe in 1912 at "Nootka." The latter term usually refers to the Moachat village of Yuquot, also called Friendly Cove. The eighth specimen, 9769, from the Newcombe Collection, was collected at Ucluelet. It has no collection date.

The five complete heads are all equipped with short lanyards, ca. 1 metre. Specimens 2196, VII-F-27, -28, and -29, have one-piece, unserved, hide lanyards. The lanyard

material of the other three heads is not specified. Specimen 9769 has a two-strand, each strand individually wrapped, twisted sinew lanyard.

The arming elements of VII-F-27, -28, and -29 are incurvate-excurvate and unbarbed. Specimens 2196, 9769, and VII-F-419 have arming elements which are excurvate in outline. The arming element of 9769 has bilateral shoulders, while that of VII-F-419 is bilaterally barbed. The shoulders of 9769 are small and rounded. They are formed at the posterior ends of the lateral arming element edges, where they curve to meet the edges of the valves. It is unlikely that they had any functional purpose. Specimen 2196 has a small, square shoulder on the non-lanyard edge of the arming element. Its small size indicates that it probably had no retentive function. Whereas the average arming element width of all other complete Nootkan 'whaling-type' heads is 64mm., ranging between 40 and 94 mm., the average width for the arming elements of documented sea lion heads is 42 mm., ranging between 36 and 52 mm.

Three of the eight specimens, 9769, VII-F-400 and -401, have decorated valves. One of the valve pairs, VII-F-401, is unusual in having only one valve spur decorated.

Although twenty-five specimens are documented as whaling heads or valves, only six heads, collected by E. Sapir at Alberni in 1910 and ca. 1913-14, have detailed information on specific function. Specimens VII-F-398a, b, c, d, and e, are described as a "Whaling outfit consisting (a) of main

harpoon for spearing and (b)-(d) three smaller harpoons for towing . . . Also (e) another harpoon." Specimen VII-F-72 is described as a "Whaling harpoon . . . for attaching of floats to float whale." The four auxiliary heads, VII-F-392b, c, d, and VII-F-72, all have short, ca. 1 metre, three-strand twisted sinew lanyards. These four heads appear to be what Drucker (1951:31) calls "spare" harpoon heads "made up with short lanyards, and . . . used to make fast additional floats for buoying up the dead whale."

The two documented main heads, VII-F-398a & e, by contrast have long, ca. six metres, three strand, twisted sinew lanyards. VII-F-398a is 184 mm. long, VII-F-398e is 181 mm. long. Their valves range between 126 and 132 mm. in length, their average length thus being 129 mm. The lengths of the auxiliary head's valves range between 115 and 131 mm., with the average being 122 mm. (Table XVII). The 7 mm. difference in average valve length may or may not reflect a real difference in valve size for the two functional varieties given a more representative sample.

None of the six specifically documented specimens have decorated valve spurs (See Table II).

Included within the nineteen specimens documented as whaling heads but undifferentiated as to whether they are auxiliary or main heads, and the twenty-three specimens without any functional documentation, are two heads with short, one-piece, hide lanyards, and three heads with short, three-strand twisted sinew lanyards.

Specimen VII-F-308, which is missing its arming element, was collected in the Barkley Sound area and is documented as a whaling head. Its short, unserved, one-piece lanyard is recorded as being from sea lion hide.

Specimen 2189 has no specific recorded province or function. It has a thin, flat, excurvate, metal arming element 43 mm. wide, with a single, small, ca. 6 mm. wide, shoulder on the non-lanyard edge, reminiscent of specimen 2196. The lanyard of 2189 is recorded as being made from elk "skin." It is unserved. The latter head is 157 mm. long. Its valves measure ca. 130 and ca. 128 mm. long. Specimen VII-F-308 has valves which are 130 and 126 mm. in length. The valves of both specimens are undecorated.

The valve lengths, the one complete head length, and the one arming element width, as well as the presence of the one-piece, unserved, hide lanyards, suggest that these two specimens were probably used as sea lion harpoon heads.

The three heads with short, three-strand, twisted sinew lanyards were all collected on the west coast of Vancouver Island. Specimens 1224 and 2190 were collected by C. F. Newcombe, the former from Ohiat in 1900, the latter, also from the Barkley Sound area in 1911. Specimen VII-F-644 is part of the Bossom Collection, apparently acquired ca. 1900. It has no specific province except Nootkan.

Specimens 1224 and VII-F-644 are recorded as being whaling heads. Specimen 2190 has no recorded function. All three heads have a thin, flat, unbarbed, metal arming element.

The arming element of 2190 is incurvate-excurvate in form, whereas those of the other two heads have an excurvate outline. The valves of all three heads are undecorated.

Head 1224 is 148 mm. in length with its valves being 104 and 108 mm. long. Specimen 2190 is 173 mm. long. Both of its valves measure 130 mm. in length. Specimen VII-F-644 is 261 mm. in length and its valves are 191 and 192 mm. long. In comparing these three heads with the four that have short, three-strand, twisted sinew lanyards (See Table XVII), and are recorded as being auxiliary whaling heads, it is difficult to draw conclusions. Specimen VII-F-644 is not only much larger than the four recorded auxiliary heads, it is the largest "whaling type" head examined (See Table XV). Specimen 1224 is somewhat smaller in both overall and valve length than the recorded auxiliary heads.

Specimen 2190 is the only head of the three that has head and valve lengths that fit within the ranges of the four recorded auxiliary heads. The arming element widths of 1224 and 2190 approximate the average for recorded auxiliary heads, 62 mm., whereas that of VII-F-644, at 94 mm. is far outside the range of 55 to 62 mm.

Although the comparative sample of auxiliary whaling heads is very small, on the basis of this evidence it would appear reasonable to attribute specimens 1224 and 2190 to the functional category of auxiliary whaling head. Even though VII-F-644 has a short, three-strand, twisted sinew lanyard, its extreme size precludes its inclusion in this category.



Assuming that its short lanyard length did not result from accident, perhaps it represents a spare main head. Although Waterman (1920:32) notes that spare heads were carried by each whaling canoe, he does not state their exact function. Drucker, as noted above, claims that the "spare" heads were not used to harpoon the whale but to attach additional floats to prevent the dead whale from sinking. Drucker (1951:31) also notes that these heads were smaller which is obviously not the case with specimen VII-F-644.

There are twelve heads with long, three-strand, twisted sinew lanyards in addition to the two specimens documented as main harpoon heads. Six are recorded as whaling heads, while seven have no functional documentation. All are Nootkan in provenience except 9509 which is Northwest Coast General. One specimen, SFU-A, apparently Makah in origin, has a three-strand hemp rope lanyard. Five specimens have decorated valve spurs.

Nine Nootkan heads, three with no functional documentation, one recorded as a sealing head, and five recorded as whaling heads have three-strand, twisted sinew lanyards that are attributed as long. Four of them have decorated valve spurs.

There are four heads with three-strand, twisted sinew lanyards that were not recorded as to length and cannot be attributed. Two are Nootkan in provenience, one is Kwakiutl, and one is Northwest Coast General. Only the Kwakiutl head, collected by George Dawson in 1885 at Alert Bay, is recorded

as a whaling head. The other three heads have no functional documentation. One head, 5060e, has an incomplete twisted sinew lanyard. In the case of specimen VII-F-71, which has decorated valves, neither the length nor the structure of the lanyard was recorded.

Although there are only two documented main heads, both have long, three-strand, twisted sinew lanyards. In conjunction with the fact that the four documented auxiliary heads have short, three-strand, twisted sinew lanyards, it is reasonable to assume that these less well documented heads, discussed above, that have long, three-strand, twisted sinew lanyards, including the one specimen with a hemp lanyard, are in all probability main whaling heads.

Of a total of three bound valve pairs, and eight individual valves comprising four pairs, only two of the joined pairs, VII-F-400 and 401, recorded as sea lion valves, have a specific documented function. Two decorated valves, SFU 3519a & b, are recorded as whaling valves. Except for 11461(1) & (2), which are Northwest Coast General, all valves are attributed as Nootkan.

On the basis of valve attributes alone, it is virtually impossible, or at best questionable, to assign specimens to one of the functional categories filled by Nootkan "whaling-type" heads. Simply in terms of size, only specimens 11461(1) & (2) (Fig. 32, both 120 mm. in length, fit within the ranges of documented sea lion and auxiliary whaling head valves. Specimens 2195 a & b are amongst the largest of all

valves examined, and as such probably are from a main whaling head. In all probability, specimens SFU 3159a & b, given their size, 139 and 140 mm. respectively, and the fact that they are decorated, are valves from a main whaling head. Specimen 2194 with two undecorated valves, both 153 mm. long, and undecorated specimens 10064a & b (Fig. 31), 141 and 142 mm. long, may in fact be main whaling head valves.

Summary: Nootkan "whaling-type" specimens

In summary it appears advisable to discard types III and IV as previously defined. In their places a redefined type III, based on the foregoing examination of the Nootkan "whaling-type" specimens can be made:

Type III: socketed heads with a thin, wide, generally excurvate in form, arming element with a large basal notch.

The arming element is usually unbarbed but may have small unilateral or bilateral shoulders. (The arming element may on occasion be barbed.) The heads have two valves with equal length spurs, laterally unbound and curved end-stepped channel beds, and a single lashing groove step on the dorsal face. They may be decorated or undecorated. The valves range in length from 101 to 192 mm. This morphological type (Steward 1954:34) is characteristic of Nootkan culture. It subsumes three functional subtypes: main whaling heads, auxiliary whaling heads, and sea lion harpoon heads.

Thus, all Nootkan "whaling-type" specimens can be classified as type III. The only exceptions to this are the two valves, 2195a & b, which lack the curved end-step. Because

there are only two examples of this variation, it is difficult to assess their position. The fact that they were recovered from a shell midden may indicate that they represent an earlier type of whaling valve not known historically.

The other six specimens which are not classifiable as type III must be treated as individual cases given the numbers available for examination. Specimens 10151a & b, the model heads collected at Chemainus on the east coast of Vancouver Island, may represent examples of the pre-contact type of sea mammal head used by the Coast Salish. Specimens 1339 and 1340 are unique and cannot be included within the previously presented types. It is possible that they represent the pre-contact form of small sea mammal harpoon heads, perhaps seal or porpoise. Specimens VII-F-384 and VII-F-681, because they lack evidence of lanyard attachment, cannot be classified as harpoon heads. They may have some relationship to the implement that was used to hamstring the harpooned whale (Drucker 1951:31), although the catalogue information does not attribute them with this function, nor do they resemble Drucker's description of these implements as having "a wide flat chisellike blade" (1951:31).

#### Miscellaneous specimens

Specimen 14183 is composed of two sea mammal valves with equal length spurs and fragmented anterior ends. It has an incomplete Mytilus californianus arming element. The arming element has parallel, unsharpened edges, and is broken at right angles to the edges. All three pieces are bound

together by loose, shredded, red cedar bark which is sparingly wrapped with black sewing thread. A cord lanyard is attached. Not only is this head not classifiable, it probably did not function as a hunting implement. Two alternate explanations regarding its function are that it was used in some ritual context, or it represents an item thrown together for sale to the white man. The incomplete valves are probably from a damaged subtype IIA Nootkan sealing head.

Specimen 11464b is an antler valve blank with a Northwest Coast General provenience, and no recorded function. There is neither a foreshaft channel nor an arming element channel bed. It is probably a blank for a subtype IIA valve.

## CHAPTER V

## CONCLUSIONS

A number of ethnographically collected harpoon heads and valves have been examined and classified. The aim of the classification has been to develop a typology that reflects the culturally recognized functional harpoon head types known historically on the Northwest Coast.

The methodology employed involved a setting-up of a standardized terminology for harpoon head attributes. This terminology was then applied to the ethnographic descriptions available in the literature. Once the morphological-functional types had been defined for the various linguistic groups, this typology was applied to the data in order to clarify and specify the formal attributes of the previously defined types, or, conversely, to modify and redefine those types presented in the literature in light of the substantive data.

The aim of the classification was to define types for the different linguistic groups so that it would be possible to specify differences between, for example, Kwakiutl and Nootkan salmon harpoon heads. Unfortunately, the small size of the sample has made this impossible. As a result only broader statements can be made regarding functional types and their distributions.

At the end of Chapter III four morphological-functional types and their various subtypes were defined. The presence of types I and II were confirmed in the data, whereas types III and IV had to be redefined in terms of the specimens examined. Both the latter types were dropped and a redefined type III was introduced. The factors leading to the rejection of the originally defined types III and IV are multiple. First of all the descriptions of harpoons available in the literature are generally vague concerning structural details. Secondly, clear distinctions are not always made between historic types and pre-contact forms. The structural changes that have occurred, often made possible by the nature of the new materials, e.g. metal, were not always known. If informants did have information on pre-contact types, the knowledge was usually second-hand, and often so vague as to be unusable. The originally defined type IV, of which the model specimens 10151a & b (Figs. 22, 23) would be examples, probably reflects a pre-contact type of southern, e.g. Coast Salish, Nootkan, and Kwakiutl, sea mammal harpoon head. This posited type appears to have been replaced by the subtype IIa, the historically known small sea mammal head used by the latter groups. If the type IV does reflect a pre-contact form, its absence in the data can be accounted for by the fact that the specimens represented in the sample were all collected in the late nineteenth or early twentieth century, well after the adoption of European metals by native craftsmen.

In discussing the attributes of the various types and subtypes, the focus of interest is shifted from the complete heads to the constituent valves. This narrowing of focus is made in order to accomplish the primary aim of this study, to provide archaeologists with a sound basis for making use of ethnographic analogy in attributing function to valves, the most common harpoon part recovered through excavation.

### Type I

Type I includes subtypes Ia, Ia', Ib, Ic, and Id. All subtypes are used primarily to harpoon salmon, although they were also used on other species of fish which spawn in rivers and creeks (excluding sturgeon).

### Subtype Ia

The most widely distributed is subtype Ia, the common salmon harpoon head used by the Coast Salish and Nootkan, and, although there are no examples in the data, by the Kwakiutl, Bella Coola, and Tsimshian (Drucker 1950:167, element 39, 40, 41). A number of statements can be made about Ia valves:

- they are undecorated.
- they lack lashing grooves and lashing groove steps.
- none were observed to have rivets or rivet holes.
- they have laterally bound channel beds, that is none were observed to have laterally unbound channel beds.

Because all specimens examined were complete heads, little can be said about the posterior end attributes of the arming element channel beds. Valve length, based on eighteen specimens, ranges between 48 and 111 mm. with an average of 65 mm.



### Subtype Ia'

Subtype Ia' heads appear to be differentiated from Ia heads by having thin, rectangular arming elements with corresponding laterally unbound valve channel beds. These attributes contrast with the square or cylindrical arming elements and bound channel beds of the Ia specimens. The valves of the Ia' heads have lashing grooves and a longitudinal profile that is similar in thickness from the apex of the two ventral faces of the spurs to the spur ends. In the case of Ia specimens, the thickness of the valves at the apex of the ventral spur faces is noticeably greater than the thickness at the spur ends (See Fig. 35). In other words the longitudinal dorsal and ventral outlines of the Ia' valves from the apex of the spurs to the spur ends are generally parallel, whereas the two outlines converge toward the spur ends on the Ia valves. On the basis of the extremely small sample, Ia' heads are attributed to the Haida, and according to the literature, the Tlingit (Emmons n.d.:7-8). On the basis of four specimens, valve length ranges between 59 and 111 mm. with an average of 82 mm.

### Subtype Ib

Little can be said about subtype Ib other than that this subtype has only been reported for the Coast Salish (Duff 1952:61). Although it is morphologically separable from the subtype Ia heads on the basis of its one-piece construction both subtypes exhibit the same functionally important attributes, e.g. a shanked, unbarbed arming capacity, two

bilaterally opposed, divergent spurs, and a basal socket. In addition, they were both used for the same purpose. The single Ib head is 99 mm. long.

#### Subtype Ic and Id

Subtype Ic and Id heads are found historically among the Haida and Tlingit. Although the two subtypes are morphologically separable, the Ic heads, which are made entirely from metal in the two cases examined, as well as the one example illustrated in the literature (Niblack 1890:Plate XXIX, Fig. 137), may be an evolved form of the Id head. In both Id specimens examined, the unarmed and spurred valve is made from sheep horn, and the one example illustrated by Niblack (1890:289, Fig. 137e) is made wholly of bone. If in fact the two subtypes represent what might be called an evolutionary "sequence," the dropping of the second, spurred valve for an unspurred valve may have been facilitated by the nature of the new material, e.g. metal. The two self-armed and spurred Ic valves measure ca. 28 and ca. 32 mm. in length. The two self-armed and spurred Id valves measure 137 and 156 mm. in length. The two unarmed and spurred Id valves are 56 mm. long.

#### Type II

The type II is the historic, small sea mammal harpoon head used by the Nootkan, Coast Salish, and Kwakiutl. The bulk of the type II specimens are classifiable as subtype IIa. One is a Nootkan head with a single spurred, two-piece, metal, valved body. Two heads have one-piece, unspurred, metal, socketed bodies. The fourth has a two-piece, unspurred, wooden,

valved body. The latter three heads have no provience other than Northwest Coast General, but are in all probability Nootkan. It can be assumed that they represent twentieth century variants of the subtype IIA. One Haida specimen is equipped with a detachable foreshaft, and is thus classified as subtype IIA'.

#### Subtype IIA

Subtype IIA valves, based on a sample size of 45 specimens, range in length between 57 and 105 mm. with an average length of 81 mm. The following statements can be made about IIA valve attributes and attribute combinations:

- some valves are made from metal.
- they are undecorated, with a single exception in the data.
- they are often equipped with rivets, or rivet holes.
- they often have lashing grooves and steps, or just lashing groove steps.
- they have both bound and unbound channel beds.
- if the channel beds are unbound and the dorsal faces have neither lashing grooves or steps, the valves will be equipped with rivet holes.
- if the channel beds are unbound and not equipped with the rivet holes, the dorsal face of the valves will have lashing grooves and/or steps.
- if the channel beds are bound but do not have rivet holes, they will have expanded, straight end-steps.
- if the channel beds are bound with straight end-steps

and the dorsal faces lack steps or grooves, the valves will be equipped with rivet holes.

As noted in Chapter II (pp.6 ) all harpoon heads have a retentive capacity. In the case of subtype IIa this capacity was facilitated by the barbed arming element. It was thus necessary to construct the head in such a way that the pull of the harpooned animal against the arming element did not pull the latter adrift from the valves. This was often facilitated by the use of rivets (See Fig. 12b) which were introduced with European metal technology. In the case of valves without rivets, two combinations of attributes were used. Where valves have bound channel beds and no rivets, the arming element was made secure by a rectangular expansion at the posterior end of the channel bed (See Fig. 11). Thus the small shoulders created by the corresponding rectangular expansion at the end of the arming element (See Fig. 12a) secured it within the channel bed expansion. In the case of unbound channel beds and no rivets, the arming element shank was equipped with a lateral notch or notches (See Fig. 10) which were then bound in line with corresponding lashing grooves and/or steps on the valve dorsal faces.

### Type III

Type III specimens are the most numerous type present in the data, comprising approximately forty-five per cent of the total sample. Type three specimens are not only characteristic of Nootkan culture, they appear to be strictly limited to it. Of a total of fifty-three specimens with

specific province, fifty-two are attributed as Nootkan in origin, while one is attributed to the Kwakiutl.

Type III valves are a morphological type that were used in the construction of three identifiable, functional variants. When type III valves were combined with a generally excurvate in form arming element, and a long (ca. six metres), three-strand, served, twisted sinew lanyard, the resultant head functioned as a main whaling head, used in the initial harpooning of the whale. When the valves and arming element were combined with a short (ca. one metre), three-strand, served, twisted sinew lanyard, the completed head was used to attach seal skin floats to the dead whale in order to buoy it up and make it easier to tow. The third identifiable variant involved the attachment to the wrapped type III valves to a short (ca. one metre), one-piece, unserved hide lanyard. This head was used to harpoon sea lion.

Type III valves, on the basis of 99 specimens, range in length from 101 to 192 mm., with an average length of 136 mm. The following statements can be made about type III valve attributes:

- they can be decorated or undecorated.
- they do not have rivet holes.
- they have a single lashing groove step on the dorsal face, located opposite the posterior end of the arming element channel bed.
- the channel beds are laterally unbound with curved end-steps.

Although it appears possible to attribute function to complete type III specimens on the basis of lanyard attributes, little confidence can be given to an attribution of function to valves that are not part of a head equipped with a complete lanyard. Type III valves documented as sea lion, based on a sample of thirteen, range in length from 101 to 137 mm., with an average length of 124 mm. Three of the eight specimens have decorated valve spurs, actually a total of five decorated valves as one of the valve pairs has only one decorated spur. None of the four documented auxiliary whaling heads have decorated valves. Based on a sample size of eight, auxiliary whaling valves range in length from 115 to 131 mm. with an average length of 122 mm. The four documented main whaling head valves range in size from 126 to 132 mm. with an average of 129 mm.

In discussing the results of this study, it is necessary to state the three basic aims of the typology:

1. To discover correlations between the formal attributes of socketed harpoon heads and recorded function.
2. To delineate at the level of the linguistic group (e.g. Nootkan, Coast Salish) the spatial distribution of defined types.
3. To define morphological-functional types so that archaeologists will have a sound typology on which to base functional attributions using the method of ethnographic analogy.

It has been possible to correlate the socketed head attributes, shanked, unbarbed arming element combined with one or two basal spurs and the function of harpooning salmon and other fish of a similar nature and size. This morphological-functional type, herein called type I, was apparently used exclusively by the Coast Salish, Nootkan, Kwakiutl, Bella Coola, Tsimshian, and Haida to harpoon salmon, and, in the case of the Coast Salish, trout and other species (excluding sturgeon). Composite, three-piece, varieties with equal length spurs mounted on fixed foreshafts, defined as subtype Ia, were observed within the data for the Coast Salish and Nootkan. No examples of this subtype were examined for the Kwakiutl, Bella Coola, and Tsimshian, although Drucker (1950:167, element 41) records its presence among these groups. On the basis of the twelve specimens examined, it was not possible to differentiate between the Nootkan and Coast Salish Ia heads in either formal or metric terms. Salmon heads with detachable foreshafts are recorded for the Tlingit and Haida (Dawson 1880:144b; Drucker 1950:238, element 41b; Emmons n.d.:7-8; Niblack 1890:289). Four Haida type I specimens with detachable foreshafts, comprising two subtypes, are present in the data. Subtype Ia' has two equal length, spurred valves and a separate arming element. Subtype Ic has a self-armed and spurred valve and an unspurred and unarmed valve. A third subtype, Id, defined on the basis of two Haida specimens, is very similar to subtype Ic, having a two-

piece construction with one self-armed and spurred valve, and one unarmed and spurred valve. The spur of the unarmed valve is much shorter than that of the self-armed valve. Within the data is one example of an additional subtype of type I, referred to as subtype Ib. This subtype is reported only for the Upper Stalo Coast Salish. It has a one-piece construction with a shanked, unbarbed arming portion, and two bilaterally opposed, basal spurs. Unfortunately the specimen in the data has no cultural provenience other than Northwest Coast General. Evidence for the use of socketed heads with barbed arming elements for harpooning salmon is very minimal. There is one reference for the Coast Salish Homathko and Klahuse (Barnett 1939:229, element 31), and a single illustrated reference for the Tlingit (Niblack 1890:290, Fig. 150a). No examples of socketed heads with barbed arming elements documented as salmon harpoon heads were encountered in the data. The use of tanged heads for taking salmon is well documented for the Tlingit (de Laguna 1972:385, Fig. 41; pp. 1029, Plate 112; 1034, Plate 117; Drucker 1950:168, element 41a). Barnett (1939:229, elements 33-35) records the possible use of tanged heads to take salmon by the Coast Salish Sliammon and the Campbell River (Lekwiltok) Kwakiutl. Whereas the tanged head appears to have been commonly used by the Tlingit to harpoon salmon, its use by the Sliammon and Lekwiltok was certainly secondary to the type I head. It should be noted that Drucker (1950:168, element 41a) initially only lists the Tlingit as having used tanged heads for harpooning salmon,



but in a later publication (1955:25-26; pp 33 Fig. 9d) he states that "most Tlingit, Haida, and Tsimshian salmon harpoon" heads were of the tanged variety. A total of thirty-nine tanged specimens were examined. A single Tsimshian head, VII-C-488, was documented as being used for "sealing and fishing." An attached note indicates that the information in the documentation is not to be considered reliable (See Appendix B, pp.298).

A morphological-functional type was defined which appears to be strictly limited to the Nootkan groups of the west coast of Vancouver Island and their southern relatives, the Makah of Cape Flattery. This type, referred to as type III, may also be present among the Quileute, Quinault, Klallam, and Chemakum (Drucker 1955:34), groups which learned the technique of whaling from their neighbours, the Makah. Type III heads have a composite, three-piece body made up of two valves with equal length spurs and a thin, generally excurvate and unbarbed arming element with a large basal notch. Depending upon the type of lanyard, and perhaps the overall size of the head, type III heads have at least three documented functions, main whaling heads, auxiliary whaling heads, and sea lion heads. Sample size and vague documentation make it impossible to attribute function to type III specimens simply on the basis of valve attributes.

Harpoons were also used by most Northwest Coast groups to hunt small sea mammals ranging from the sea otter to the sea lion, but excluding whales which were only hunted by the

Nootkan and some neighbouring groups on the Olympic Peninsula. A number of sources record that the northern groups, the Tlingit, Haida, and Tsimshian, commonly used tanged heads. The only statements recording the use of socketed heads for sea mammal hunting by the northern groups are by Niblack (1890:289) in which he claims that the Haida "adapted" the Ic head to harpoon "even the sea otter;" by Drucker (1950:171, element 128a) stating that the Tlingit occasionally harpooned seal with a socketed head mounted on a detachable foreshaft; and finally by de Laguna (1960:111) who also states that the Tlingit harpooned seal with a two-piece, socketed head. The Tsimshian, Haida, and Tlingit specimens examined, which were documented as sea mammal heads, were all of the tanged variety.

Socketed heads with barbed or shouldered, shanked arming elements, designated type II, are reported to have been used by the Coast Salish, Nootkan, Kwakiutl, and Bella Coola for hunting sea mammals (Drucker 1950:171-173, elements 125, 126, 147, 151, 182). Nootkan and Coast Salish type II specimens documented as sea mammal heads, are present in the data. No socketed specimens attributed as Kwakiutl or Bella Coola are present. None of the type II specimens have shouldered arming elements, all are barbed. Among the Nootkan, the type II small sea mammal head with its barbed, metal arming element, had been used "for more years than modern folk-memory encompasses" (Drucker 1951:26). Drucker's informants could only speculate that the premetal type was perhaps a small edition

to the type III "whaling" head (1951:26). Suttles reports that the Straits Coast Salish premetal small sea mammal head had a "flat" bone, antler, stone or shell (Mytilus californianus) arming element (1952:10) with a "single barb on one side" (1951:106). Although it is speculative, it would appear that neither the Nootkan nor Coast Salish premetal small sea mammal head had a shanked arming element. A possible explanation is that a narrow shank of non-metal material would be more prone to break than a wide arming element that is not shanked. The presence of two type II heads with bone arming elements makes this hypothesis suspect. Although the two latter arming elements are of an aboriginal material, the form of one, (See Fig. 36) appears to be essentially a copy of the common, bilaterally barbed, metal variety. Two type II specimens were examined which are attributed as Haida, a group that did not commonly use socketed heads for sea mammal hunting. One specimen has a very shaky provenience, and in all probability is falsely attributed. The second Haida type II is unique in being the only specimen of this type mounted on a detachable foreshaft. The presence of a type II firmly documented as Haida is not easily accounted for. Perhaps the fact that the earliest fur sealing schooners were sometimes jointly crewed by Haida and Nootkan hunters (Spring 1972:5) might lead one to investigate the possibilities of diffusion.

There is no evidence for Nootkan groups using a tanged form of sea mammal head. Barnett (1939:233, element 220) does report the use of a tanged head for the Coast Salish

Pentlatch, Comox, and Sliammon, though at a later date he states that "If this type . . . existed in this area at all, it must have been quite rare. It certainly was not typical." (1955:99). The evidence for the use of a tanged head amongst Kwakiutl groups is much firmer (Barnett 1939:233, elements 220, 234; Drucker 1950:171-173, elements 126, 151, 182). The Lekwiltok (Barnett 1939:233, element 220), Koskimo, Owikeno, and Bella Bella (Drucker 1950:171, element 126) used a tanged head for seal; the Lekwiltok (Barnett 1939:233, element 234), Koskimo, and Bella Bella (Drucker 1950:172, element 151) for porpoise; the Koskimo, Owikeno, and Bella Bella (Drucker 1950:173, element 182) for sea otter. The Owikeno and Bella Bella participated marginally in the areal culture of Drucker's Northern Province, one of the chief features of which was the tanged harpoon head (Drucker 1955:187). The presence of the tanged form amongst the two Northern Kwakiutl groups can thus be explained by a situation of cultural contiguity, but its presence among the Southern Kwakiutl Lekwiltok and Koskimo is difficult to explain. The only tanged head examined with a southern or central province was a Bella Coola specimen documented as a seal or sea lion head (See Appendix B, pp.296).

The archaeologically known pattern on the south coast is that tanged forms are replaced by socketed heads (Borden 1970:96, Fig. 29; Mitchell 1971:52). Archaeological information from the central coast area of the ethnographically known Southern Coast Tsimshian, Northern Kwakiutl, and Bella Coola, is only beginning to be published, and as such is difficult to

interpret. Simonsen recovered eighteen tanged heads from the Grant Anchorage site (1973:47). None were from the most recent levels (Simonsen 1973:110, Fig. 23) which have a radio-carbon date of A.D. 1470  $\pm$  90 (Simonsen 1973:67). Luebbers reports the presence of tanged heads at Namu, occurring from approximately 4500 B.P. to approximately 1800 B.P. (1971:92-95; pp. 106, Fig. 20). Drucker (1943:90, Table 4) recovered a basal fragment of a tanged harpoon head at a Bella Bella site on Roscoe Inlet approximately thirty-three inches from the surface. Simonsen (1973:48) recovered a single socketed valve fragment from the Grant Anchorage site in level four of test trench c (1973:110, Fig. 23). Simonsen (1973:55) reports the presence of fourteen self armed valves with basal rockets. It is not clear if they are spurred. They are also present at Namu and Kisameet Bay in recent levels (Luebbers 1971:96). Luebbers (1971:106, Fig. 20) reports the presence of two socketed valves and one valve blank from the upper levels of the Namu midden. He describes them as being similar to Drucker's (1943:40, Fig. 4a) type I with a laterally bound and straight-end-stepped channel bed. Drucker reports the presence of socketed valves with unbound and straight end-stepped channel beds from recent levels of the Roscoe Inlet site (1943:90, Table 4) and a Owikeno site in Schooner Passage (1943:103, Table 7). Carlson (1972:49, Table 4) reports the presence of both socketed harpoon valves and tanged harpoon heads from FaSu 2 site located in Kwatna Inlet on the periphery of Bella Coola territory. The two types are present in both the Anutciw and Kwatna phases. Both phases date to after A.D. 400 (Carlson

1972:52) with the Kwatna phase beginning about A.D. 1400 (Carlson 1972:52). A single socketed harpoon valve was recovered from a second Kwatna Inlet site, FaSu 10 (Carlson 1972:54, Table 5). This latter site apparently affiliates with the earlier Anutcix phase (Carlson 1972:55). In the northern area, MacDonald (1969) reports on the presence of harpoons in a number of sites located in the Prince Rupert Harbour, Coast Tsimshian area. He divides the culture history of the area into three horizons, lower, 2500 to 500 B.C.; middle, 500 B.C. to 500 A.D.; and upper, 500 A.D. to 1850 A.D. (MacDonald 1969:20). Tanged harpoons are characteristic of the lower horizon (1969:21), rare in the middle horizon (1969:23), and present along with a few socketed valves in the upper horizon (1969:24). The valves do not have lashing grooves or lashing groove steps, nor are they equipped with a channel bed (MacDonald 1969:24). MacDonald (1969:5) also states that "limited excavations on the Queen Charlotte Islands show an almost identical sequence." Drucker (1943:66, Table 1) reports the presence of a tanged harpoon head, approximately seventy-three inches from the surface at a site on Anian Island, also in the Prince Rupert Harbour area. Severs (1974:9) reports that the site of Blue Jackets Creek, FlUa 4, on Masset Inlet, Queen Charlotte Islands, yielded both tanged harpoon heads and socketed valves with a bound channel bed. The relative chronological positions of the two types is not given. De Laguna et al (1964:131) report the presence of tanged harpoon heads in the Yakutat Bay area at the northern edge of Tlingit territory. No socketed heads were found. Ackerman (1968:65)

records the presence of a tanged harpoon head from a protohistoric component at the Ground Hog Bay 2 site in Glacier Bay, also in Tlingit territory. In summary, the situation through time on the central coast indicates that tanged heads are earlier than socketed heads but that the former type continued to be used, as opposed to the situation in the Gulf of Georgia where they are replaced by socketed heads in protohistoric components. Information from the north coast is very sketchy. In Tlingit territory tanged heads appear to be present from prehistoric levels through protohistoric times to the ethnographic present, while socketed heads appear to be absent. In Tsimshian and Haida territory tanged heads are present from prehistoric times through to the ethnographic present with socketed specimens appearing in late prehistoric or early protohistoric times.

In order to evaluate the results of this study in providing the archaeologist with a sound basis for making use of the method of ethnographic analogy, it is first of all necessary to comment on the nature of the sample. The small number of type I salmon heads and the fact that they were all complete specimens made it impossible to define with any certainty channel bed attributes, particularly posterior end attributes. Perhaps this problem could have been solved if x-ray techniques had been used. The data are deficient in not having any examples of Kwakiutl, Bella Coola and Tsimshian salmon heads, and only a very few Haida examples. Although the sample of type II heads was not large, the presence of some incomplete specimens made it possible to make

statements about channel bed attributes. The problem of defining what small sea mammal socketed heads were present at contact was not solved owing to the time depth of the sample, which is strictly late nineteenth and twentieth century. This problem might be solved by a thorough investigation of the holdings of European museums where substantial collections may exist of specimens collected by Cook, Vancouver, and other eighteenth century explorers and traders (See Gunther 1972:218-220). In terms of type II, the data are very deficient in not having any Kwakiutl or Bella Coala specimens. Type III specimens are well represented both numerically and also by virtue of fact that a number of the specimens are incomplete. The only problem with the type III specimens is that they lack, for the majority of specimens, specific functional documentation. This is particularly frustrating as type III valves were used to form at least three different functional heads.

In summary, an archaeologist working in the territories of the ethnographically known Nootkan and Coast Salish groups can with confidence identify:

- (1) a valve which is undecorated, lacks rivet holes, lashing grooves and lashing groove steps, has a laterally bound channel bed, and is between 48 and 111 mm. (average 65 mm.) in length, as part of a salmon harpoon head.
- (2) a valve which is between 101 and 192 mm. (average 136 mm.) in length, either decorated or undecorated, with a single lashing groove step on the dorsal



face opposite the posterior end of the curved end-stepped and laterally unbound channel bed, which lacks rivet holes, as a whaling or sea lion harpoon part, and that it is of Nootkan origin.

- (3) an undecorated valve which is between 57 and 105 mm. (average 81 mm.) in length which has either one or two rivet holes through an unbound or bound channel bed and no lashing grooves or steps; or a bound channel bed with no rivet holes, an expanded straight end-step, and no lashing grooves or steps; or an unstepped or straight end-stepped, unbound channel bed with no rivet holes, and with lashing grooves and/or steps on the dorsal face as part of a small sea mammal harpoon head used during the historic period.

TABLE I  
 SOCKETED HEAD DISTRIBUTION, NORTHWEST COAST  
 (Based on ethnographic reports)

	C.S.	Noo	Kwa	B.C.	Tsi	Hai	Tli
Salmon	Ia Ib	Ia	Ia	Ia	Ia	Ia' Ic	Ia' Ic Id (T)
Trout	Ia	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.
Sturgeon	IIa IVa	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Seal	IIa IVa (T?)	IIa (IIIIa?) (IVa?)	IIa IVa (T)	IIa IVa	(T)	(T)	(T) Ic(?)
Porpoise	IIa IVa	IIa (IIIIa?) (IVa?)	IIa IVa (T)	N.A.	(T)	N.A.	(T)
Sea Lion	IIa (IIIIa?) (IVa?) (T?)	IIa (IIIIa?) (IVa?)	IIa* IVa*	N.A.	(T)	(T?)	(T)
Sea Otter	N.I.	IIa (IIIIa?) (IVa?)	IIa IVa (T)	N.A.	(T)	(T) Ic(?)	(T)
Whale	N.A.	IIIIa	N.A.	N.A.	N.A.	N.A.	N.A.

Legend:

- T tanged head  
 N.A. not applicable, group did not harpoon the particular resource.  
 N.I. no information available.  
 \* not certain that group exploited the resource with the harpoon.  
 (?) particular function reported for subtype is questionable.  
 (Xa?) ethnographic information not specific, presence of subtype in functional category therefore attributed.

TABLE II

SOCKETED HEADS, VALVE ATTRIBUTES  
 (Only valves with equal length spurs from specimens with a three-piece construction are considered. Miscellaneous specimen 14183 and model specimen 7003 are not included.)

## Attribute legend:

- A. lateral arming element channel bed attributes.
- a<sub>1</sub> unbound
  - a<sub>2</sub> bound
  - a<sub>x</sub> not recorded
- B. posterior end arming element channel bed attributes.
- b<sub>1</sub> end-stepped straight
  - b<sub>2</sub> end-stepped straight expanded
  - b<sub>3</sub> end-stepped curved
  - b<sub>4</sub> unstepped
  - b<sub>x</sub> not recorded
- C. lashing attributes.
- c<sub>1</sub> lashing groove step
  - c<sub>2</sub> lashing groove
  - c<sub>3</sub> two lashing grooves
  - c<sub>4</sub> lashing groove and step
  - c<sub>5</sub> no lashing groove or step
  - c<sub>x</sub> not recorded
- D. valve and arming element attachment attributes.
- d<sub>1</sub> rivets present
  - d<sub>2</sub> rivets absent
  - d<sub>x</sub> not recorded

TABLE II (cont.)

## E. decoration attributes

 $e_1$  decoration present $e_2$  decoration absent $e_x$  not recordedSubtype Ia, Coast Salish

2435a	$a_2 b_x c_5 d_x e_2$
2435b	$a_2 b_x c_5 d_x e_2$
7002(1)	$a_x b_x c_5 d_x e_2$
7002(2)	$a_x b_x c_5 d_x e_2$
7002(3)	$a_2 b_x c_5 d_x e_2$
10313a	$a_x b_x c_5 d_x e_2$
10313b	$a_x b_x c_5 d_x e_2$

Subtype Ib, Nootkan

1063	$a_x b_x c_x d_x e_2$
VII-F-178	$a_x b_x c_x d_x e_2$
VII-F-307(1)	$a_x b_x c_x d_x e_2$
VII-F-307(2)	$a_x b_x c_x d_x e_2$
VII-F-482	$a_x b_x c_5 d_x e_2$

Subtype Ia, Northwest Coast General

VII-X-179(1)	$a_x b_x c_x d_x e_2$
VII-X-179(2)	$a_x b_x c_x d_x e_2$
VII-X-192(1)	$a_x b_x c_x d_x e_2$
VII-X-192(2)	$a_x b_x c_x d_x e_2$
NMM-A	$a_x b_x c_x d_x e_2$
NMM-C	$a_x b_x c_x d_x e_2$

TABLE II (cont.)

Subtype Ia', Haida

1458	$a_1 b_x c_1 d_x e_2$
VII-B-215	$a_x b_x c_x d_x e_2$

Subtype IIa, Coast Salish

2418	$a_1 b_1 c_4 d_2 e_2$
10899	$a_1 b_1 c_1 d_1 e_2$
SFU 3454a	$a_1 b_1 c_4 d_2 e_2$
SFU 3454b	$a_1 b_1 c_4 d_2 e_2$

Subtype IIa, Nootkan

2197	$a_1 b_1 c_1 d_1 e_2$
2198	$a_x b_x c_5 d_x e_2$
14176	$a_2 b_x c_1 d_x e_2$
14177	$a_x b_x c_5 d_x e_2$
14179	$a_1 b_1 c_1 d_1 e_2$
14180	$a_2 b_x c_1 d_x e_2$
14181	$a_1 b_4 c_3 / c_4 d_1 e_2$
14182	$a_2 b_x c_1 d_1 e_2$
14184	$a_1 b_1 c_1 d_1 e_2$
VII-F-154	$a_2 b_2 c_5 d_2 e_2$
VII-F-155	$a_2 b_2 c_5 d_2 e_2$
VII-F-156	$a_2 b_1 c_1 d_1 e_2$
VII-F-180	$a_x b_x c_5 d_x e_2$
VII-F-213	$a_1 b_x c_5 d_x e_2$
VII-F-306(1)	$a_x b_x c_5 d_x e_1$
VII-F-306(2)	$a_x b_x c_5 d_x e_2$
VII-F-399	$a_x b_x c_5 d_x e_2$

TABLE II (cont.)

## Subtype IIa, Nootkan (cont.)

VII-F-402  $a_x b_x c_5 d_x e_2$ VII-F-539  $a_x b_x c_5 d_x e_2$ Subtype IIa, HaidaVII-B-569  $a_1 b_4 c_5 d_1 e_2$ Subtype IIa, Northwest Coast General4780  $a_x b_x c_5 d_x e_2$ 8616  $a_2 b_x c_5 d_x e_2$ 11202(1)  $a_1 b_x c_5 d_x e_2$ 11209  $a_1 b_1 c_5 d_2 e_2$ 11540  $a_x b_x c_5 d_x e_2$ VII-X-176(1)  $a_x b_x c_1 d_x e_2$ VII-X-176(2)  $a_x b_x c_1 d_x e_2$ Subtype IIa', HaidaVII-B-558  $a_1 b_x c_1 d_1 e_2$ Type III, Nootkan1224  $a_1 b_x c_x d_2 e_2$ 2188  $a_1 b_3 c_x d_x e_1$ 2189  $a_1 b_x c_1 d_2 e_2$ 2190  $a_1 b_x c_1 d_x e_2$ 2191  $a_1 b_x c_x d_x e_2$ 2192  $a_1 b_x c_x d_2 e_1$ 2194  $a_1 b_3 c_1 d_2 e_2$ 2195a  $a_1 b_1 c_1 d_2 e_1$ 2195b  $a_1 b_1 c_1 d_2 e_x$

TABLE II (cont.)

## Type III, Nootkan (cont.)

2196	$a_x b_x c_x d_x e_2$
4505	$a_x b_x c_x d_x e_1$
5060b	$a_1 b_x c_1 / c_x d_x e_1$
5060d	$a_1 b_x c_x d_x e_2$
5060e	$a_1 b_x c_x d_2 e_2$
9751	$a_1 b_x c_x d_x e_2$
9769	$a_1 b_x c_x d_x e_1$
10064a	$a_1 b_3 c_1 d_2 e_2$
10064b	$a_1 b_3 c_1 d_2 e_2$
10689	$a_x b_x c_x d_x e_1$
VII-F-27	$a_1 b_x c_x d_x e_2$
VII-F-28	$a_1 b_x c_x d_x e_2$
VII-F-29	$a_1 b_x c_x d_x e_2$
VII-F-40	$a_1 b_x c_x d_x e_2$
VII-F-58	$a_x b_x c_x d_x e_2$
VII-F-71	$a_1 b_x c_x d_2 e_1$
VII-F-72	$a_x b_x c_x d_x e_2$
VII-F-85	$a_1 b_x c_x d_2 e_1$
VII-F-86	$a_x b_x c_x d_x e_1$
VII-F-87	$a_1 b_x c_x d_2 e_1$
VII-F-95	$a_x b_x c_x d_x e_2$
VII-F-96	$a_1 b_x c_x d_2 e_1$
VII-F-98	$a_x b_x c_x d_x e_2$
VII-F-194	$a_1 b_x c_x d_2 e_2$
VII-F-304	$a_x b_x c_x d_x e_2$

TABLE II (cont.)

## Type III, Nootkan (cont.)

VII-F-305	$a_1 b_x c_x d_2 e_2$
VII-F-308	$a_1 b_x c_1 d_2 e_2$
VII-F-398a	$a_x b_x c_x d_x e_2$
VII-F-398b	$a_x b_x c_x d_x e_2$
VII-F-398c	$a_x b_x c_1 d_x e_2$
VII-F-398d	$a_x b_x c_x d_x e_2$
VII-F-398e	$a_x b_x c_x d_x e_2$
VII-F-400	$a_1 b_3 c_1 d_2 e_1$
VII-F-401	$a_1 b_3 c_1 d_2 e_1 / e_2$
VII-F-419	$a_1 b_x c_1 d_2 e_2$
VII-F-644	$a_1 b_x c_1 d_2 e_2$
VII-F-679a	$a_x b_x c_x d_x e_2$
VII-F-685(?)	$a_1 b_x c_x d_2 e_2$
SFU 3519a	$a_1 b_3 c_1 d_2 e_1$
SFU 3519b	$a_1 b_3 c_1 d_2 e_1$
SFU 169-L-134	$a_1 b_x c_x d_x e_2$
SFU 169-L-136	$a_1 b_x c_x d_x e_2$
SFU-A	$a_1 b_x c_x d_x e_2$

Type III, Kwakiutl

VII-E-606	$a_x b_x c_x d_x e_2$
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Type III, Northwest Coast General

9509	$a_1 b_x c_x d_2 e_1$
11461(1)	$a_1 b_3 c_1 d_2 e_2$
11461(2)	$a_1 b_3 c_1 d_2 e_2$
NMM-D	$a_1 b_x c_x d_x e_2$



TABLE II (cont.)

Specimens with equal length spurs and three-piece construction not included in types I, II, or III.

1339	$a_1 b_4 c_1 d_2 e_1$
1340	$a_1 b_4 c_1 d_2 e_1$
10151a	$a_1 b_x c_5 d_2 e_2$
10151b	$a_1 b_x c_1 d_2 e_2$

TABLE III

TYPE III ARMING ELEMENT, LANYARD,  
AND FUNCTIONAL ATTRIBUTES(Specimens are arranged according  
to lanyard attributes.)

## Legend:

## Arming Element Attributes

exc.	: excurvate
inc.-exc.	: incurvate-excurvate
pent.	: pentagonal
ub.	: unbarbed
us.	: unilaterally shouldered
bs.	: bilaterally shouldered
u.b.	: unilaterally barbed
bb.	: bilaterally barbed

## Lanyard Attributes

lg.	: long
sh.	: short
inc.	: incomplete
ts.	: three-strand twisted sinew
2ts.	: two-strand twisted sinew
oph.	: one-piece hide
hr.	: three-strand hemp rope

## Functional Attributes

wa.	: auxiliary whaling
wm.	: main whaling
wg.	: whaling general
sl.	: sea lion
s.	: seal
nd.	: no documentation
m.	: model

## Additional Abbreviations Used

?	: placed after an attributed indicates that its presence is attributed.
?	: placed alone indicates that attribute is not known.
*	: indicates that the element is missing.

TABLE III (cont.)

	<u>Arming Element</u> <u>Attributes</u>		<u>Lanyard</u> <u>Attributes</u>		<u>Function</u>
2188	inc.-exc.	ub.	lg.	ts.	wg.
2191	exc.	ub.	lg.	ts.	nd.
2192	*		lg.	ts.	wg.
4505	inc.-exc.	ub.	lg.	ts.	nd.
5060b	exc.	ub.	lg.	ts.	wg.
5060d	exc.	ub.	lg.	ts.	wg.
9509	*		lg.	ts.	nd.
9751	exc.	ub.	lg.	ts.	nd.
10689	pent.	ub.	lg.	ts.	nd.
VII-F-40	exc.	ub.	lg.	ts.	wg.
VII-F-58	exc.	ub.	lg?	ts.	nd.
VII-F-71	*		lg?	ts?	wg.
VII-F-85	exc.	ub.	lg?	ts.	nd.
VII-F-86	?	ub.	lg?	ts.	wg.
VII-F-87	*		lg?	ts.	wg.
VII-F-95	?	ub.	lg?	ts.	wg.
VII-F-96	*		lg?	ts.	nd.
VII-F-98	?	ub.	lg?	ts.	wg.
VII-F-194	*		lg?	ts.	wg.
VII-F-304	?	ub.	lg.	ts.	wg.
VII-F-305	*		lg?	ts.	s.
VII-F-398a	exc?	ub.	lg.	ts.	wm.
VII-F-398e	exc?	ub.	lg.	ts.	wm.
SFU 169-L-134	*		lg.	ts.	nd.
SFU 169-L-136	*		lg.	ts.	nd.
SFU-A	*		lg.	hr.	nd.
5060e	*		inc.	ts.	wg.
VII-F-679a	exc.	ub.	?	ts.	nd.
VII-F-685?	inc.-exc.	ub.	?	ts.	nd.
VII-E-606	exc?	ub.	?	ts.	wg.
NMM-D	exc?	ub.	?	ts.	nd.
1224	exc.	ub.	sh.	ts.	wg.
2190	inc.-exc.	ub.	sh.	ts.	nd.
VII-F-72	exc?	ub.	sh.	ts.	wa.
VII-F-398b	exc?	ub.	sh.	ts.	wa.
VII-F-398c	exc?	ub.	sh.	ts.	wa.
VII-F-398d	inc.-exc.	ub.	sh.	ts.	wa.
VII-F-644	exc.	ub.	sh.	ts.	wg.
9769	exc.	bs.	sh.	2ts.	sl.
2189	exc.	us.	sh.	oph.	nd.
2196	exc.	us.	sh.	oph.	sl.
VII-F-27	inc.-exc.	ub.	sh.	oph.	sl.
VII-F-28	inc.-exc.	ub.	sh.	oph.	sl.
VII-F-29	inc.-exc.	ub.	sh.	oph.	sl.
VII-F-308	*		sh.	oph.	wg.

TABLE III (cont.)

	<u>Arming Element</u> <u>Attributes</u>		<u>Lanyard</u> <u>Attributes</u>	<u>Function</u>
VII-F-419	exc.	bb.	*	sl.

TABLE IV  
Subtype Ia

	Head Length	Valve Length	Valve Length*
Number:	20 mm.	8 mm.	18 mm.
Range:	164-82 mm.	111-48 mm.	111-48 mm.
Average:	115 mm.	69 mm.	65 mm.

\*Includes estimated measurements

TABLE V  
Subtype Ia, Coast Salish

	Head Length	Valve Length	Valve Length*
Number:	7 mm.	4 mm.	18 mm.
Range:	111-82 mm.	66-48 mm.	73-48 mm.
Average:	95 mm.	57 mm.	65 mm.

\*Includes estimated measurements

TABLE VI  
Subtype Ia, Nootkan

	Head Length
Number:	5 mm.
Range:	154-79 mm.
Average:	115 mm.

TABLE VII

## Subtype Ia, Northwest Coast General

	Head Length
Number:	6 mm.
Range:	152-92 mm.
Average:	132 mm.



TABLE VIII  
Subtype Ia', Haida

	Head Length	Valve Length
Number:	2 mm.	4 mm.
Range:	164-98 mm.	119-59 mm.
Average:	131 mm.	82 mm.

TABLE IX  
 Subtype Ic, Haida

	Head Length	Self-armed & Spurred Valve Length	Unarmed & Unspurred Valve Length
Number:	2 mm.	2 mm.	2 mm.
Range:	94-80 mm.	94-80 mm.	ca. 28-ca. 32 mm.
Average:	87 mm.	87 mm.	ca. 30 mm.

TABLE X  
Subtype Id, Haida

	Head Length	Armed & Spurred Valve Length	Unarmed & Spurred Valve Length
Number:	2 mm.	2 mm.	2 mm.
Range:	156-137 mm.	156-137 mm.	0 mm.
Average:	147 mm.	147 mm.	56 mm.

TABLE XI  
Subtype IIa

	Head Length	Valve Length	Valve Width
Number:	26 mm.	32 mm.	24 mm.
Range:	127-228 mm.	70-105 mm.	11-18 mm.
Average:	162 mm.	85 mm.	15 mm.

	Valve Thickness	Valve Thickness*
Number:	12 mm.	18 mm.
Range:	6-11 mm.	6-11 mm.
Average:	9 mm.	9 mm.

	Arming Element Channel Bed Length	Arming Element Channel Bed Width	Valve Length*
Number:	20 mm.	22 mm.	45 mm.
Range:	16-52 mm.	8-16 mm.	57-105 mm.
Average:	36 mm.	13 mm.	81 mm.

\*Includes estimated measurements

TABLE XII

## Subtype IIa, Coast Salish

	Head Length	Valve Length	Valve Width
Number:	4 mm.	8 mm.	8 mm.
Range:	127-166 mm.	82-101 mm.	14-18 mm.
Average:	149 mm.	96 mm.	16 mm.

	Valve Thickness	Valve Thickness*
Number:	2 mm.	6 mm.
Range:	10-11 mm.	9-11 mm.
Average:	11(10.5) mm.	10 mm.

	Arming Element Channel Bed Width	Arming Element Channel Bed Width
Number:	8 mm.	8 mm.
Range:	31-42 mm.	14-16 mm.
Average:	37 mm.	15 mm.

\*Includes estimated measurements

TABLE XIII

## Subtype IIa, Nootkan

	Head Length	Valve Length	Valve Length*	Valve Width
Number:	15 mm.	16 mm.	22 mm.	15 mm.
Range:	136-228 mm.	70-105 mm.	57-105 mm.	11-19 mm.
Average:	162 mm.	84 mm.	80 mm.	15 mm.

	Valve Thickness	Valve Thickness*	Arming Element Channel Bed Length	Arming Element Channel Bed Length
Number:	9 mm.	11 mm.	9 mm.	11 mm.
Range:	6-11 mm.	6-11 mm.	34-52 mm.	8-15 mm.
Average:	9 mm.	9 mm.	38 mm.	12 mm.

\*Includes estimated measurements

TABLE XIV

## Subtype IIa, Northwest Coast General

	Head Length	Valve Length	Valve Length*
Number:	5 mm.	4 mm.	11 mm.
Range:	166-204 mm.	71-76 mm.	59-89 mm.
Average:	183 mm.	74 mm.	74 mm.

\*Includes estimated measurements

TABLE XV

## Nootkan 'whaling-type' heads

	Head Length	Valve Length	Valve Length*	
Number:	34 mm.	86 mm.	99 mm.	
Range:	126-261 mm.	101-192 mm.	101-192 mm.	
Average:	177 mm.	136 mm.	136 mm.	
	Valve Width	Valve Thickness	Valve Thickness*	
Number:	14 mm.	12 mm.	14 mm.	
Range:	16-31 mm.	11-16 mm.	11-16 mm.	
Average:	20 mm.	14 mm.	14 mm.	
	Valve+ Channel Bed Length	Valve+ Channel Bed Length*	Valve Channel Bed Width	Valve Channel Bed Width*
Number:	12 mm.	14 mm.	24 mm.	44 mm.
Range:	26-37 mm.	23-37 mm.	15-23 mm.	12-23 mm.
Average:	32 mm.	31 mm.	18 mm.	16 mm.

+Minimum valve channel bed length

\*Includes estimated measurements



TABLE XVI

Nootkan 'whaling-type' specimens documented  
as sea lion heads or valves

	Head Length	Valve Length	Valve Length*	Valve Width	Valve Thickness	Arming Element Channel Bed Length	Arming Element Channel Bed Length
Number:	6	11	13	4	4	4	4
Range:	126-167 mm.	101-137 mm.	101-137 mm.	16-18 mm.	11-14 mm.	26-35 mm.	16-18 mm.
Average:	154 mm.	127 mm.	124 mm.	17 mm.	13 mm.	31 mm.	17 mm.

\*includes estimated measurements

TABLE XVII

Nootkan "whaling-type" specimens documented  
as auxiliary whaling heads

	Head Length	Valve Length
Number:	4 mm.	8 mm.
Range:	158-178 mm.	115-131 mm.
Average:	167 mm.	122 mm.

## FIGURES

The majority of the thirty-eight Figures are full scale line drawings of harpoon heads representative of the various types and subtypes. Figures 5, 7, 11, 13, 20, and 30 are drawn from photographs with a scale. Figure 24 was also drawn from a photograph but a scale had not been included in the photograph. Figures 1, 2, 3, and 35 are schematic illustrations of various harpoon head attributes. Specimens are designated by the prefixes N.M.M. for National Museum of Man, S.F.U. for Simon Fraser University, and B.C.P.M. for British Columbia Provincial Museum.

Figure 1  
Schematic Illustration of Harpoon Types and Subtypes,  
Including Arming Element Attributes.

- a. Type I, subtype Ia, shanked, unbarbed.
- b. Type II, subtype IIa, shanked, removed barbs.
- c. Type II, subtype IIa, shanked, extended barbs.
- d. Type III, not shanked, unbarbed.
- e. Type IV, not shanked, barbed.
- f. Type IV, not shanked, shouldered.

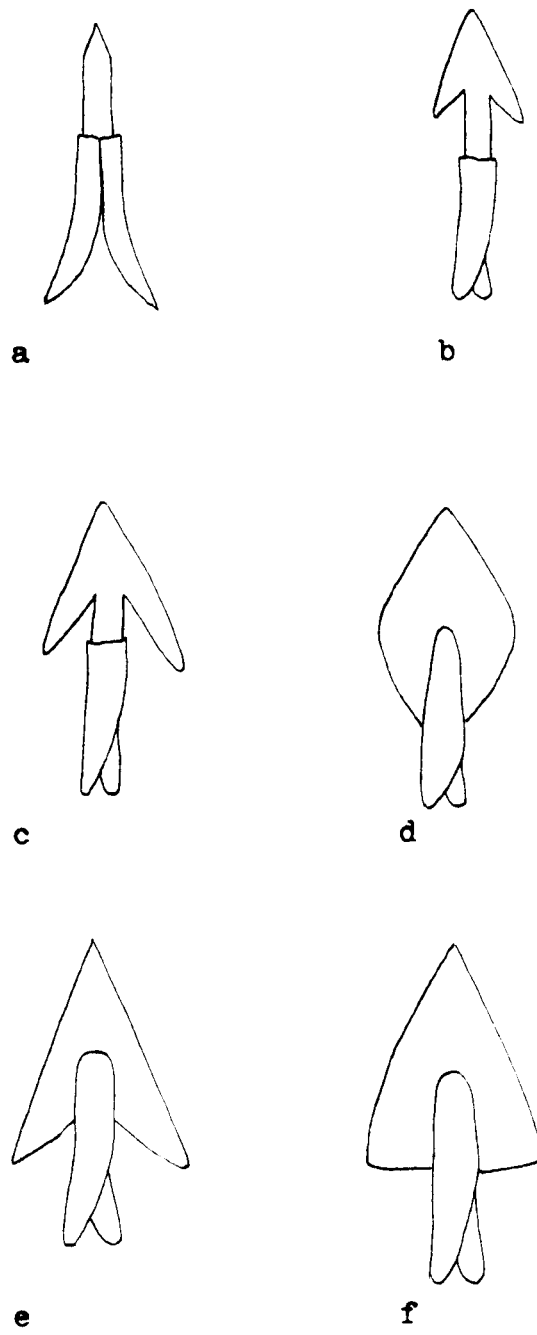


Figure 1

Figure 2

## Schematic Illustration of Value Attributes

- a. bound channel bed, straight end-step
- b. unbound channel bed, curved end-step
- c. unstepped, unbound channel bed
- d. straight end-step, unbound channel bed
- e. lashing groove step
- f. lashing groove
- g. line hole
- h. rivet holes

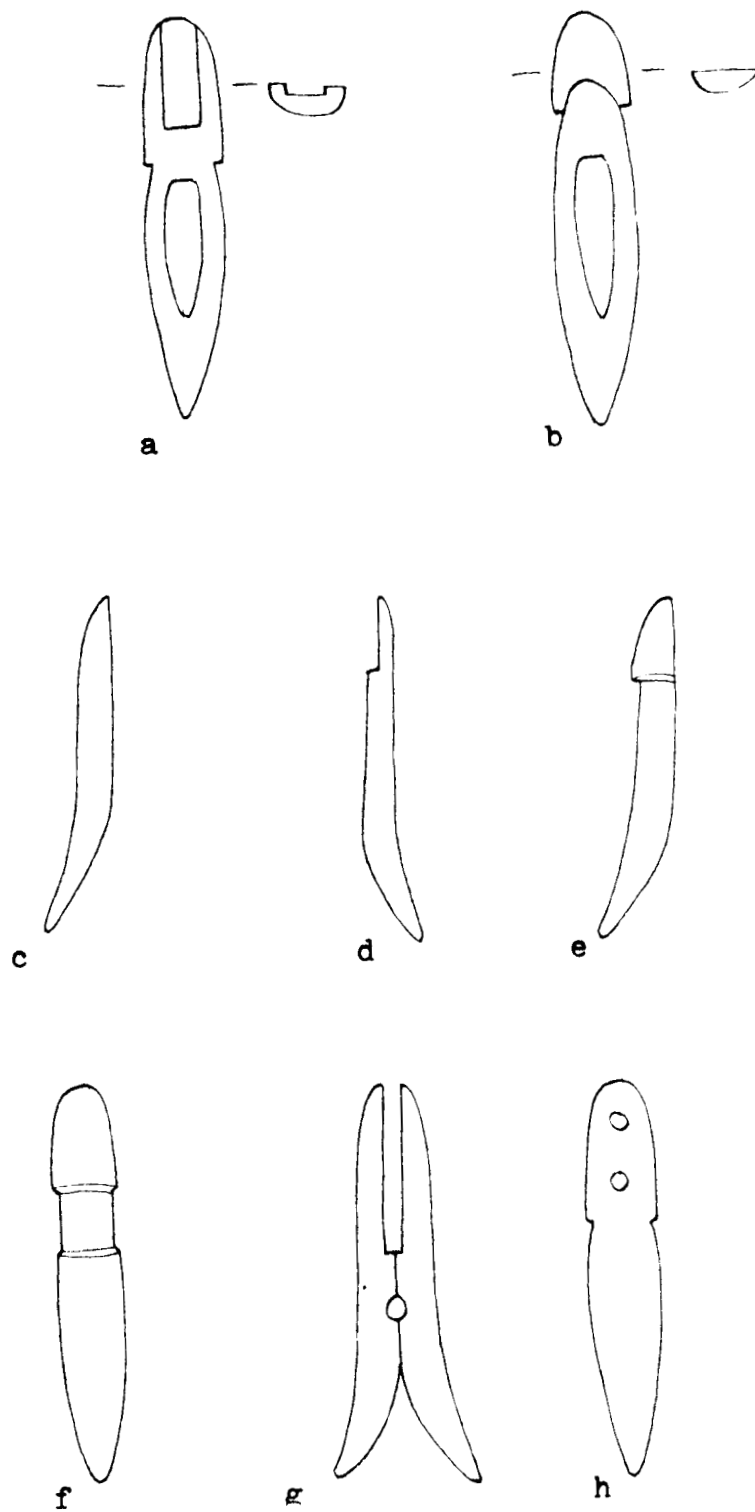


Figure 2

Figure 3  
Schematic Illustration of Tanged Head  
Lanyard Attachment Attributes

- a. metal shackle
- b. line guards



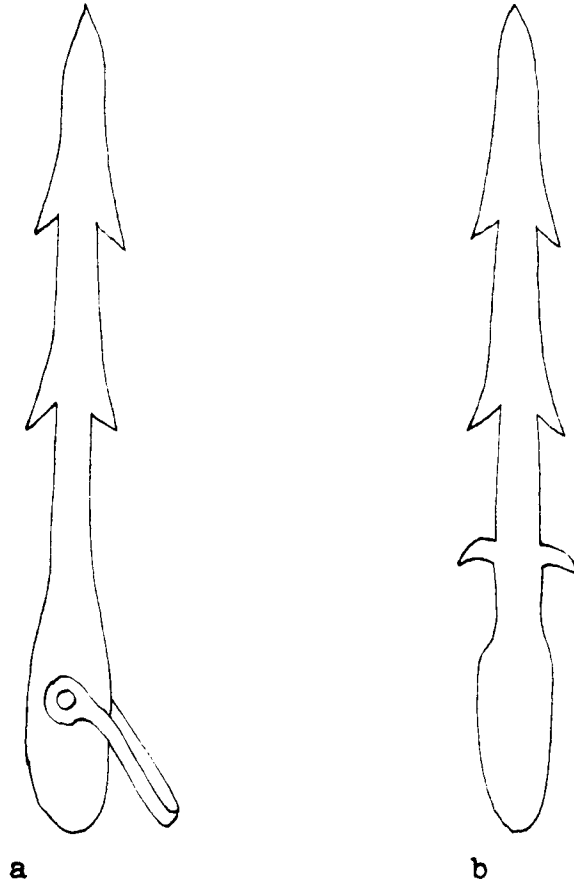


Figure 3

Figure 4  
B.C.P.M. 2435b, Coast Salish subtype Ia head  
collected at Yale.

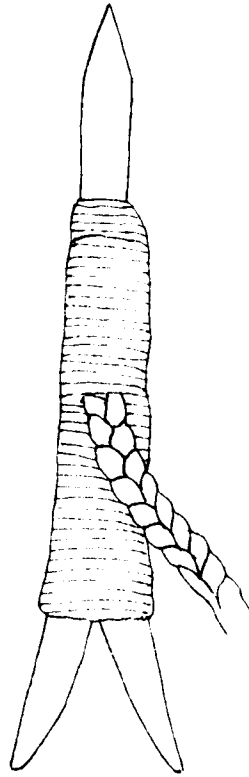


Figure 4

Figure 5

- a. N.M.M. VII-X-192(1), Northwest Coast General subtype Ia head.
- b. N.M.M. VII-X-192(2), Northwest Coast General subtype Ia head.

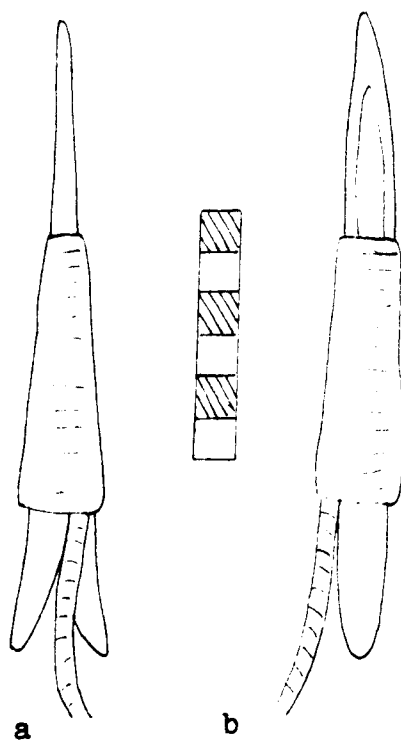


Figure 5

Figure 6  
B.C.P.M. 1458, Haida subtype Ia' head  
collected at Kayang.

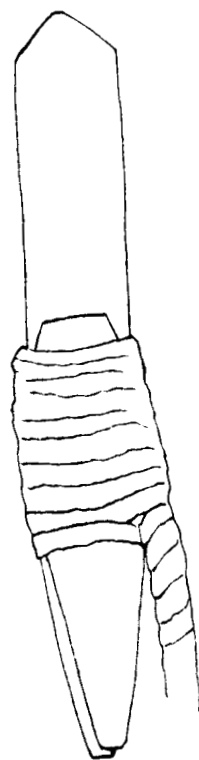


Figure 6

Figure 7

N.M.M.-B, Northwest Coast General subtype Ib head.



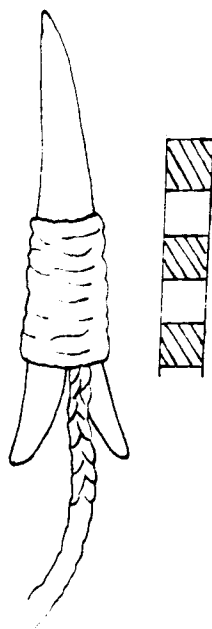


Figure 7

## Figure 8

- a. B.C.P.M. 9816b, detachable foreshaft for  
B.C.P.M. 9816b, Haida subtype Ic head collected  
at Masset.
- b. B.C.P.M. 9816a, Haida subtype Ic head  
collected at Masset.
- c. B.C.P.M. 9816b, Haida subtype Ic head  
collected at Masset.

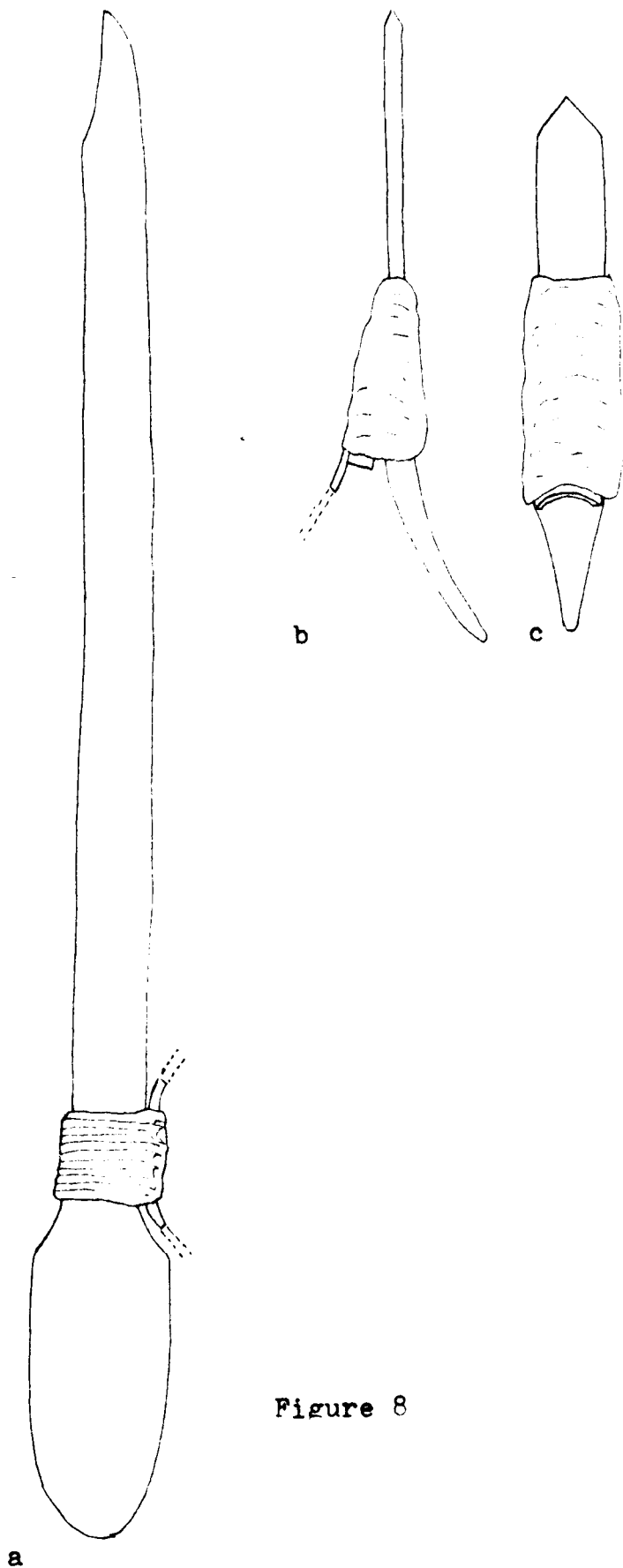


Figure 8

Figure 9

- a. B.C.P.M. 1459(1), Haida subtype Id head collected at Skidegate.
- b. B.C.P.M. 1459(2), Haida subtype Id head collected at Skidegate.

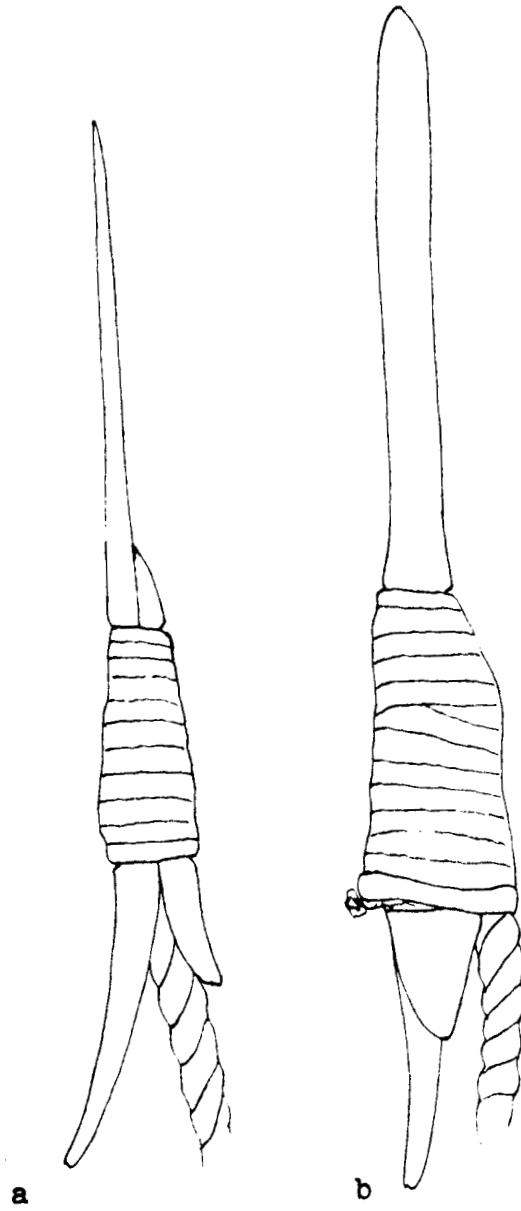


Figure 9

Figure 10  
B.C.P.M. 2418, Coast Salish subtype IIa head  
collected from the Cowichan district.

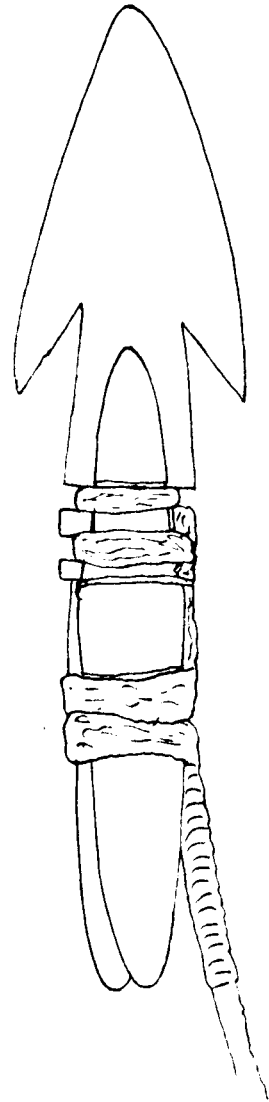


Figure 10

## Figure 11

N.M.M. VII-F-154, Nootkan subtype II a valve with a bound and expanded, straight end-stepped channel bed. Collected at Clayoquot.



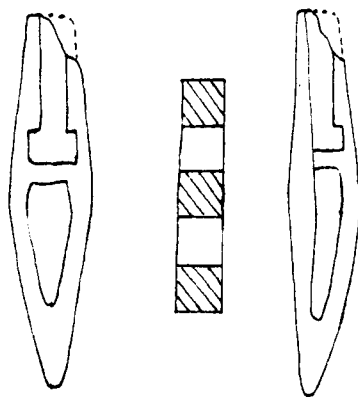


Figure 11

Figure 12

- a. B.C.P.M. 1233-5, Nootkan subtype IIa arming element, collected in the Barkley Sound area.
- b. B.C.P.M. 1233-1, Nootkan subtype IIa arming element, collected in the Barkley Sound area.

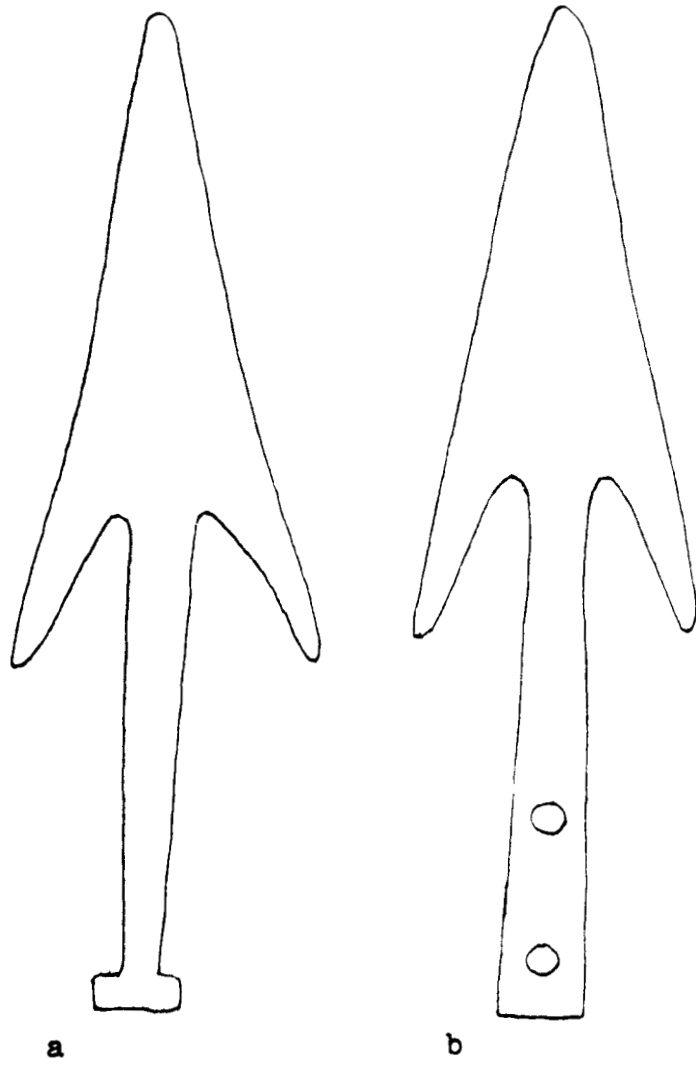


Figure 12

Figure 13

N.M.M. VII-F-156, Nootkan subtype IIa value with a bound and straight end-stepped channel bed, and two, in place, rivets. Collected at Clayoquot.

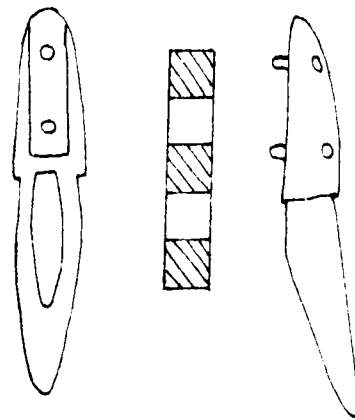


Figure 13

Figure 14

B.C.P.M. 2197, Nootkan subtype IIa head collected at Nootka  
(Yuquot?).

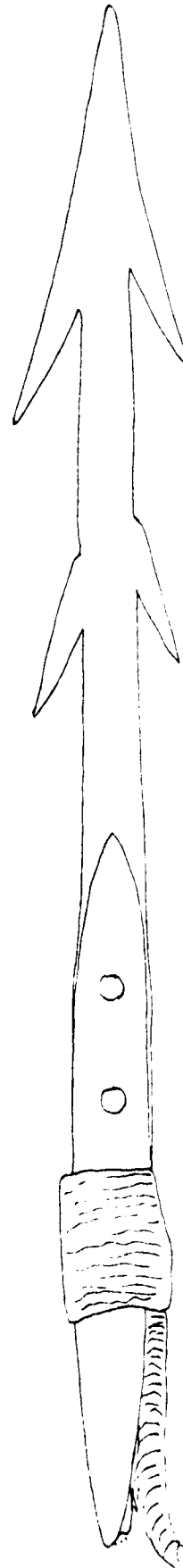


Figure 14

Figure 15

B.C.P.M. 11540, Northwest Coast General subtype IIa head.



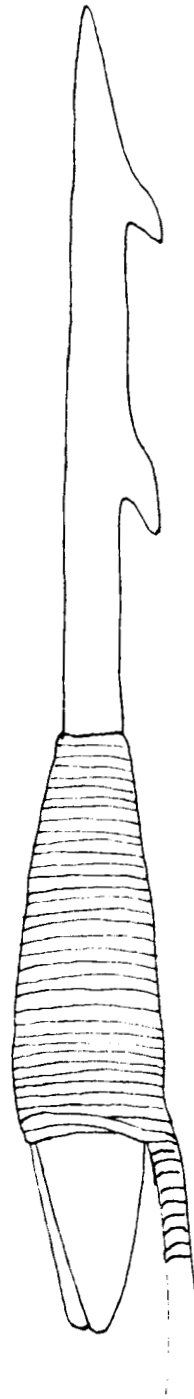


Figure 15

Figure 16

B.C.P.M. 11209, Northwest Coast General subtype IIa valve with an unbound and straight end-stepped channel bed with one rivet hole.

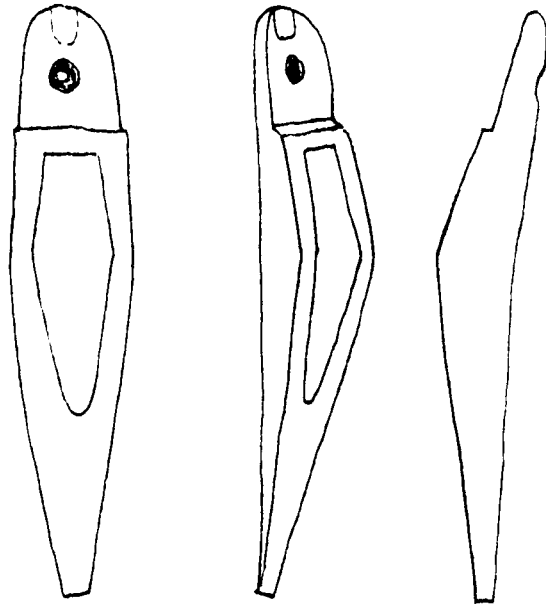


Figure 16

Figure 17

B.C.P.M. 14178, Nootkan type II head with a single spur.

Collected at Hesquiat or Ahousat.

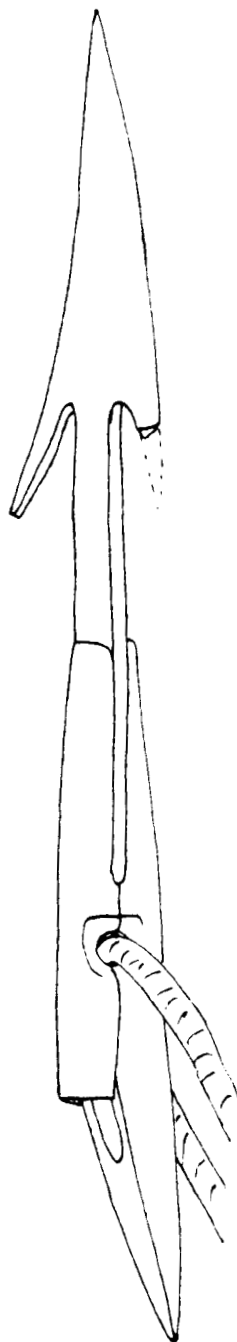


Figure 17

Figure 18

B.C.P.M. 11202(3), Northwest Coast General type II head with  
a single-piece conical, metal socket.

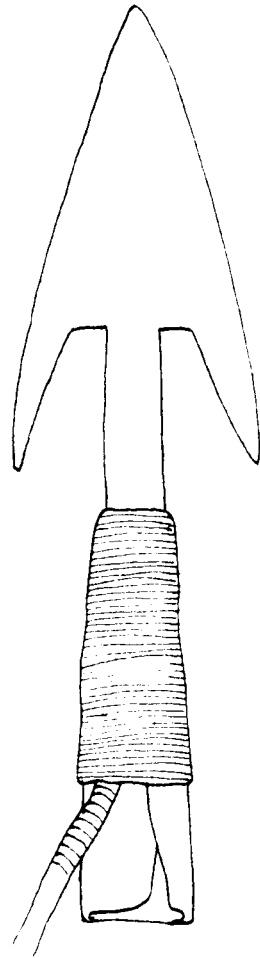


Figure 18

Figure 19

B.C.P.M. 11202(4), Northwest Coast General type II head with  
a conical socket formed of two unspurred, wood valves.



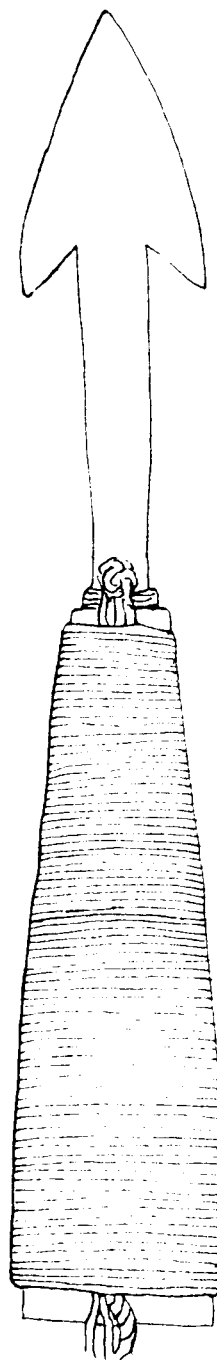


FIGURE 19

## Figure 20

- a. N.M.M. VII-F-384, Nootkan artifact with a basal socket but no evidence of lanyard attachment. Collected at Alberni.
- b. N.M.M. VII-F-681, Nootkan artifact with a basal socket but no evidence of lanyard attachment. No specific collection provenience.

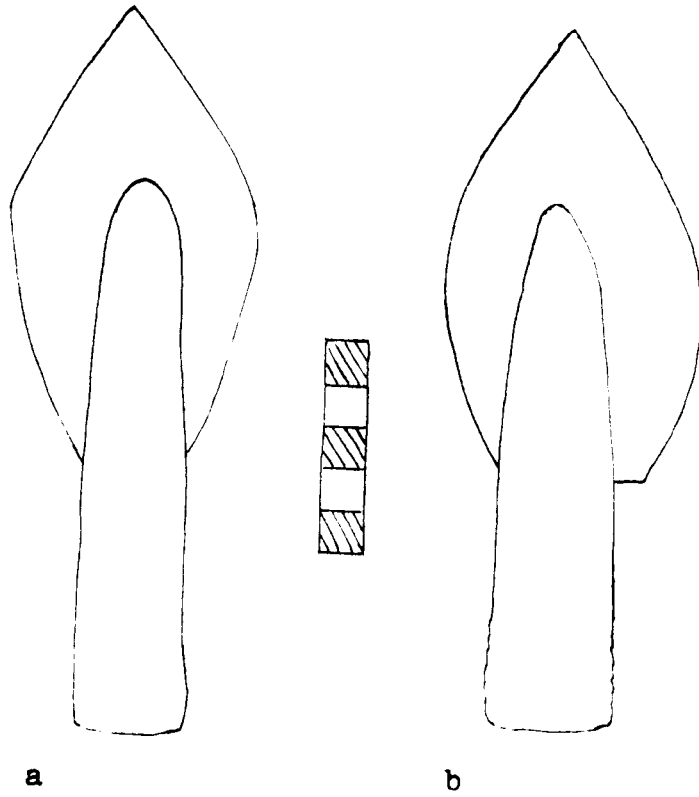


Figure 20

Figure 21

B.C.P.M. 1340, Nootkan harpoon head with unbound and unstepped channel beds. Collected in the Barkley Sound area.

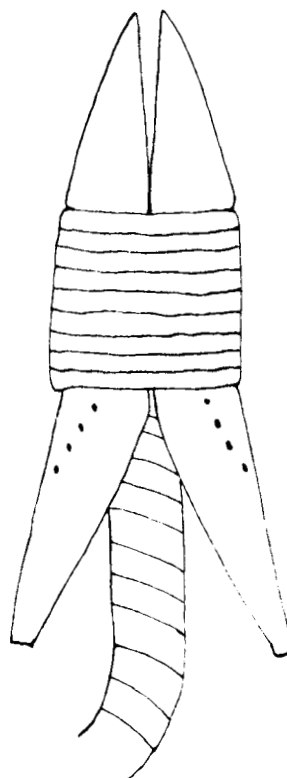


Figure 21

Figure 22

B.C.P.M. 10151a, Coast Salish model head with a slate arming  
element. Collected at Chemanius.

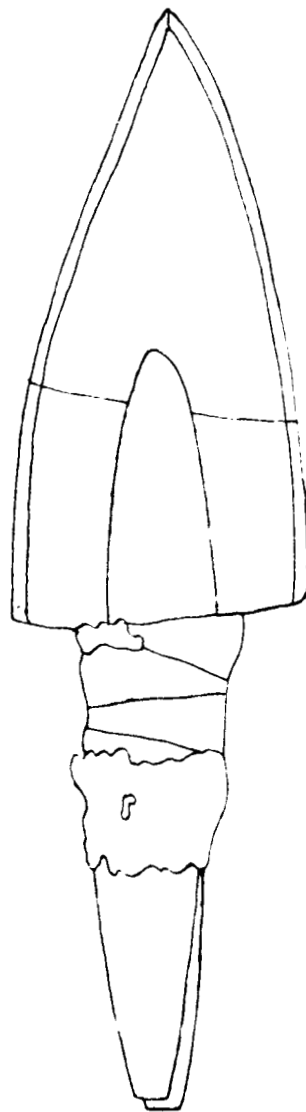


Figure 22

Figure 23

B.C.P.M. 10151b, Coast Salish model head with a slate arming  
element. Collected at Chemanius.



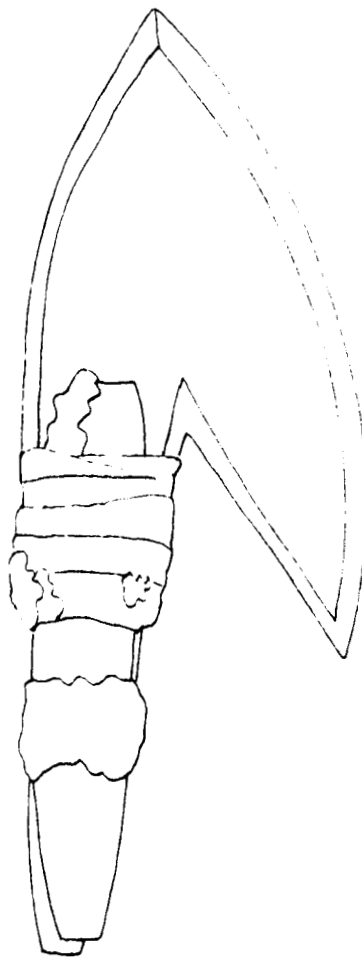


Figure 23

Figure 24

N.M.M. VII-F-419, Nootkan type III head collected at Alberni.

No scale - length of head is 163 mm.

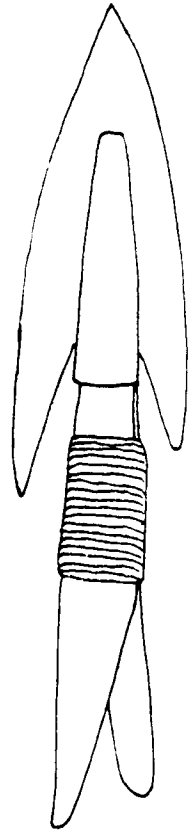


Figure 24

Figure 25

B.C.P.M. 1224, Nootkan type III head collected at Ohiat.

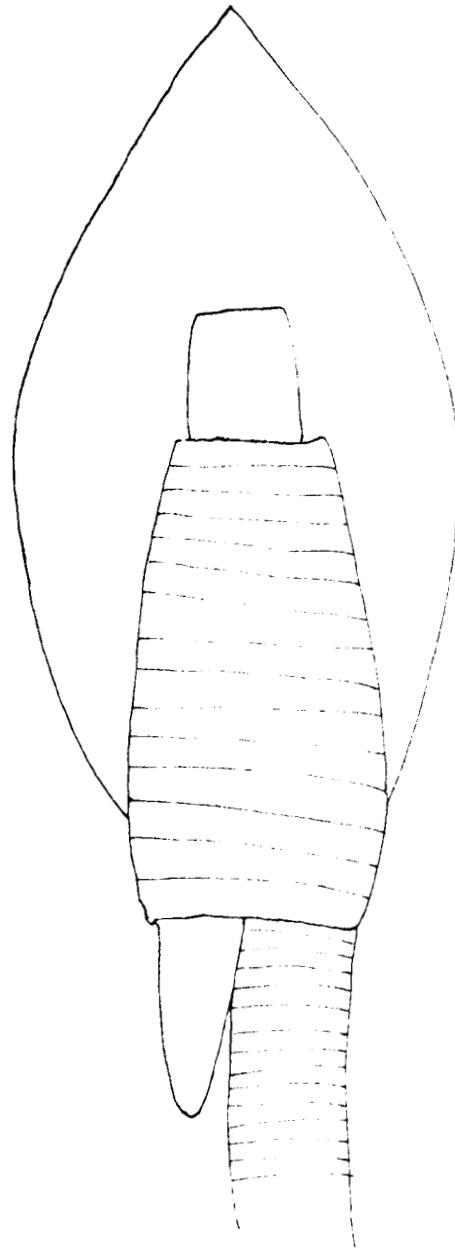


Figure 25

Figure 26

B.C.P.M. 2196, Nootkan type III head collected at Nootka  
(Yuquot?).

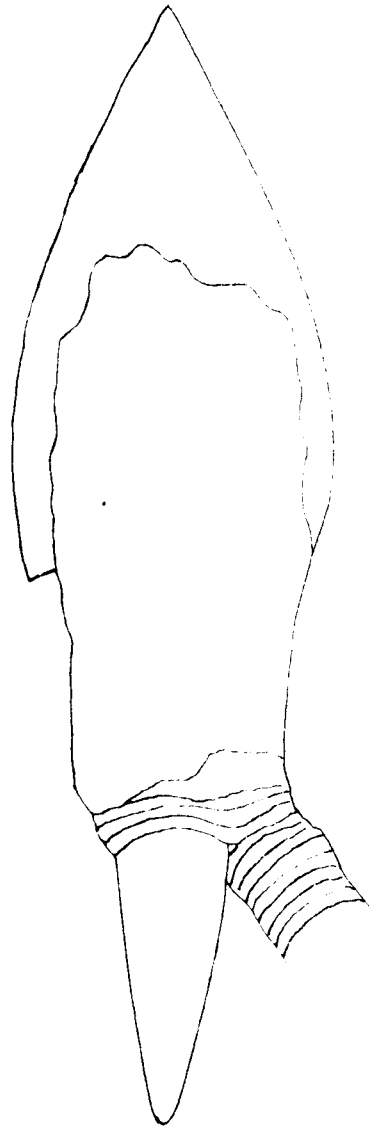


Figure 26

Figure 27

B.C.P.M. 9769, Nootkan type III head collected at Ucluelet.



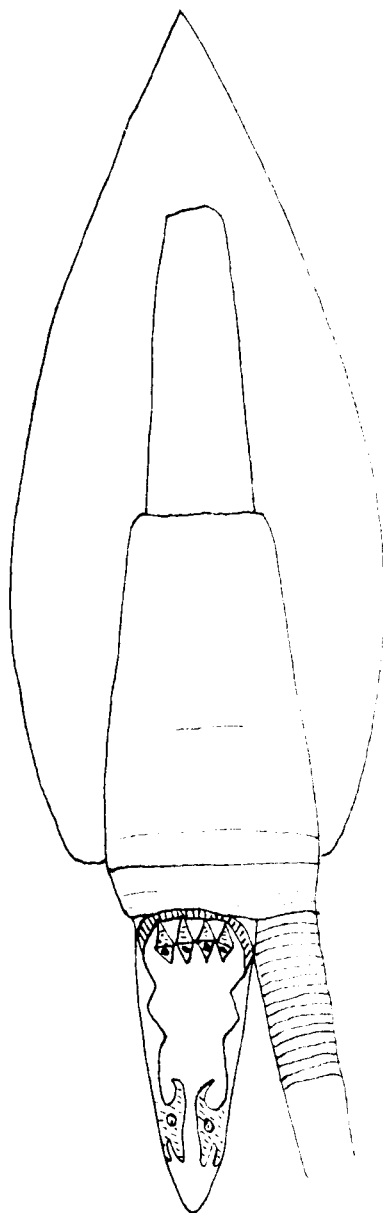


Figure 27

Figure 28

B.C.P.M. 2190, Nootkan type III head collected in the Barkley Sound area.

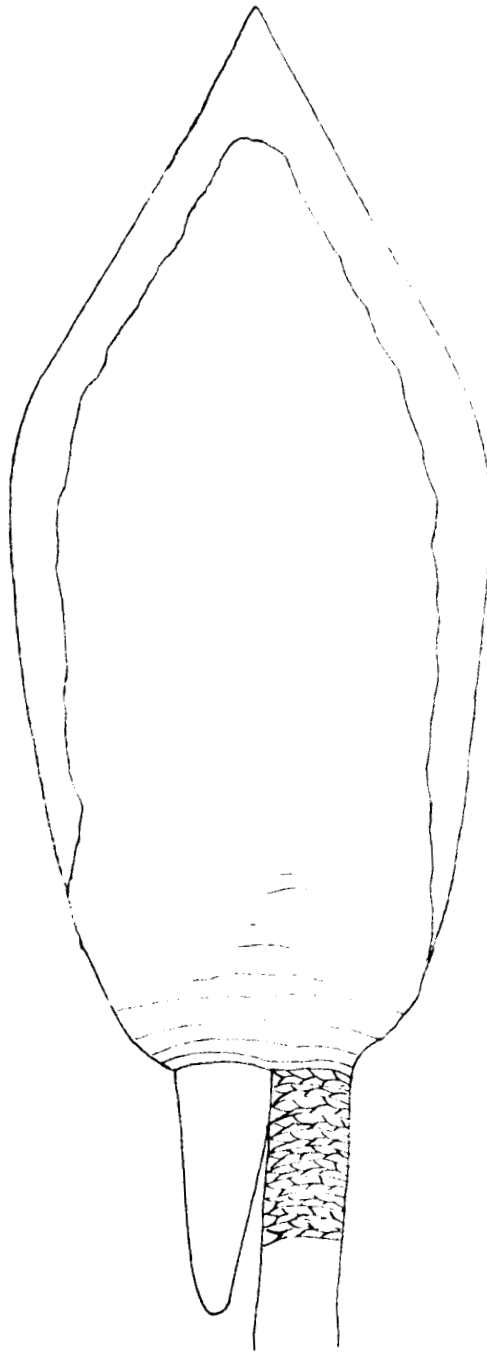


Figure 28

Figure 29

B.C.P.M. 10689, Nootkan type III head. No specific collection  
proviencence.

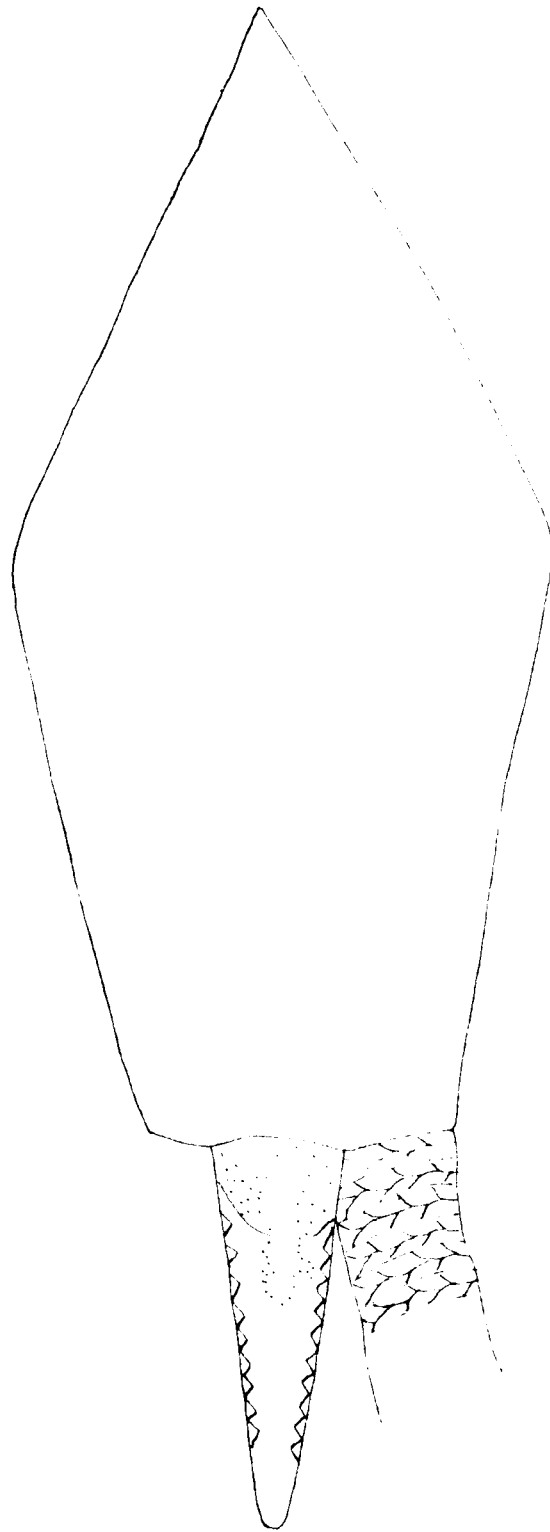


Figure 29

Figure 30

N.M.M. VII-F-40, Nootkan type III head with a Mytilus californianus arming element. Collected at Alberni.

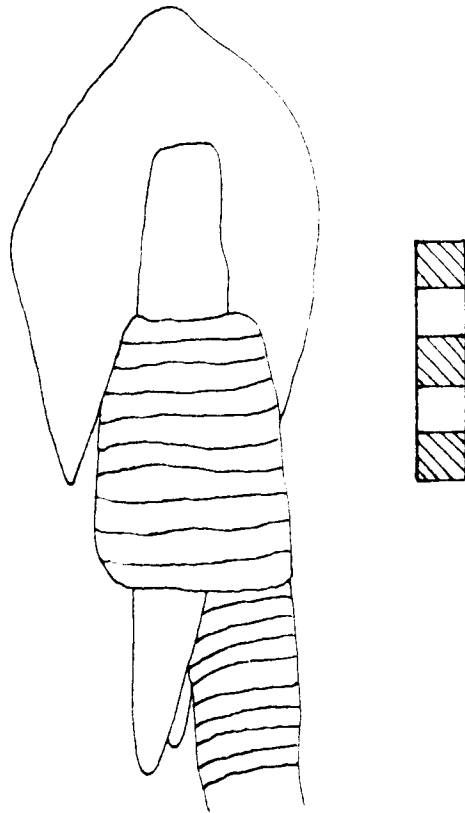


Figure 30

Figure 31

- a. B.C.P.M. 10064a, Nootka type III valve, collected at Bamfield.
- b. B.C.P.M. 10064b, Nootkan type III valve, collected at Bamfield.



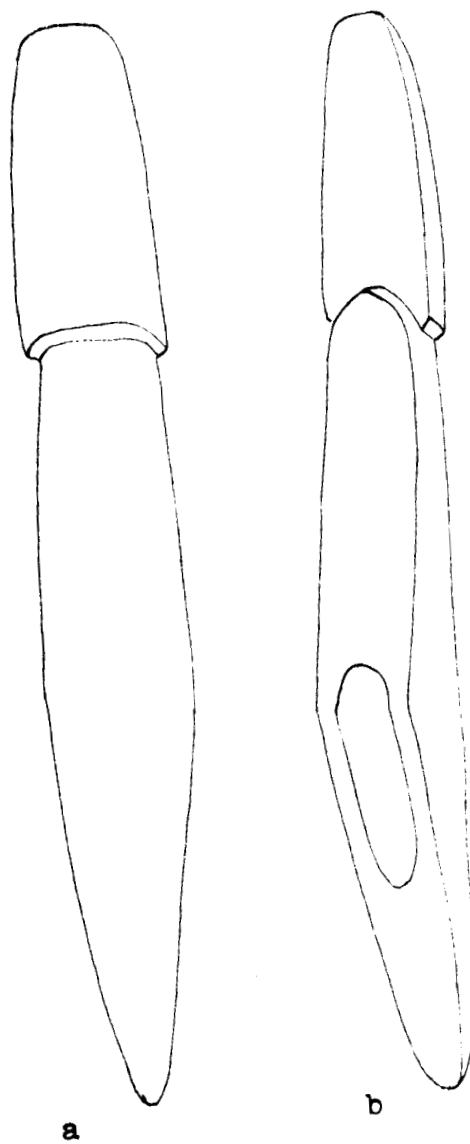


Figure 31

Figure 32

- a. B.C.P.M. 11461(1), Northwest Coast General type III valve.
- b. B.C.P.M. 11461(2), Northwest Coast General type III valve.

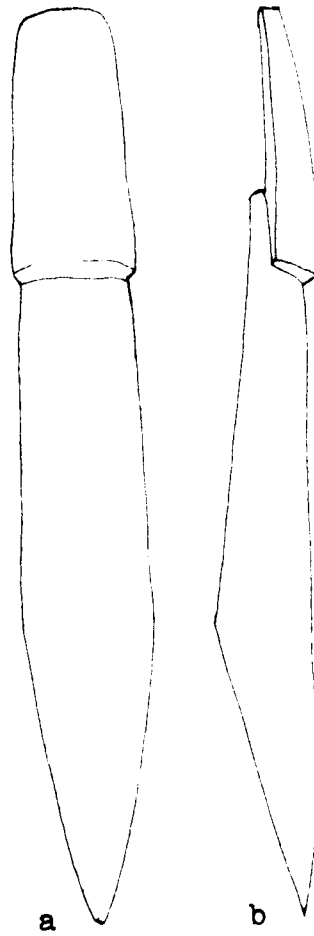


Figure 32

Figure 33

B.C.P.M. 2194, Nootkan valve pair collected at Ucluelet.

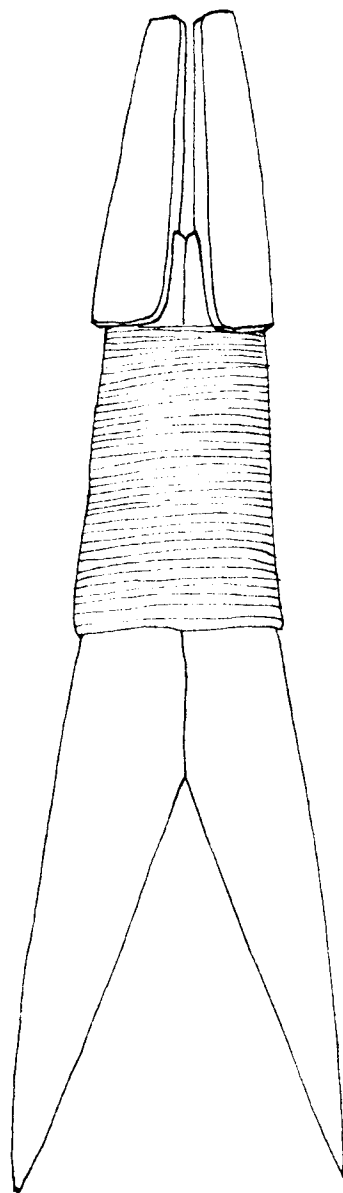


Figure 33

Figure 34

- a. B.C.P.M. 2195a, Nootkan type III (?) valve recovered from a shell midden at Nootka (Yuquot?).
- b. B.C.P.M. 2195b, Nootkan type III (?) valve recovered from a shell midden at Nootka (Yuquot?).

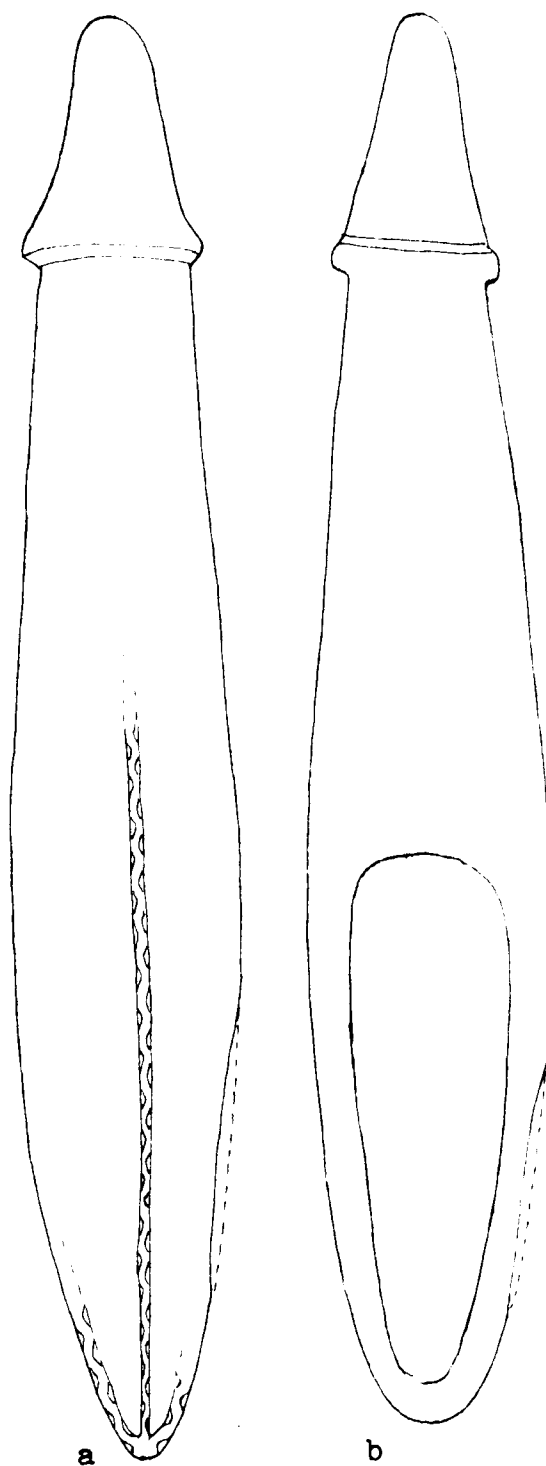


Figure 34

Figure 35

Schematic Illustration of Subtype Ia and  
Subtype Ia' Valves

- a. Schematic illustrations of a subtype Ia valve with a bound and straight end-stepped arming element channel bed.
- b. Schematic illustration of a subtype Ia' valve with an unbound and unstepped channel bed and a lashing groove on the dorsal face.





a



b

Figure 35

Figure 36

B.C.P.M. 14177, Nootkan subtype IIa head collected at  
Hesquiat or Ahousat.

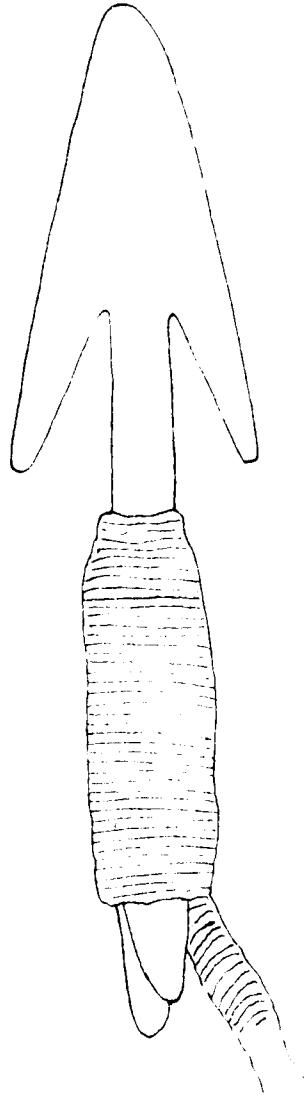


Figure 36

Figure 37

N.M.M. VII-B-556, Haida tanged head. No specific collection  
provience.

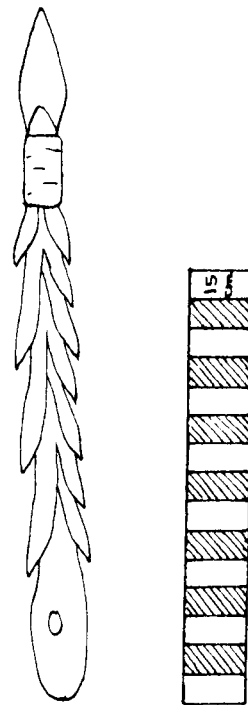


Figure 37

Figure 38

N.M.M. VII-B-937, Haida tanged head collected at Masset.



Figure 38

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## APPENDIX A

This appendix lists and describes, with accompanying catalogue and metric information, the socketed heads that form the substantive data of the thesis. The specimens are listed according to type and subtype. The subtypes are ordered according to cultural province, e.g., Coast Salish, Nootkan, Haida, Northwest Coast General. Type III specimens are grouped according to lanyard attributes, e.g. heads with long, three-strand, sinew or hump lanyards. British Columbia Provincial Museum specimens are listed first in each type or subtype, National Museum of Man specimens second, and Simon Fraser specimens last.

A number of measurements were taken on each artifact and are listed here. Most are self-explanatory excepting perhaps the difference between basal thickness, body thickness and body width. Basal thickness is the distance between the valve spurs. Body thickness is in the same plane as the basal thickness, and only differs from the former when it is less than the thickness of the body. Body width is taken at one-hundred and eighty degrees to the plane of the basal thickness and body thickness. The abbreviation N.I. indicates that no information was available.

## Type I

## Subtype Ia, Coast Salish

Specimen:	2435a	Group:	Coast Salish
Provience:	Yale	Collector:	C. F. Newcombe
Date Collected:	1912	Date Acquired:	1912
Collection:	B.C.P.M.		

Length:	99 mm.	Arming element thickness:	7 mm.
Body width:	13 mm.	Length of valves exposed	
Body thickness:	24 mm.	proximally:	ca. 19/ca. 19 mm.
Basal thickness:	24 mm.	Valve length:	66/64 mm.
Length of wrapped body		*Valve width:	ca. 10/ca. 10 mm.
area:	54 mm.	*Valve thickness:	ca. 6/ca. 6 mm.
Exposed arming element		Foreshaft socket diameter:	9 mm.
length:	27 mm.		
Arming element width:	6 mm.	*Posterior end of body wrapping	

Documentation: Fish spear,...detachable heads, points of iron mounted between two pieces of horn.

Description: Socketed, head with two mountain goat horn valves and a cylindrical iron (?), unbarbed, shanked, arming element with a conical distal tip. The valves are wrapped with thread which secures a braided lanyard of the same material. The lanyard is one-piece, ca. 440 cm. long, joining 2435a to 2435b. The valves have a concave dorsal outline with blunt, squared tips at both anterior and posterior ends. The valve spurs have a plano-convex cross-section. The ventral faces of the spurs are flat near the tips with a concave foreshaft channel toward the apex of the two spurs. This specimen forms a pair with 2435b.

Specimen:	2435b	Group:	Coast Salish
Provience:	Yale	Collector:	C. F. Newcombe
Date Collected:	1912	Date Acquired:	1912
Collection:	B.C.P.M.		

Length:	100 mm.	Length of wrapped body area:	
Body width:	13 mm.		53 mm.
Body thickness:	23 mm.	Exposed arming element	
Basal thickness:	23 mm.	length:	27 mm.
Arming element thick-		Arming element width:	7 mm.
ness:	7 mm.	*Valve width:	10/10 mm.

Length of valves exposed  
proximally: ca. 21/ca.  
20 mm.  
Valve length: ca. 67/ca.  
68(?) mm.

\*Valve thickness: ca. 6/ca. 6 mm.  
Foreshaft socket diameter: ca.  
7 mm.

\*Posterior end of body wrap-  
ping.

Documentation: Fish spear, ...detachable heads, points of iron,  
mounted between two pieces of horn.

Description: See specimen 2435a for detailed description.  
Specimen 2435b forms a pair with 2435a.

Specimen:	7002(1)	Group:	Coast Salish
Providence:	Ohamil (Laidlaw)	Collector:	Wilson Duff
Date Collected:	1950	Date Acquired:	1950
Collection:	B.C.P.M.		

Length: 88 mm.  
Body width: 10 mm.  
Body thickness: 18 mm.  
Basal thickness: 18 mm.  
Length of wrapped body  
area: 42 mm.  
Exposed arming element  
length: 26 mm.  
Arming element width:  
3 mm.

Arming element thickness: 3 mm.  
Length of valves exposed  
proximally: 20/20mm.  
Valve length: ca. 57/ca. 57 mm.  
\*Valve width: 8/8 mm.  
\*Valve thickness: 5/5 mm.  
Foreshaft socket diameter: ca.  
5 mm.

\*Posterior end of body wrap-  
ping.

Documentation: Trout harpoon with three heads, mountain goat  
horn valves, square iron nails for points, bound with two-  
strand Indian hemp, three fixed serviceberry wood fore-  
shafts, Indian hemp lanyard (See Duff 1952:55,60). Col-  
lected from E. Lorenzetto.

Description: Socketed, head with two mountain goat valves  
and an iron (?), unbarbed shanked arming element made from  
a square nail. The latter has a conical, distal tip. The  
dorsal outline of the valves is concave. Both anterior and  
posterior valve tips are blunted, the ends being at 90 de-  
grees to the valve edges. The valve spurs are plano-  
convex in cross-section and have concave foreshaft channels.  
The valves and a portion of the arming element are wrapped  
with two-strand Indian hemp which secures a line of the  
same material which joins similar lines attached to the  
other two heads. The three lines are then braided together



forming the lanyard. The lanyard is attached to a socketed wooden piece that would then be attached to the main shaft. The anterior end of the socketed piece has three attached cylindrical foreshafts of serviceberry wood bound to it with cherry bark. Specimen 7002(1) forms a set of three with specimens 7002(2) and 7002(3).

Specimen: 7002(2) Group: Coast Salish  
 Province: Ohamil Collector: Wilson Duff  
 (Laidlaw)  
 Date Acquired: 1950  
 Date Collected: 1950  
 Collection: B.C.P.M.

Length: 79 mm. Arming element thickness: 2 mm.  
 Body width: 10 mm. Length of valves exposed  
 Body thickness: 17 mm. proximally: 15/14 mm.  
 Basal thickness: 17 mm. Valve length: ca. 50/ca. 49 mm.  
 Length of wrapped body \*Valve width: ca. 7/ca. 6 mm.  
 area: 43 mm. \*Valve thickness: ca. 4/ca. 3 mm.  
 Exposed arming element Foreshaft socket diameter: 5 mm.  
 length: 22 mm.  
 Arming element width: 3 mm. \*Posterior end of body wrapping

Documentation: See specimen 7002(1)

Description: For detailed description see specimen 7002(1).  
 Specimen 7002(2) forms a set of three with 7002(1) and 7002(3).

Specimen: 7002(3) Group: Coast Salish  
 Province: Ohamil Collector: Wilson Duff  
 (Laidlaw)  
 Date Acquired: 1950  
 Date Collected: 1950  
 Collection: B.C.P.M.

Length: 82 mm. Exposed arming element  
 Body width: 9 mm. length: 25 mm.  
 Body thickness: 18 mm. Arming element width: 3 mm.  
 Basal thickness: 18 mm. Arming element thickness: 3 mm.  
 Length of wrapped body Length of valves exposed  
 area: ca. 36 mm. proximally: 24/22mm.  
 Valve length: 49/48 mm. \*Valve width: 7/8 mm.  
 Foreshaft socket dia- \*Valve thickness: 4/4 mm.  
 meter: 6 mm.

\*Posterior end of body wrapping

Documentation: See specimen 7002(1)

Description: For detailed description see specimen 7002(1).  
Specimen 7002(3) forms a set of three with 7002(1) and 7002(2).

Specimen:	7003	Group:	Coast Salish
Proviencce:	Yale	Collector:	Wilson Duff
Date Collected:	1950	Date Acquired:	1950
Collection:	B.C.P.M.		

Length: 104 mm.	Arming element width: 3 mm.
Body width: 19 mm.	Arming element thickness: 4 mm.
Body thickness: 25 mm.	Length of valves exposed
Basal thickness: 25 mm.	proximally: 23/23 mm.
Length of wrapped body	*Valve Width: 23/23 mm.
area: 67 mm.	*Valve thickness: ca. 11/10 mm.
Exposed arming element	Foreshaft socket diameter: 11 mm.
length: 17 mm.	

\*Posterior end of body wrapping

Documentation: Model of salmon harpoon head. Real one would have bone point, mountain goat horn valves. Made by P. Charlie.

Description: Socketed, head with two wooden valves and an unbarbed, cylindrical, shanked arming element made from a steel (?) nail. It has a faceted tip (four faces). The dorsal outline of the valve spurs is irregular but generally straight. They are concave-convex in cross-section with concave foreshaft channels. The valves and a portion of the arming element are wrapped with a commercial string which secures a cord lanyard.

Specimen:	10313a	Group:	Coast Salish
Proviencce:	Victoria	Collector:	N.I.
Date Collected:	N.I.	Date Acquired:	1962
Collection:	B.C.P.M., Newcombe Collection, ex Tolmie Collection.		

Length: 111 mm.	Arming element thickness: 6 mm.
Body width: 19 mm.	Length of valves exposed
Body thickness: 25 mm.	proximally: 24/22 mm.

Basal thickness: 25 mm.      Valve length: ca. 73/ca. 70 mm.  
 Length of wrapped body      \*Valve width: 13/13 mm.  
   area: ca. 54 mm.      \*Valve thickness: ca. 11/ca. 8 mm.  
 Exposed arming element      Foreshaft socket diameter: 10 mm.  
   length: 34 mm.  
 Arming element width:  
   6 mm.      \*Posterior end of body wrapping

Documentation: Spear point, salmon, iron point, bone barbs,  
 pitch wrapping.

Description: Socketed head with two bone valves and a taper-  
 ing cylindrical, iron, non-barbed, shanked, arming element.  
 The valves are wrapped with pitched string which secures a  
 cord lanyard. The valve spurs have pointed tips and a  
 plano-convex cross-section with well-defined concave fore-  
 shaft channels. This specimen forms a pair with 10313b.

Specimen: 10313b      Group: Coast Salish  
 Proviencce: Victoria      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection, ex Tolmie  
 Collection.

Length: 104 mm.      Arming element thickness: 5 mm.  
 Body width: 18 mm.      Length of valves exposed  
 Body thickness: 22 mm.      proximally: 25/25  
 Basal thickness: 22 mm.      Valve length: ca. 65/ca. 66 mm.  
 Length of wrapped body area: \*Valve width: 14/13 mm.  
   53 mm.      \*Valve thickness: ca. 9/ca. 9 mm.  
 Exposed arming element      Foreshaft socket diameter: ca 8 mm.  
   length: 28 mm.  
 Arming element width: 4 mm.      \*Posterior end of body wrapping

Documentation: See specimen 10313a.

Description: For detailed description see specimen 10313a.  
 This specimen forms a pair with 10313a.

Subtype Ia, Nootkan

Specimen: 1063      Group: Nootkan (?)  
 Proviencce: West Coast      Collector: H. B. Roycroft  
   Vancouver  
   Island

Date Collected: 1887

Date Acquired: N.I.

Collection: B.C.P.M.

Length: 98 mm.

Body width: 18 mm.

Body thickness: 16 mm.

Basal thickness: 16 mm.

Length of wrapped body  
area: 53 mm.Exposed arming element  
length: 30

Arming element width: 4 mm.

Arming element thickness: 4 mm.

Length of valves exposed

proximally: 16/15 mm.

\*Valve width: ca. 12/ca. 13 mm.

\*Valve thickness: ca. 7/ca. 5 mm.

Foreshaft socket diameter: 8 mm.

\*Posterior end of body wrapping

Documentation: Salmon spear

Description: Socketed, head with two mountain goat horn valves and an unbarbed, shanked arming element. The latter is a square iron nail with a bilaterally beveled tip. The valves are wrapped with pitched sinew which secures a braided cord lanyard. The valve spur tips are pointed. The spurs are concavo-convex in cross-section. The dorsal outline of the valves appears to be slightly concave.

Specimen: VII-F-178

Group:

Nootkan(Makah)

Proviences: Neah Bay

Collector:

C. F. Newcombe

Date Collected: 1890-1904

Date Acquired: N.I.

Collection: N.M.M.

Length: 79 mm.

Body width: 16 mm.

Body thickness: 27 mm.

Length of wrapped body  
area: 46 mm.Exposed arming element  
length: 14 mm.

Arming element width: 4 mm.

Arming element thickness: 4 mm.

Length of valves exposed

proximally: 22/20 mm.

\*Valve width: 10/10 mm.

\*Valve thickness: 6/5 mm.

Foreshaft socket diameter: 7 mm.

\*Posterior end of body wrapping

Documentation: Sealing spear point, collected from Mr. Indian Charlie.

Description: Socketed head with two mountain goat horn valves and a steel (?), cylindrical in cross-section, unbarbed, shanked nail arming element. The valves are wrapped with pitched, or tarred, thread which secures a short cord attached to a skin lanyard. Valve spurs have a plano-convex cross-section and rounded tips.

Specimen: VII-F-307(1) Group: Nootkan (Tsésahaht)  
 Province: Alberni Collector: N.I.  
 Date Collected: N.I. Date Acquired: N.I.  
 Collection: N.M.M.

Length: 117 mm.  
 Body width: 21 mm.  
 Body thickness: 28 mm.  
 Length of wrapped body  
 area: 62 mm.  
 Exposed arming element  
 length: 29 mm.

Arming element width: 8 mm.  
 Arming element thickness: 6 mm.  
 Length of valves exposed  
 proximally: 25/25 mm.  
 \*Valve width: 13/12 mm.  
 \*Valve thickness: 9/9 mm.  
 Foreshaft socket diameter: 9 mm.

\*Posterior end of body wrapping

Documentation: Salmon spear head, Tsésahaht.

Description: Socketed head with two bone or antler valves and a steel (?), cylindrical, unbarbed, shanked arming element with a flat, bifacially tapering, expanded, excurvate, tip. The valves are wrapped with sinew, covered with bark and pitched. The wrapping secures a hide lanyard. The dorsal outline of the valve spurs is convex. Valve spurs are plano-convex in cross-section with rounded tips. The specimen forms a pair with VII-F-307(2).

Specimen: VII-F-307(2) Group: Nootkan(Tsésahaht)  
 Province: Alberni Collector: N.I.  
 Date Collected: N.I. Date Acquired: N.I.  
 Collection: N.M.M.

Length: 130 mm.  
 Body width: 19 mm.  
 Body thickness: 26 mm.  
 Basal thickness: 26 mm.  
 Length of wrapped body  
 area: 66 mm.  
 Exposed arming element  
 length: 39 mm.

Arming element thickness: 6 mm.  
 Length of valves exposed  
 proximally: 23/24 mm.  
 \*Valve width: 12/12 mm.  
 \*Valve thickness: 8/6 mm.  
 Foreshaft socket diameter: 8 mm.

Arming element width: 9 mm. \*Posterior end of body wrapping

Documentation: See specimen VII-F-307(1)

Description: For detailed description see VII-F-307(1). This specimen forms a pair with VII-F-307(1).

Specimen: VII-F-482 Group: Nootkan  
 Province: Alberni Collector: H. I. Smith  
 Date Collected: 1929 Date Acquired: N.I.  
 Collection: N.M.M.

Length: 154 mm. Arming element thickness: 5 mm.  
 Body width: 21 mm. Length of valves exposed  
 Body thickness: 30 mm. proximally: 37/38 mm.  
 Length of wrapped body \*Valve width: 16/17 mm.  
 area: 82 mm. Foreshaft socket diameter: 9 mm.  
 Exposed arming element  
 length: 36 mm.  
 Arming element width: 5 mm. \*Posterior end of body wrapping

Documentation: Harpoon head, small, metal point

Description: Socketed head with two wooden valves and an unbarbed, shanked, cylindrical, steel (?) arming element formed from a nail. The valves are wrapped with thread which secures a cord lanyard. Valve spurs have a slightly concave, almost straight, dorsal outline. The valve spurs are plano-convex in cross-section with rounded tips.

Subtype Ia, Northwest Coast General

Specimen: VII-X-179(1) Group: N.I.  
 Province: N.I. Collector: Department of  
 Indian Affairs  
 Date Collected: 1893 Date Acquired: N.I.  
 Collection: N.M.M.

Length: 92 mm. Arming element thickness: 5 mm.  
 Body width: 14 mm. Length of valves exposed  
 Body thickness: 19 mm. proximally: 19/15 mm.  
 Basal thickness: 19 mm. \*Valve width: 8/8 mm.  
 Length of wrapped body \*Valve thickness: 5/5mm.  
 area: 48 mm. Foreshaft socket diameter: 8 mm.  
 Exposed arming element  
 length: 27 mm.  
 Arming element width: 5 mm. \*Posterior end of body wrapping

Documentation: Two spear heads, detachable.

Description: Socketed head with two mountain goat horn valves and a cylindrical, unbarbed, shanked, brass, arming element. Valves and the proximal area of the arming element shank are wrapped with nettle (?) fibre string which is partially pitched. A braided lanyard of the same material is secured to the wrapping. The dorsal outline of the valve spurs is slightly concave with rounded tips and a plano-convex cross-section. This specimen forms a pair with VII-X-179(2).

Specimen: VII-X-179(2) Group: N.I.  
 Proviences: N.I. Collector: Department of Indian Affairs  
 Date Collected: 1893 Date Acquired: N.I.  
 Collection: N.M.M.

Length: 92 mm. Arming element thickness: 5 mm.  
 Body width: 12 mm. Length of valves exposed  
 Body thickness: 19 mm. proximally: 22/17 mm.  
 Basal thickness: 19 mm. \*Valve width: 8/8 mm.  
 Length of wrapped body \*Valve thickness: 4/5 mm.  
 area: 50 mm. Foreshaft socket diameter: 7 mm.  
 Exposed arming element length: 20 mm.  
 Arming element width: 5 mm. \*Posterior end of body wrapping

Documentation: See specimen VII-X-179(1)

Description: This specimen forms a pair with VII-X-179(1). It has an identical, unbarbed, shanked, brass, cylindrical, arming element, fibre wrapping and a braided lanyard. This specimen differs from VII-X-179(1) in that it has one bone or antler valve which is longer than the other goat horn valve. This valve has a spur with a slightly concave dorsal outline, a rounded tip, and a plano-convex cross-section.

Specimen: VII-X-192(1) Group: N.I.  
 Proviences: N.I. Collector: N.I.  
 Date Collected: N.I. Date Acquired: N.I.  
 Collection: N.M.M.

Length: 152 mm. Arming element thickness: 5 mm.  
 Body width: 22 mm. Length of valves exposed  
 Body thickness: 30 mm. proximally: 34/36 mm.  
 Basal thickness: 30 mm. \*Valve width: 13/13 mm.  
 Length of wrapped body \*Valve thickness: 6/7 mm.  
 area: 61 mm. Foreshaft socket diameter: ca.  
 Exposed arming element 9 mm.  
 length: 55 mm.  
 Arming element width: 11 mm. \*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two sheep or cow horn valves and an unbarbed shanked, bone, arming element. The arming element has a concavo-convex cross-section with a tapered, biconvex in cross-section, tip. The concave face is formed by the narrow channel. The posterior portion of the point shaft and anterior portion of the valves are bound with nettle (?) fibre which is covered with cherry bark. The wrapping secures a cord lanyard, also covered with cherry bark. The valve spurs have a convex dorsal outline, rounded tips, and a plano-convex cross-section. The specimen forms a pair with VII-X-192b.

Specimen: VII-X-192(2) Group: N.I.  
 Proviencce: N.I. Collector: N.I.  
 Date Collected: N.I. Date Acquired: N.I.  
 Collection: N.M.M.

Length: 150 mm. Length of wrapped body area: 60mm.  
 Body width: 22 mm. Exposed arming element length:  
 Body thickness: 30 mm. 53 mm.  
 Basal thickness: 30 mm. \*Valve width: 14/13 mm.  
 Arming element width: 10 mm. \*Valve thickness: 7/7 mm.  
 Arming element thickness: Foreshaft socket diameter: 7 mm.  
 6 mm.  
 Lengths of valves exposed  
 proximally: 37/35 mm. \*Posterior end of body wrapping

Documentation: N.I.

Description: For detailed description see specimen VII-X-192(1).  
 This specimen forms a pair with VII-X-192(1).



Specimen: N.M.M.-A      Group: N.I.  
 Proviencce: N.I.      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 102 mm.      Arming element thickness: 4 mm.  
 Body width: 17 mm.      Length of valves exposed  
 Body thickness: 25 mm.      proximally: 25/27 mm.  
 Basal thickness: 25 mm.      \*Valve width: 11/11 mm.  
 Length of wrapped body      \*Valve thickness: ca. 8/ca. 8 mm.  
 area: 51 mm.      Foreshaft socket diameter: 8 mm.  
 Exposed arming element  
 length: 26 mm.  
 Arming element width: 7 mm.      \*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with an unbarbed, shanked, bone arming element which has a biconvex cross-section. The two valves are of sheep (?) horn bound with pitched sinew which secures a braided sinew lanyard. The valve spurs are trianguloid in cross-section, with rounded tips and a concave dorsal outline.

Specimen: N.M.M.-C      Group: N.I.  
 Proviencce: N.I.      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 102 mm.      Body thickness: 26 mm.  
 Body width: 15 mm.      Basal thickness: 26 mm.  
 Length of wrapped body      Arming element thickness: 5 mm.  
 area: 44 mm.      Length of valves exposed  
 Exposed arming element      proximally: 26/28 mm.  
 length: 33 mm.      \*Valve width: 8/9 mm.  
 Arming element width:      \*Valve thickness: 7/8 mm.  
 6 mm.      Foreshaft socket diameter:  
                                          8 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two mountain goat horn valves and a rectangular, iron (?), unbarbed, shanked, arming

element which appears to be formed from a nail. The posterior portion of the arming element and the anterior portion of the valves are bound with partially pitched sinew which secures a braided sinew lanyard. The valve spurs have a concave dorsal outline, painted tips, and a plano-convex cross-section. This specimen forms a pair with artifact N.M.M.-B.

Subtype Ia', Haida

Specimen:	1458	Group:	Haida
Providence:	Kayang	Collector:	C. F. Newcombe
Date Collected:	1911	Date Acquired:	1911
Collection:	B.C.P.M.		

Legend:	98 mm.	Arming element thickness:	2 mm
Body width:	23 mm.	Length of valves exposed	
Body thickness:	23 mm.	proximally:	31/28 mm.
Basal thickness:	23 mm.	Valve length:	60/59 mm.
Length of wrapped body		*Valve width:	ca. 16/ca. 15 mm.
area:	24 mm.	*Valve thickness:	6/6 mm.
Exposed arming element		Blade/point channel	
length:	38 mm.	width:	ca. 15 mm.
Arming element width:	16 mm.	Foreshaft socket width:	ca. 13 mm.
		Foreshaft socket depth:	5 mm.
		Distance of lashing groove step	
		from distal tip of valves:	
		6/6 mm.	
		Foreshaft length:	167 mm.
		Foreshaft width:	22 mm.
		Foreshaft thickness:	13 mm.

\*Posterior end of body wrapping

Documentation: Salmon spear, iron point and bone barbs, spirea heads and cedar shaft.

Description: Socketed head with a thin, flat, unbarbed, shanked iron (?) arming element. The arming element has a bilaterally beveled, triangular tip. The valves are of sheep, or possibly cow, horn. Valve spurs are blunted at the tips and are plano-convex in cross-section. The foreshaft socket is shallow and slightly biconvex in shape. The dorsal outline of both valves is concave with rounded anterior valve tips. The valves are wrapped with thread

which is covered with spruce root. The wrapping secures a rawhide lanyard. The head articulates with a wooden foreshaft. The foreshaft is round in cross-section. The anterior tip has two flat tapering faces giving it a wedge-like shape. The posterior end has expanding shoulders which then taper along convex edges to a rounded tip. The faces taper to the tip and are slightly biconvex in cross-section. Presumably the head was attached to the main harpoon shaft.

Specimen: VII-B-215      Group: Haida  
 Proviencence: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 164 mm.	*Valve width: 13/13 mm.
Body width: 19 mm.	*Valve thickness: 5/5 mm.
Body thickness: 27 mm.	Foreshaft socket diameter: 4 mm.
Basal thickness: 27 mm.	Distance of lashing groove step from distal tip of valves: 16/16 mm.
Length of wrapped body area: 52 mm.	Lashing groove length: 51/51 mm.
Exposed arming element length: 64 mm.	Foreshaft length: 229 mm.
Arming element width: 13 mm.	Foreshaft width: 22 mm.
Arming element thick- ness: 1 mm.	Foreshaft thickness: 15 mm.
Length of valves exposed proximally: 35/33 mm.	
Valve length: 111/97 mm.	*Posterior end of body wrapping

Documentation: Spear point of iron, foreshaft, lanyard.

Description: Socketed, composite head with two goat horn valves and a thin, flat, iron (?), unbarbed, shanked arming element. The valves are wrapped with pitched sinew which secures a twisted sinew lanyard. The latter is attached to a wooden foreshaft similar in form to those which accompany specimens 1458, 9816a and 9816b. The length of the lanyard from head to foreshaft is approximately 310 mm. The dorsal outline of the valve spurs is concave. In cross-section the valve spurs are irregularly biconvex, with blunted tips.

## Subtype Ib, Northwest Coast General

Specimen: N.M.M.-B                      Group: N.I.  
 Proviences: N.I.                      Collector: N.I.  
 Date Collected: N.I.                      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 99 mm.                      Length of spurs: 26/25 mm.  
 Body width: 16 mm.                      \*Spur width: ca. 12/ca. 12 mm.  
 Body thickness: 25 mm.                      \*Spur thickness: ca. 5/ca. 5 mm.  
 Length of wrapped body                      Foreshaft socket diameter: 18 mm.  
 area: 25 mm.                      Distance of lashing groove step  
 Arming element width: 11 mm.                      from distal tip of valves:  
 Arming element thickness: 46 mm.  
 11 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed, one-piece head with an unbarbed, shanked arming portion and two symmetrical, bilaterally opposed spurs. The head is fashioned from a single piece of mountain goat horn. The unbarbed arming portion has a tapering, cylindrical, cross-section. The spurs have a concave dorsal outline with pointed tips. The socket for the anterior tip of the foreshaft is placed anterior to the apex of the ventral faces of the spurs. It is conical in form. There is a distinct encircling lashing groove step at the proximal end of the arming portion which holds a sinew lashing which in turn secures a braided sinew lanyard. This specimen forms a pair with artifact N.M.M.-C.

## Subtype Ic, Haida

Specimen: 9816a                      Group: Haida  
 Proviences: Masset                      Collector: C. F. Newcombe  
 Date Collected: 1911                      Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection.

Length: 94 mm.                      \*Valve width: 11 mm.  
 Body width: 16 mm.                      \*Valve thickness: 3 mm.  
 Body thickness: ca. 22 mm.                      Foreshaft socket width: 10 mm.

Basal thickness: ca. 22 mm.      Foreshaft socket depth: 5 mm.  
 Length of wrapped body      Foreshaft length: 269 mm.  
   area: ca. 31 mm.      Foreshaft width: 21 mm.  
 Exposed arming element      Foreshaft thickness: 12 mm.  
   length: ca. 37 mm.      Length of unspurred valve:  
 Arming element width:      ca. 28 mm.  
   12 mm.  
 Arming element thickness:  
   3 mm.  
 Length of valve exposed  
   proximally: ca. 25 mm.      \*Posterior end of body wrapping

Documentation: Spear points, salmon, two iron points with single barbs and counter shafts of yew.

Description: Socketed head with a self-armed, spurred metal valve made from an iron or steel file and an unspurred, half-conical metal (brass?) valve. The armed portion of the self-armed valve is rectangular in cross-section with a triangular, beveled tip. The two valves are bound together with pitched string. The wrapping secures an incomplete, flat, sinew lanyard. At the posterior end of the wrapped area, the valve spur is formed at approximately 45 degrees to the axis of the arming element. The outline of the spur is straight, tapering laterally to a rounded tip. The spur is flat in cross-section. The head is mounted on a wooden (yew?) cylindrical, slightly tapering, detachable, foreshaft. The anterior tip of the foreshaft is tapered and is plano-convex in cross-section. The flat face rests against the self-armed valve. The convex face against the concave ventral face of the unspurred valve. The posterior end has concave expanding shoulders, which then taper along convex edges to a rounded, thin base. The faces are convex giving a biconvex cross-section which tapers to the posterior end. Immediately anterior to the expanding butt is a pitched string wrapping which secures the remains of a flat rawhide lanyard. Presumably the lanyard articulated with the head and anterior end of the main shaft.

Specimen:	9816b	Group:	Haida
Proviencce:	Masset	Collector:	C. F. Newcombe
Date Collected:	1911	Date Acquired:	1962
Collection:	B.C.P.M., Newcombe Collection.		
Length:	80 mm.	*Valve width:	11 mm.
Body width:	16 mm.	*Valve thickness:	2 mm.

Body thickness: 20 mm.                      Foreshaft socket width: 10 mm.  
 Basal thickness: 20 mm.                    Foreshaft length: 244 mm.  
 Length of wrapped body                    Foreshaft width: 22 mm.  
   area: ca. 32 mm.                         Foreshaft thickness: 11 mm.  
 Exposed arming element                    Length of unspurred valve:  
   length: ca. 31 mm.                       ca. 51 mm.  
 Arming element width: 11 mm.  
 Arming element thickness:  
   2 mm.  
 Length of valve exposed  
   proximally: ca. 18 mm.                 \*Posterior end of body wrapping

Documentation: See 9816a

Description: For detailed description see specimen 9816a.  
 Specimen 9816b, head and detachable foreshaft, form a pair  
 with 9816a. Both heads are very similar in materials,  
 form and construction. The self-armed valve is thinner,  
 and can not be positively identified as being made from a  
 file.

Subtype Id, Haida

Specimen:	1459(1)	Group:	Haida
Providence:	Skidegate	Collector:	C. F. Newcombe
Date Collected:	1911	Date Acquired:	1911
Collection:	B.C.P.M.		

Length: 137 mm.	Arming element thickness: 5 mm.
Body width: 21 mm.	Length of valves exposed
Body thickness: 22 mm.	proximally: 17/40 mm.
Basal thickness: 22 mm.	Valve length: 56/137 mm.
Length of wrapped body	*Valve width: 13/13 mm.
area: 30 mm.	*Valve thickness: 6/4 mm.
Exposed arming element	Foreshaft socket width: ca. 8 mm.
Length: 66 mm.	Foreshaft socket depth: 5 mm.
Arming element width: 11 mm.	Distance of lashing groove step
	from distal tip of valves:
	9 mm.
	Lashing groove length: 30/31 mm.
	*Posterior end of body wrapping

Documentation: Salmon spear and shaft, two iron points with spruce root lanyard, cedar shaft.

**Description:** Socketed, head with one sheep (?) horn valve lashed to a self-armed and spurred valve of iron or steel. The armed portion of the latter valve is unbarbed, with a rectanguloid, tapering point that ends in a convex edged tip. The self-armed valve has a stepped lashing groove. It is lashed to the horn valve with thread and spruce root. The metal valve spur has a pronounced concave dorsal outline and is plano-convex in cross-section which becomes almost cylindrical at its pointed tip. The horn valve has a pronounced lashing groove with a concave dorsal outline, a pointed triangular anterior tip, and a valve spur which has a concave-convex cross-section. A two strand spruce root cord lanyard attaches the head to specimen 1459(2). The lanyard is a single piece without any splices, approximately 145 cm. in length.

Specimen:	1459(2)	Group:	Haida
Providence:	Skidegate	Collector:	C. F. Newcombe
Date Collected:	1911	Date Acquired:	1911
Collection:	B.C.P.M.		

Length:	156 mm.	Arming element thickness:	5 mm.
Body width:	21 mm.	Length of valves exposed	
Body thickness:	24 mm.	proximally:	18/39 mm.
Basal thickness:	24 mm.	Valve length:	56/156 mm.
Length of wrapped body		*Valve width:	14/12 mm.
area:	40 mm.	*Valve thickness:	6/5 mm.
Exposed arming element		Foreshaft socket width:	ca. 8 mm.
length:	81 mm.	Foreshaft socket depth:	ca. 6 mm.
Arming element width:	10 mm.		

\*Posterior end of body wrapping

**Documentation:** Salmon spear and shaft, two iron points with spruce root lanyard, cedar shaft.

**Description:** Although slightly longer, this specimen is identical in most of its attributes to 1459(1). Unfortunately the spruce root wrapping obscures the lashing groove on both the horn and the metal, self-armed valve.

Type II

Subtype IIa, Coast Salish

Specimen: 2418 Group: Coast Salish  
 Proviencce: Cowichan District Collector: C. F. Newcombe  
 Date Collected: 1912 Date Acquired: 1912  
 Collection: B.C.P.M.

Length: 127 mm. Length of valves exposed  
 Body width: 19 mm. proximally: 32/31 mm.  
 Basal thickness: 31 mm. Valve length: 84/82 mm.  
 Length of wrapped body Valve width: 14/15 mm.  
 area anterior: 12 mm. \*Valve thickness: 6/6 mm.  
 posterior: 11 mm. Arming element channel  
 Arming element length: 75 mm length: 31 mm.  
 Exposed arming element Arming element channel width:  
 length: 46 mm. 14 mm.  
 Arming element width: 35 mm. Arming element channel thick-  
 Arming element thickness: ness: 3 mm.  
 3 mm. Foreshaft socket diameter: 8 mm.  
 Inside length of distal Distance of lashing groove step  
 barbs: 12/14 mm. from distal tips of valves:  
 16; 41/17; 41 mm.  
 Anterior lashing groove length:  
 12/12 mm.

\*Posterior end of body wrapping

Documentation: Sea lion harpoon head, iron blade in horn socket.

Description: Socketed head with two antler valves and a steel or iron, bilaterally symmetrical, barbed, shanked arming element. The arming element shank is wide and thin, measuring 19 x 4 mm. There are two right angled notches, each 4 mm. wide at the posterior end of the shank. Each valve has an anterior lashing groove as well as a lashing groove step in the medial area. Valves and shank are secured together with pitched sinew which secures a cord lanyard. The arming element channel beds are unbound with straight end-steps. The dorsal outline of the valves is concave. The valve spur tips and the anterior tips are both pointed. The valves are plano-convex in cross-section with the medial area of the ventral faces being concave to form the foreshaft socket.



Specimen: 10899 Group: Coast Salish  
 Province: Songhees Reserve, Victoria Collector: Sennett

Date Collected: N.I. Date Acquired: 1961

Collection: B.C.P.M., Newcombe Collection.

Length: 166 mm.	Valve length: 90/91 mm.
Body width: 18 mm.	Valve width: 18/18 mm.
Body thickness: 30 mm.	Valve thickness: 10/11 mm.
Basal thickness: 30 mm.	Arming element channel length: 37 mm.
Arming element length: 113 mm.	Arming element channel width: 16 mm.
Exposed arming element length: 77 mm.	Arming element channel thickness: 2-4 mm.
Arming element width: 32 mm.	Foreshaft socket diameter: 10 mm.
Arming element thickness: 5 mm.	Distance of lashing groove step from tips of valves: 46/46 mm.
Inside length of distal barbs: 21/21 mm.	

Documentation: Metal spear point between antler sockets.

Description: Socketed head with two sea mammal bone valves and a steel or iron, bilaterally symmetrical, barbed, shanked, arming element. The shank is rectangularoid in cross-section, measuring 12 x 4 mm. It expands laterally and narrows in thickness toward its base. The valves and shank are attached by two rivets. The arming element channel ends are unbound with straight end-steps. The encircling lashing groove step is approximately 2 mm. high. The valve spurs are plano-convex in cross-section. The dorsal faces from the lashing groove steps to the squared anterior ends are convex in cross-section. The dorsal outline of the valves is convex anterior to the lashing groove step and slightly concave posterior to the latter.

Specimen: 3454a Group: Coast Salish (Saanich)  
 Province: Patricia Bay Collector: Mrs. E. Cross  
 Date Collected: N.I. Date Acquired: February, 1972  
 Collection: S.F.U., M.A.E.

Length: 151 mm.	Body thickness: 25 mm.
Body width: 22 mm.	Basal thickness: 26 mm.
Arming element length: 94 mm.	Valve length: 99/97 mm.
Arming element width: 31 mm.	Valve width: 16/16 mm.
Arming element thick- ness: 2 mm.	Valve thickness: ca. 9/ca. 9 mm.
Inside length of distal barbs: 25 mm.	Arming element channel length: 42/39 mm.
Length of valves exposed proximally: 27/28 mm.	Arming element channel width: 14/15 mm.
	Arming element channel thick- ness: 2 mm.
	Foreshaft socket diameter: 9 mm.
	Distance of lashing groove step from distal tip of valves:
	anterior: 19/17 mm.
	posterior: 52/50 mm.
	Lashing groove length:
	anterior: 7/6 mm.

Documentation: Collected from Cecilia Jim, Patricia Bay.  
Sealing harpoon heads.

Description: Socketed head with two bone or antler valves and a steel or iron, unilaterally barbed, shanked arming element. The arming element shank has two bilaterally applied notches, ca. 6 mm. wide, approximately 16 mm. from the base. The channel beds are unbound with straight end-steps. Each valve has an anterior lashing groove opposite the posterior end of the arming element channel and a lashing groove step near the posterior end of the valve spurs. This head probably formed a pair with specimen 3454b.

Specimen:	3454b	Group:	Coast Salish (Saanich)
Proviencie:	Patricia Bay	Collector:	Mrs. E. Cross
Date Collected:	N.I.	Date Acquired:	February, 1972
Collection:	S.F.U., M.A.E.		

Length: 152 mm.	Valve width: 16/16 mm.
Body width: 17 mm.	Valve thickness: ca. 10/ca. 9 mm.
Body thickness: 24 mm.	Arming element channel length: 41/29 mm.
Basal thickness: 24 mm.	Arming element channel width: 14/14 mm.
Arming element length: 90 mm.	Arming element channel thick- ness: 3 mm.
Arming element width: 32 mm.	Foreshaft socket diameter: 8 mm.
Inside length of distal barbs: 25 mm.	
Valve length: 101/96 mm.	

Distance of lashing groove step  
from distal tip of valves:  
anterior: 31/30 mm.  
posterior: 51/52 mm.  
Lashing groove length: anterior  
8/9 mm.

Documentation: Collected from Cecilia Jim, Patricia Bay.  
Sealing harpoon heads.

Description: Socketed head with two bone or antler valves,  
and a steel or iron, unilaterally barbed, shanked arming  
element. This specimen is very similar to 3454a. These  
two specimens probably formed a pair.

Subtype IIa, Nootkan

Specimen:	2197	Group:	Nootkan
Providence:	Nootka (Yuquot?)	Collector:	C. F. Newcombe
Date Collected:	1912	Date Acquired:	1912
Collection:	B.C.P.M.		

Length:	228 mm.	Inside length of distal barbs:	16/17 mm.
Body width:	19 mm.	Length of valves exposed proximally:	35 mm.
Body thickness:	27 mm.	Valve length:	(104)/105 mm.
Basal thickness:	27 mm.	Valve width:	15/15 mm.
Length of wrapped body area:	17 mm.	Valve thickness:	ca. 9/ca. 10 mm.
Arming element length:	171 mm.	Arming element channel length:	52 mm.
Exposed arming element length:	115 mm.	Arming element channel width:	15 mm.
Arming element width:	26 mm.	Arming element channel thickness:	4-6 mm.
Arming element thickness:	5 mm.	Foreshaft socket diameter:	ca. 8 mm.

Documentation: Sea otter harpoon head.

Description: Socketed head with two bone valves and an iron  
or steel, bilaterally barbed, shanked arming element. The  
latter has four asymmetrical barbs and appears to be made  
from a file. Two rivets secure the valves to the arming  
element shank. The shank is rectanguloid and measures

9 x 4 mm. at the anterior end of the valves. The flat arming element channel beds are unbound with straight end-steps at their posterior ends. The valves are wrapped with string which secures a cord lanyard. The valve spurs have pointed distal tips, one is broken, and are plano-convex in cross-section. The anterior valve portions are also plano-convex in cross-section with pointed tips. The dorsal outline is gently concave.

Specimen:	2198	Group:	Nootkan
Providence:	Barkley Sound	Collector:	C. F. Newcombe
Date Collected:	1911	Date Acquired:	1911
Collection:	B.C.P.M.		

Length:	149 mm.	*Valve width:	17/18 mm.
Body width:	26 mm.	*Valve thickness:	10/10 mm.
Body thickness:	27 mm.	Foreshaft socket diameter:	11 mm.
Basal thickness:	27 mm.		
Length of wrapped body area:	ca. 77 mm.		
Exposed arming element length:	53 mm.		
Arming element width:	32 mm.		
Arming element thickness:	7 mm.		
Inside length of distal barbs:	22/22 mm.		
Length of valves exposed proximally:	25/25 mm.	*Posterior end of body wrapping	

Documentation: Spear point, iron, bone, wrapped with cherry bark, cotton lanyard.

Description: Socketed head with two bone (?) valves, and a steel or iron, bilaterally symmetrical, barbed, shanked arming element with its distal tip missing. The arming element shank is rectangular and measures 11 x 8 mm. at the anterior end of the wrapped body area. The body is wrapped with string and covered with cherry bark which secures a cord lanyard. Valve spurs have pointed tips that are blunted. The dorsal valve spur faces are convex in cross-section. The ventral faces are concave except at the tips.

Specimen: 14176                      Group: Nootkan  
 Province: Hesquiat or Ahousat      Collector: A. E. Caldwell  
 Date Collected: 1934-1939      Date Acquired: 1974  
 Collection: B.C.P.M., Caldwell Collection.

Length: 181 mm.	Body thickness: 31 mm.
Body width: 21 mm.	Basal thickness: 31 mm.
Length of wrapped body area: 35 mm.	Length of valves exposed proximally: 29/29 mm.
Exposed arming element length: 110 mm.	Valve length: 71/70 mm.
Arming element width: 27 mm.	*Valve width: 16/16 mm.
Arming element thickness: 4 mm	*Valve thickness: ca. 10/ca. 10 mm.
Inside length of distal barbs: 20/20 mm.	Foreshaft socket diameter: 10 mm.
	Distance of lashing groove step from distal tips of valves: 6 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two bone valves and a steel or iron, bilaterally symmetrical, barbed, shanked arming element. Both barbs are bent, one back toward the shank and the other away from the shank in the opposite plane. The shank is rectangular in cross-section and measures 9 x 6 mm. at the anterior end of the valves. The valve arming element channel beds are bounded, approximately 3 and 2 mm. deep respectively. The anterior valve ends are convexly curved from the lashing groove step to the squared distal end. The valve spurs are pointed at the tips, one is trianguloid in cross-section, the other plano-convex. The dorsal outline of both valves is concave. The valves are wrapped with string with an attached, fragmentary, cord lanyard.

Specimen: 14177                      Group: Nootkan  
 Province: Hesquiat or Ahousat      Collector: A. E. Caldwell  
 Date Collected: 1934-1939      Date Acquired: 1974  
 Collection: B.C.P.M., Caldwell Collection.

Length: 136 mm.	Arming element thickness: 8 mm.
Body width: 20 mm.	Inside length of distal barbs:

Body thickness: 22 mm.	22/21 mm.
Basal thickness: 20 mm.	Length of valves exposed
Length of wrapped body	proximally: 18/13 mm.
area: 51 mm.	Valve length: ca. 61/ca. 57 mm.
Exposed arming element	*Valve width: ca. 10/ca. 9 mm.
length: 68 mm.	*Valve thickness: ca. 7/ca. 6 mm.
Arming element width: 32 mm.	Foreshaft socket diameter: 8 mm.

\*Posterior end of body wrapping.

Documentation: N.I.

Description: Socketed head with two bone valves and a bilaterally symmetrical, barbed, shanked, bone arming element. The shank measures 9 x 7 mm. at anterior end of body wrapping. Both barb tips are blunted. Valve spurs are plano-convex in cross-section with rounded tips. Body is wrapped with string which secures a cord lanyard. The attributes of the channel beds are not observable.

Specimen: 14179	Group: Nootkan
Providence: Hesquiat or Ahousat	Collector: A. E. Caldwell
Date Collected: 1934-1939	Date Acquired: 1974
Collection: B.C.P.M., Caldwell Collection.	

Length: 146 mm.	Arming element width: 27 mm.
Body width: 15 mm.	Inside length of distal barbs: 15/15 mm.
Body thickness: 29 mm.	Length of valves exposed
Basal thickness: 29 mm.	proximally: 29/29 mm.
Length of wrapped body	Valve length: 81/81 mm.
area: 17 mm.	Valve width: 11/11 mm.
Arming element length: 99 mm.	Arming element channel length: 34 mm.
Exposed arming element	Arming element channel width: 11 mm.
length: 66 mm.	Foreshaft socket diameter: 11 mm.
Arming element channel	
thickness: 4-3 mm.	

Documentation: N.I.

Description: Socketed, composite head with two brass valves and a steel or iron, bilaterally symmetrical, barbed, shanked arming element. The shank is rectangular and measures 8 x 3 mm. at the anterior valve ends. The valves have flat, unbound channel beds with squared end-steps. The spurs are pointed and have a plano-convex cross-section. The dorsal outline of the valves is slightly convex anterior from the lashing groove step and concave posterior to it. The valves are attached to the shank by two rivets.

The body below the encircling lashing groove step is wrapped with pitched fibre string which attaches a cord lanyard.

Specimen: 14180 Group: Nootkan  
 Province: Hesquiat or Ahousat Collector: A. E. Caldwell  
 Date Collected: 1934-1939 Date Acquired: 1974  
 Collection: B.C.P.M., Caldwell Collection.

Length: 169 mm. Inside length of distal barbs: 20/20 mm.  
 Body width: 22 mm. Length of valves exposed proximally: 35/35 mm.  
 Body thickness: 29 mm. Valve length: 84/84 mm.  
 Basal thickness: 29 mm. Valve width: 17/17 mm.  
 Length of wrapped body area: 31 mm. \*Valve thickness: ca. 11/ca. 13 mm.  
 Exposed arming element length: 75 mm. Foreshaft socket diameter: 11 mm.  
 Arming element width: 31 mm. Arming element thickness: 5 mm.  
 \*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two antler valves and a steel or iron, bilaterally symmetrical, barbed, shanked, arming element. The shank is rectangular in cross-section measuring 8 x 4 mm. at the anterior valve ends. The anterior valve ends are squared-off. The channel beds are bounded and are both ca. 2 mm. in depth. The end attributes are not observable. The valve spurs are trianguloid in cross-section with pointed tips that are slightly blunted. The valves posterior to the encircling lashing groove step are wrapped with string which secures a cord lanyard. The dorsal outline of the valves rises steeply from the anterior ends to the lashing groove step and then maintains a relatively straight profile to the valve spur tips.

Specimen: 14181 Group: Nootkan  
 Province: Hesquiat or Ahousat Collector: A. E. Caldwell  
 Date Collected: 1934-1939 Date Acquired: 1974  
 Collection: B.C.P.M., Caldwell Collection.

Length: 165 mm. Inside length of distal barbs: 23/23 mm.  
 Body width: 20 mm. Length of valves exposed  
 Body thickness: 26 mm.

Basal thickness: 26 mm.	proximally: 32/32 mm.
Length of wrapped body area: 25 mm.	Valve length: 92/91 mm.
Arming element length: 111 mm.	Valve width: 15/14 mm.
Arming element width: 29 mm.	*Valve thickness: 11/9 mm.
Arming element thickness: 4 mm.	Arming element channel length: 35 mm.
Foreshaft socket diameter: 9 mm.	Arming element channel width: 15 mm.
Distance of lashing groove step from distal tips of valves: 11/10; 36/38 mm.	Arming element channel thickness: 4 mm.
	*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two antler (?) valves, and a steel or iron, bilaterally symmetrical, barbed, shanked, arming element. The valve spurs are trianguloid in cross-section with pointed tips. The anterior valve ends are squared-off in one case, rounded in the other. The channel beds are unbound and unstepped. The shank is rectangular in cross-section, measuring 9 x 4 mm. at the anterior valve ends. It tapers in thickness to its base. Each valve has two lashing groove steps. The anterior step on one valve appears to form a lashing groove 3 mm. wide. Neither one has any wrapping attached. The valves are joined to the shank by two rivets. The posterior rivet does not extend through to the dorsal face in one valve. The hole appears to have a bone plug. Posterior to the proximal lashing groove steps the valves are wrapped with string which attaches a cord lanyard served with string. The dorsal outline of the valves is straight.

Specimen:	14182	Group:	Nootkan
Providence:	Hesquiat or Ahousat	Collector:	A. E. Caldwell
Date Collected:	1934-1939	Date Acquired:	1974
Collection:	B.C.P.M., Caldwell Collection.		

Length: 153 mm.	Arming element thickness: 4 mm.
Body width: 21 mm.	Inside length of distal barbs: 17/19 mm.
Basal thickness: 27 mm.	Length of valves exposed proximally: 27/29 mm.
Length of wrapped body area: 26 mm.	Valve length: ca. 78/ca. 79 mm.
Exposed arming element length: 63 mm.	Valve width: 18/19 mm.
Arming element width: 29 mm.	Valve thickness: 10/11 mm.
	Foreshaft socket diameter: 10 mm.



Distance of lashing groove step  
from distal tips of valves:  
24/25 mm.

Documentation: N.I.

**Description:** Socketed head with two bone valves and a steel or iron, bilaterally symmetrical, barbed, shanked, arming element. The shank is rectanguloid, measures 8 x 3 mm. at the anterior end of the valves, and is secured to the valves by two copper rivets. The valves have bound channel beds, the end attributes of which are unobservable. They are wrapped with string posterior to the encircling lashing groove step. A cord lanyard is attached by the string wrapping. The valve spurs are plano-convex in cross-section with pointed tips. The anterior valve ends are obscured by a thread wrapping which may have been applied for reinforcement as one valve is cracked along its dorsal face. Anterior to the lashing groove step, the dorsal outline of the valves is convex, posterior to the step the outline is straight.

Specimen:	14184	Group:	Nootkan
Providence:	Hesquiat or Ahouat	Collector:	A. E. Caldwell
Date Collected:	1934-1939	Date Acquired:	1974
Collection:	B.C.P.M., Caldwell Collection		

Length:	152 mm.	Arming element thickness:	4 mm.
Body width:	16 mm.	Inside length of distal barbs:	18/18 mm.
Body thickness:	28 mm.	Lengths of valves exposed	
Basal thickness:	28 mm.	proximally:	26/26 mm.
Length of wrapped body		Valve length:	82/83 mm.
area:	30 mm.	Valve width:	12/13 mm.
Arming element length:		Valve thickness:	8/7 mm.
ca. 95 mm.		Arming element channel	
Exposed arming element		length:	ca. 26 mm.
length:	69 mm.	Arming element channel width:	
Arming element width:	31 mm.		13 mm.
		Arming element channel thickness:	
			2-4 mm.
		Foreshaft socket diameter:	10 mm.
		Distance of lashing groove step	
		from distal tips of valves:	
			27 mm.

Documentation: N.I.

**Description:** Socketed head with two copper valves and a steel or iron, bilaterally symmetrical, barbed, shanked, arming element. The arming element shank is rectangular in cross-section measuring 10 x 4 mm. at the anterior end of the valves. The shank expands laterally and narrows in thickness toward its base. The channel beds are unbound with straight end-steps. The valve spurs have pointed tips and are markedly concavo-convex in cross-section. The valve portions anterior to the lashing groove step are convexly flattened on their dorsal faces rounding to thin flat edges. The dorsal outline of the valves is slightly convex anterior to the lashing groove step and markedly concave posterior to it. The valves are attached to the shank with a large brass rivet. The cord lanyard is attached by a string wrapping.

**Specimen:** VII-F-154      **Group:** Nootkan  
**Providence:** Clayoquat      **Collector:** C. F. Newcombe  
**Date Collected:** 1890-1904      **Date Acquired:** N.I.  
**Collection:** N.M.M.

<b>Valve length:</b> 81 mm.	<b>Arming element channel bed</b>
<b>Valve width:</b> 15 mm.	<b>depth:</b> ca. 3 mm.
<b>Valve thickness:</b> 11 mm.	<b>Foreshaft socket length:</b> 25 mm.
<b>Arming element channel bed</b>	<b>Foreshaft socket width:</b> 9;
<b>length:</b> 34 mm.	<b>minimum:</b> 7 mm.
<b>Arming element channel bed</b>	<b>Foreshaft socket depth:</b> ca.
<b>width:</b> 10 mm.	<b>4 mm.</b>

**Documentation:** Barb for spear point. Nootka, Clayoquat

**Description:** A bone or antler valve with a half-cylindrical foreshaft channel and a flat bottomed, bound, arming element channel bed with vertical interior edges and a rectangular expansion at the posterior end. The expansion extends the channel bed from 7 mm. in width to 9 mm. The anterior valve end is squared-off, whereas the spur tip is pointed. The dorsal face has a convex cross-section. The form of the dorsal outline was not recorded. This specimen appears to form a pair with specimen VII-F-155, which has identical major attributes.

Specimen: VII-F-155      Group: Nootkan  
 Proviencce: Clayoquet      Collector: C. F. Newcombe  
 Date Collected: 1890-1904      Date Acquired: N.I.  
 Collection: N.M.M.

*Valve length: 80 mm.	Arming element bed depth: ca.
Valve width: 15 mm.	3 mm.
Valve thickness: 19 mm.	Foreshaft socket length: ca.
Arming element channel	25 mm.
bed length: 34 mm.	Foreshaft socket width: 9; mini-
Arming element channel	mum 6 mm.
bed width: 10 mm.	Foreshaft socket depth: ca. 4 mm.

\*Possibly incomplete

Documentation: Barb for spear point. Nootka, Clayoquet

Description: This specimen is essentially identical to specimen VII-F-154. The two valves are probably a pair. The shape of the arming element channel bed indicates that when complete the valves held a bilaterally symmetrical, steel or iron, barbed and shanked arming element similar to the specimen illustrated in Figure 12a.

Specimen: VII-F-156      Group: Nootkan  
 Proviencce: Clayoquet      Collector: C. F. Newcombe  
 Date Collected: 1890-1904      Date Acquired: N.I.  
 Collection: N.M.M.

Valve length: 85 mm.	Arming element channel bed
Valve width: 15 mm.	depth: ca. 1 mm.
Valve thickness: 10 mm.	Foreshaft socket length: ca.
Arming element channel bed	24 mm.
length: 34 mm.	Foreshaft socket width: 7 mm.
Arming element channel bed	Foreshaft socket depth: ca.
width: 8 mm.	4 mm.

Documentation: Barb for spear point. Nootka, Clayoquet.

Description: A mountain goat horn valve from a socketed harpoon head. The valve has two, in place, iron or steel rivets through the flat bottomed, bound and straight end-stepped channel bed. The foreshaft channel is a half-cylinder. The dorsal face has a convex cross-section.

The dorsal outline appears to be essentially straight through the anterior portion tapers convexly from the lashing groove step to the anterior tip.

Specimen: VII-F-180      Group: Nootkan (Makah)  
 Province: Neah Bay      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 160 mm.	Arming element thickness: 5 mm.
Body width: 17 mm.	Inside length of distal barbs: 13/12 mm.
Body thickness: 28 mm.	Length of valves exposed proximally: 29/28 mm.
Basal thickness: 28 mm.	*Valve width: 12/13 mm.
Length of wrapped body area: 40 mm.	*Valve thickness: 9/10 mm.
Exposed arming element length: 89 mm.	Foreshaft socket diameter: 9 mm.
Arming element width: 22 mm.	

\*Posterior end of body wrapping

Documentation: Bone spear point for fur sealing (copper).

Description: Socketed, head with two bone or antler valves and a steel or iron, bilaterally symmetrical, barbed, shanked, arming element. The shank has a rounded, rectangular, cross-section. The valves are wrapped with string which secures a cord lanyard that is secured with string. The arming element channel bed attributes are not observable. The spur tips are pointed and have a plano-convex cross-section. The dorsal outline of the valve spurs is slightly concave.

Specimen: VII-F-213      Group: Nootkan  
 Province: Clayoquot      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 159 mm.	Arming element thickness: 3 mm.
Body width: 17 mm.	Inside length of distal barbs: 22 mm.
Body thickness: 24 mm.	Length of valves exposed proximally: 31/28 mm.
Length of wrapped body area: 41 mm.	Valve length: 84/82 mm.
Exposed arming element length: 90 mm.	*Valve width: 13/13 mm.

Arming element width: 22 mm. \*Valve thickness: 10/ca. 11 mm.  
Foreshaft socket diameter: 9 mm.

\*Posterior end of body wrapping

Documentation: Spear for fur seal

Description: Socketed head with two bone or antler valves and a steel or iron, unilaterally barbed, shanked, arming element. The shank has a rectanguloid cross-section. The valves are wrapped with commercial string and partially covered with bark. The channel beds are unbound. Their end attributes are not observable. The string wrapping attaches a lanyard made from an unidentified material, perhaps hide. The dorsal outline of the valve spurs is slightly concave. The valve spurs have pointed tips and a plano-convex cross-section. The anterior valve ends are rounded.

Specimen:	VII-F-306(1) Group:	Nootkan
Proviences:	Barkley Sound	Collector: Department of Indian Affairs
Date Collected:	N.I.	Date Acquired: 1897(?)
Collection:	N.M.M.	

Length: 156 mm.	Inside length of distal barbs: 15/15 mm.
Body width: 20 mm.	Length of valves exposed proximally: 29/28 mm.
Body thickness: 29 mm.	*Valve width: 12/12 mm.
Exposed arming element length: 62 mm.	*Valve thickness: 8/10 mm.
Arming element width: 33 mm.	Foreshaft socket diameter: 8 mm.
Arming element thickness: 4 mm.	

\*Posterior end of body wrapping

Documentation: Whaling (sealing) gear. Spear or lance head.

Description: Socketed head with two bone or antler valves and a steel or iron, bilaterally symmetrical, barbed, arming element with a rectanguloid in cross-section shank. The valves are wrapped with string and pitched, with an attached, string wrapped, lanyard. The channel bed attributes were not recorded. The valve spurs have rounded tips and a plano-convex cross-section. The dorsal outline of the valves appears to be slightly concave. Each valve spur has two engraved haletlik or feathered serpents. This head forms a pair with specimen VII-F-306(2).

Specimen: VII-F-306(2) Group: Nootkan  
 Proviencce: Barkley Sound Collector: Department of Indian Affairs  
 Date Collected: N.I. Date Acquired: 1897(?)  
 Collection: N.M.M.

Length: 154 mm. Inside length of distal barbs: 17/17 mm.  
 Body width: 20 mm. Length of valves exposed proximally: 28/32 mm.  
 Body thickness: 29 mm. \*Valve width: 12/12mm.  
 Basal thickness: 29 mm. \*Valve thickness: 10/10 mm.  
 Exposed arming element length: 58 mm. Foreshaft socket diameter: 8 mm.  
 Arming element width: 30 mm. \*Posterior end of body wrapping  
 Arming element thickness: 2 mm.

Documentation: Whaling (sealing) gear. Spear or lance head.

Description: This specimen forms a pair with VII-F-306(1).  
 Both heads are essentially similar excepting that VII-F-306(2) has undecorated valve spurs.

Specimen: VII-F-399 Group: Nootkan  
 Proviencce: Alberni Collector: E. Sapir  
 Date Collected: 1913-1914 Date Acquired: N.I.  
 Collection: N.M.M.

Length: 162 mm. Arming element thickness: 5 mm.  
 Body width: 21 mm. Inside length of distal barbs: 17/17 mm.  
 Body thickness: 33 mm. Length of valves exposed proximally: 31 mm.  
 Basal thickness: 33 mm. Valve length: 87/ca. 87 mm.  
 Length of wrapped body area: 54 mm. \*Valve width: 14/14 mm.  
 Exposed arming element length: 74 mm. \*Valve thickness: ca. 10/ca. 9 mm.  
 Arming element width: 30 mm. Foreshaft socket diameter: 9 mm.  
 \*Posterior end of body wrapping

Documentation: Fur seal harpoon with iron point obtained from Seymour Galick.

Description: Socketed head with two bone or antler valves and a steel or iron, bilaterally symmetrical, barbed, arming element. The valves are wrapped with pitched thread or

string which secures a lanyard that is served with string. The channel bed attributes were not recorded. The spurs have a plano-convex cross-section and rounded tips.

Specimen: VII-F-402      Group: Nootkan  
 Proviences: Alberni      Collector: E. Sapir  
 Date Collected: 1913-1914      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 162 mm.      Inside length of distal barbs: 20/22 mm.  
 Body width: 21 mm.      Length of valves exposed proximally: 32 mm.  
 Body thickness: 26 mm.      \*Valve width: 12/12 mm.  
 Basal thickness: 26 mm.      \*Valve thickness: 8/8 mm.  
 Length of wrapped body area: ca. 70 mm.      Foreshaft socket diameter: ca. 7 mm.  
 Exposed arming element length: ca. 61 mm.  
 Arming element width: ca. 61 mm.  
 Arming element thickness: 4 mm.      \*Posterior end of body wrapping

Documentation: Very old hair-seal harpoon. Made by Seymour Galick's father's grandfather.

Description: Socketed head with two bone or antler valves and a steel or iron, bilaterally symmetrical, barbed, arming element. The shank has a rectanguloid cross-section. The valves are wrapped with thread that is covered with pitched bark. The attributes of the channel beds were not recorded. A sinew lanyard served with thread is attached to the wrapping. The valve spurs have a plano-convex cross-section and rounded tips.

Specimens: VII-F-539      Group: Nootkan  
 Proviences: Ucluelet      Collector: H. I. Smith  
 Date Collected: 1929      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 142 mm.      Arming element thickness: 5 mm.  
 Body width: 20 mm.      Inside length of distal barbs: 18/19 mm.  
 Body thickness: 26 mm.      Length of valves exposed proximally: 20/19 mm.  
 Basal thickness: 26 mm.

Length of wrapped body area: 61 mm. Valve length: ca. 72/-mm.  
 Exposed arming element length: 60 mm. \*Valve width: 12/11 mm.  
 Arming element width: 31 mm. \*Valve thickness: 8/7 mm.  
 Foreshaft socket diameter: 9 mm.  
 \*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two bone or antler valves and a steel or iron, bilaterally symmetrical, barbed, arming element. The shank is rectangular in cross-section. The valves are wrapped with a native thread. The attributes of the channel beds are not observable. Some pitch is evident at the anterior end of the wrapped area. A served lanyard is secured to the valves. The spurs have a plano-convex cross-section and pointed tips.

Subtype IIa, Haida

Specimen: VII-B-569 Group: Haida(?)  
 Proviences: Skidegate Collector: C. F. Newcombe  
 Date Collected: 1895-1901 Date Acquired: N.I.  
 Collection: N.M.M.

Length: 163 mm. Length of valves exposed  
 Body width: 14 mm. proximally: 26/30 mm.  
 Body thickness: 21 mm. Valve length: 90/93 mm.  
 Basal thickness: 21 mm. \*Valve width: 13/13 mm.  
 Length of wrapped body \*Valve thickness: 8/8 mm.  
 area: 22 mm. Arming element channel length:  
 Arming element length: 35 mm.  
 105 mm. Arming element channel width:  
 Arming element width: 24 mm. 12 mm.  
 Arming element thickness: Arming element channel thick-  
 6 mm. ness: ca. 4 mm.  
 Inside length of distal Foreshaft socket diameter:  
 barbs: 8/9 mm. ca. 10 mm.  
 \*Posterior end of body wrapping

Documentation: Dagger, iron blade(?)

Description: Socketed head with two brass valves and a steel or iron, bilaterally symmetrical, barbed, arming element. The shank and valves are joined by two copper rivets.



The channel beds are unbound and unstepped. A drilled line hole, in the same plane as the arming element barbs has an attached cord loop for securing the lanyard. Posterior to the line hole is a wrapping of thread. The dorsal outline of the valves is straight. The valves have a plano-convex cross-section with squared-off anterior ends and pointed spur tips.

Subtype IIa', Haida

Specimen:	VII-B-558	Group:	Haida
Providence:	Masset	Collector:	C. F. Newcombe
Date Collected:	1895-1901	Date Acquired:	N.I.
Collection:	N.M.M.		

Length:	115 mm.	Length of valves exposed
Body width:	ca. 19 mm.	proximally: 22/24 mm.
Body thickness:	25 mm.	Valve length: 77/76 mm.
Basal thickness:	25 mm.	*Valve width: 11/10 mm.
Length of wrapped body		*Valve thickness: 6/6 mm.
area:	ca. 31 mm.	Foreshaft socket diameter: 7 mm.
Exposed arming element		Distance of lashing groove step
length:	39 mm.	from distal tips of valves:
Arming element width:	21 mm.	24/24 mm.
Arming element thickness:		Foreshaft length: 176 mm.
4 mm.		Foreshaft width: 24 mm.
Inside length of distal		Foreshaft thickness: 14 mm.
barbs:	6/7 mm.	

\*Posterior end of body wrapping

Documentation: Spear point of iron, for killing halibut.

Description: Socketed head with two bone or antler valves and a steel or iron, bilaterally symmetrical, barbed, arming element. The shank is rectanguloid in cross-section. A single copper or brass rivet, joining the valves and shank, is visible. The channel beds are unbound but their end attributes are not observable. The valves have a plano-convex cross-section. The anterior ends are rounded whereas the spur tips are pointed. The valves are wrapped with string which secures a cord lanyard. The lanyard is then attached to a detachable foreshaft. The foreshaft is cylindrical in cross-section with a tapering bi-convex anterior end. The posterior end has a shouldered, tear-shaped, tang. The tang has a tapering biconvex cross-section.

## Subtype IIA, Northwest Coast General

Specimen: 4780                      Group: N.I.  
 Province: N.I. Picked Collector: Dr. Walker  
 up on Weir's Beach near  
 Victoria.

Date Collected: N.I.                      Date Acquired: ca. 1935

Collection: B.C.P.M.

Length: 186 mm.	Arming element thickness: 6 mm.
Body width: 23 mm.	Inside length of distal barbs: 8/9 mm.
Body thickness: 21 mm.	Length of valves exposed
Basal thickness: 19 mm.	proximally: ca. 33/ca. 29 mm.
Length of wrapped body area: ca. 74 mm.	*Valve width: 17/17 mm.
Exposed arming element length: 85 mm.	*Valve thickness: 8/8 mm.
Arming element width: 25 mm.	Valve length: ca. 89/ca. 89 mm.
	Foreshaft socket diameter: 10 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two cow (?) horn valves and a steel or iron, bilaterally symmetrical, barbed, shanked arming element. The rectangular shank of the arming element measures 10 x 6 mm. The anterior portion of the valves is bound with copper wire laid over with cloth. The cord lanyard is served with thread. The valves are rectangular in cross-section. The dorsal faces are flat with the edges perpendicular to the latter. The edges are ca. 8 mm. thick thinning by carving convexly toward the dorsal face approximately 18 mm. from the spur tips. The tips are slightly blunted. The ventral faces of the valve spurs are markedly concave forming the foreshaft socket.

Specimen: 8616                      Group: N.I.  
 Province: N.I.                      Collector: I. S. Day  
 Date Collected: N.I.                      Date Acquired: 1957  
 Collection: B.C.P.M.

Length: 204 mm. Arming element thickness: 3 mm.  
 Body width: 21 mm. Inside length of distal barbs:  
 Body thickness: 38 mm. 15 mm.  
 Basal thickness: 38 mm. Length of valves exposed  
 Length of wrapped body proximally: 33/33 mm.  
 area: 58 mm. Valve length: 75/ca. 75 mm.  
 Exposed arming element \*Valve width: ca. 16 mm.  
 length: 112 mm. \*Valve thickness: ca. 15 mm.  
 Arming element width: 17 mm. Foreshaft socket diameter: 11 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two antler valves and a steel or iron file, unilaterally barbed, shanked arming element. The two barbs are long, 15 mm., 17 mm., with convex outer edges recurving back toward the shank. The shank is rectanguloid in cross-section, measuring 7 x 4 mm. The three parts are secured together with string. The valve spurs are trianguloid in cross-section. The ventral faces of the spurs have marked concavities at their apex, thus forming the foreshaft socket. The spur tips are pointed whereas the anterior valve tips are blunted by being at right angles to the valve edges. The dorsal outline of both valves is concave. The arming element channel beds are bound. The posterior end attributes are not observable.

Specimen: 11202(1) Group: N.I.  
 Proviencce: N.I. Collector: N.I.  
 Date Collected: N.I. Date Acquired: 1961  
 Collection: B.C.P.M.

Length: 128 mm. Arming element thickness: 4 mm.  
 Body width: 17 mm. Inside length of distal barbs:  
 Body thickness: 22 mm. 22/21 mm.  
 Basal thickness: 22 mm. Length of valves exposed  
 Length of wrapped body proximally: 21/22 mm.  
 area: 43 mm. Valve length: ca. 60/ca. 59 mm.  
 Exposed arming element \*Valve width: 15/14 mm.  
 length: 64 mm. \*Valve thickness: 8/8 mm.  
 Arming element width: 27 mm. Foreshaft socket diameter: 11 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two mountain goat horn valves and a steel or iron, bilaterally symmetrical, barbed, shanked arming element. The shank is rectangular, expanding towards its base, and measures 8 x 5 mm. at the anterior end of the body wrapping. The arming element channel beds are unbound. Their posterior end attributes are not observable. Valve spurs have blunted tips. Spurs are concavo-convex in cross-section. Valves are wrapped with string which secures a cord lanyard.

Specimen: 11209                      Group: N.I.

Providence: N.I.                      Collector: N.I.

Date Collected: N.I.                      Date Acquired: 1962

Collection: B.C.P.M., Newcombe Collection

Valve length: 76 mm.	Arming element channel bed depth: ca. 1 mm.
Valve width: 17 mm.	Foreshaft socket length: ca. 35 mm.
Valve thickness: 10 mm.	Foreshaft socket width: 11 mm.
Arming element channel bed length: 16 mm.	Foreshaft socket depth: ca. 6 mm.
Arming element channel bed width: 14 mm.	

Documentation: Composite harpoon valve, whalebone.

Description: A sea mammal bone or antler valve from a socketed harpoon head. The valve has a flat, unbound straight end-stepped channel bed with a single, biconically drilled, perforation, 9 mm. from the anterior end. Anterior to the perforation is a small rectangular depression, 6 x 4 x 1 mm., which is open at the anterior end of the channel bed. The foreshaft socket has a half-cylinder cross-section with a squared-off anterior end. The dorsal outline of the valve is slightly concave with a rounded anterior end and a truncated, pointed, spur tip. The cross-section of the spur is trianguloid whereas the dorsal face of the anterior valve portion is convex in cross-section. The bearing surface of the valve is ca. 18 mm. long and 4 mm. wide on the two ventral face lateral ridges and ca. 3 mm. wide on the 15 mm. long ridge formed between the posterior end of the channel bed and the anterior end of the foreshaft socket thus joining the two lateral ridges.

Specimen: 11540                      Group: N.I.  
 Proviencce: N.I.                      Collector: N.I.  
 Date Collected: N.I.                      Date Acquired: 1961  
 Collection: B.C.P.M., Newcombe Collection.

Length: 174 mm.	Exposed arming element length:
Body width: 20 mm.	97 mm.
Body thickness: 25 mm.	Arming element width: 13 mm.
Basal thickness: 25 mm.	Arming element thickness: 4 mm.
Length of wrapped body area: 53 mm.	Length of valves exposed proximally: 23/25 mm.
Valve length: ca. 73/ca. 73 mm.	
*Valve width: ca. 15/ca. 15 mm.	
*Valve thickness: ca. 7/ca. 7 mm.	
Foreshaft socket diameter: 8 mm.	*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two bone valves and a bone, unilaterally barbed, shanked arming element. Both barbs are applied to the same edge as the lanyard is attached. They are low, isolated and removed. The shank is rectangular and measures 8 x 4 mm. at the anterior end of the wrapped area. Valves and shank are secured together with string wrapped over with spruce root. The lanyard is sinew cord served with thread. The valve spurs have a plano-convex cross-section with pointed tips, one of which is blunted. The dorsal outline of the spurs is slightly concave.

Specimen: VII-X-176(1)                      Group: N.I.  
 Proviencce: N.I.                      Collector: N.I.  
 Date Collected: N.I.                      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 166 mm.	Length of valves exposed proximally: 25/22 mm.
Length of wrapped body area: 41 mm.	Valve length: 73/71 mm.
Exposed arming element length: 93 mm.	*Valve width: 13/13 mm.
Arming element width: 25 mm.	*Valve thickness: 8/9 mm.
Arming element thickness: 5 mm.	Foreshaft socket diameter: 8 mm.
	Distance of lashing groove step from distal tips of valves: 9/7 mm.

Inside length of distal barbs:  
10/10 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two bone or antler valves and a steel or iron, bilaterally symmetrical, barbed, arming element. The shank has a rectanguloid cross-section. The valves are wrapped with what appears to be nettle fibre which secures a cord lanyard. The attributes of the channel beds were not recorded. The dorsal outline of the valves is concave from the encircling lashing groove step to the slightly blunted spur tips. The anterior valve ends are squared off. The spurs have a plano-convex cross-section. Specimen VII-X-176 forms a pair with VII-X-176(2).

Specimen: VII-X-176(2) Group: N.I.

Providence: N.I. Collector: N.I.

Date Collected: N.I. Date Acquired: N.I.

Collection: N.M.M.

Length: 183 mm.

Length of wrapped body  
area: 13 & 45 mm.

Exposed arming element  
length: 88 mm.

Arming element width: 32 mm.

Arming element thickness:  
4 mm.

Inside length of distal  
barbs: 23/23 mm.

Length of valves exposed  
proximally: 27/26 mm.

\*Valve width: 13/14 mm.

\*Valve thickness: 12/12 mm.

Foreshaft socket diameter: 8 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed, composite head with two bone or antler valves and a steel or iron, bilaterally symmetrical, barbed arming element. The shank has a rectanguloid cross-section. The valves are wrapped with string, possibly nettle fibre, which secures a cord lanyard. Both valves have a well-defined, encircling, lashing groove step. The anterior valve ends are also wrapped with string. The attributes of the channel beds were not recorded. The spurs have a plano-convex cross-section and pointed tips. This specimen forms a pair with VII-X-176(1).

## Type II

## Non-subtype IIa

Specimen: 11202(2)      Group: N.I.

Proviencce: N.I.      Collector: N.I.

Date Collected: N.I.      Date Acquired: N.I.

Collection: B.C.P.M., Newcombe Collection.

Length: 132 mm.      Arming element thickness: 6 mm.  
 Body width: 19 mm.      Inside length of distal barbs:  
 Body thickness: 18 mm.      22/22 mm.  
 Basal thickness: 18 mm.      Foreshaft socket diameter: 16 mm.  
 Length of wrapped body  
 area: 38 mm.  
 Exposed arming element  
 length: 70 mm.  
 Arming element width: 31 mm.

Documentation: N.I.

Description: Socketed, composite head with a steel or iron, bilaterally symmetrical, barbed, shanked arming element. The shank is rectanguloid in cross-section, measuring 11 x 6 mm. at the anterior end of the body wrapping. The head does not have valves but a one-piece, conical socket, formed from iron or steel which is 2 mm. thick. The socket has a seam along one face. A cord lanyard is attached to the string wrapping.

Specimen: 11202(3)      Group: N.I.

Proviencce: N.I.      Collector: N.I.

Date Collected: N.I.      Date Acquired: 1961

Collection: B.C.P.M., Newcombe Collection.

Length: 121 mm.      Arming element width: 34 mm.  
 Body width: 17 mm.      Arming element thickness: 5 mm.  
 Body thickness: 16 mm.      Inside length of distal barbs:  
 Basal thickness: 16 mm.      21/21 mm.  
 Length of wrapped body  
 area: 37 mm.      Foreshaft socket diameter: 13 mm  
 Exposed arming element  
 length: 67 mm.

Documentation: N.I.

Description: This specimen is essentially identical to specimen 11202(2).

Specimen: 11202(4)                      Group: N.I.  
 Proviencce: N.I.                      Collector: N.I.  
 Date Collected: N.I.                      Date Acquired: 1961  
 Collection: B.C.P.M., Newcombe Collection.

Length: 173 mm.	Arming element width: 25 mm.
Body width: 28 mm.	Arming element thickness: 3 mm.
Body thickness: 28 mm.	Inside length of distal barbs:
Basal thickness: 26 mm.	8/ca. 8 mm.
Length of wrapped body area: 85 mm.	Foreshaft socket diameter: 15 mm.
Exposed arming element length: 79 mm.	Distance of lashing groove step from distal tips of valves: 2 mm.
	Lashing groove length: 85 mm.

Documentation: N.I.

Description: Socketed head with a steel or iron, bilaterally symmetrical, barbed, shanked arming element. The shank of the arming element is rectanguloid and measures 8 x 5 mm. at the anterior end of the wrapped area. The conical shaped body is formed of two unspurred wooden valves approximately 6 mm. thick. The three pieces are secured together with string wrapping which also attaches the cord lanyard. A lashing groove is present on the dorsal face of both valves. It is formed by lashing groove step 2 mm. from the anterior valve ends and another 6 mm. from the posterior valve ends.

Specimen: 14178                      Group: Nootkan  
 Proviencce: Hesquiat or Ahousat                      Collector: A. E. Caldwell  
 Date Collected: 1934-1939                      Date Acquired: 1974  
 Collection: B.C.P.M., Caldwell Collection

Length: 175 mm.	Inside length of distal barbs:
Body width: 14 mm.	16/(5) mm.
Body thickness: 25 mm.	Length of valves exposed
Arming element length: 119mm	proximally: 34 mm.



Exposed arming element length: 84 mm.	Valve length: 92/60 mm.
Arming element width: 27 mm.	Valve width: 14/14 mm.
Arming element thickness: 3 mm.	Valve thickness: ca. 11/ca. 9 mm.
	Arming element channel length: 38 mm.
	Arming element channel width: 14 mm.
	Arming element channel thickness: 4-2 mm.
	Foreshaft socket diameter: 10 mm.

Documentation: N.I.

Description: Socketed head with a bilaterally symmetrical, barbed, shanked arming element made from a steel or iron file. The rectanguloid shank expands laterally and narrows in thickness toward its base, measuring 11 x 4 mm. at the anterior end of the valves. The channel beds are unbound and unstepped. Valves are made from copper. The head has a single valve spur, one valve being truncated. A single line hole is drilled through the valves ca. 15 mm. from the truncated valve end. The line hole is in the same plane as the piercing point barbs. It appears to have been drilled after the two valves, and the arming elements were welded together. The anterior valve ends are squared. The one valve spur tip is pointed. The spur has a plano-convex cross-section. The dorsal outline of the one complete valve is convex anterior from the line hole and slightly concave posterior from the latter to the spur tip. The foreshaft socket is cylindrical in cross-section.

Type III, Heads with long, three-strand, twisted sinew or hemp lanyards.

Specimen: 2188	Group: Nootkan
Providence: Alberni	Collector: C. F. Newcombe
Date Collected: 1911	Date Acquired: 1911
Collection: B.C.P.M.	

Length: 189 mm.	Length of valves exposed proximately: 38/39 mm.
Body width: ca. 47 mm.	Valve length: ca. 145/146 mm.
Body thickness: 39 mm.	*Valve width: 16/16 mm.
Basal thickness: 39 mm.	*Valve thickness: 10/11 mm.
Length of wrapped body area: 71 mm.	Foreshaft socket diameter: 12 mm.
Arming element length: 133 mm.	

Arming element width: 78 mm.

Arming element thickness:  
1 mm.

\*Posterior end of body wrapping

Documentation: Whale harpoon, bone barbs, sinew lanyard wrapped with cedar bark strings, barbs etched, iron blade notched to show number of kills, feather charm inserted in wrapping.

Description: Socketed head with two antler (?) valves and an unbarbed, thin, metal (steel?) arming element with a large trianguloid basal notch. It is incurvate-excurvate in outline. The valves are secured with sinew. The arming element fits over the wrapped valves and is secured with amber coloured pitch. The lanyard is three-strand sinew, covered with fibre string with six pairs of inserted orange coloured feathers, as well as three feathers in the cherry bark wrapped end loop. The lanyard is approximately six metres in length. The valve spurs have a straight dorsal outline with pointed tips and a plano-convex cross-section. Both valves are decorated with short engraved lines, ca. 1 mm. in length. The design on one valve may represent two wolf or serpent heads. The design on the other valve does not have an eye or mouth, nor definite engraved boundary lines as does the former. The edge of the arming element has three well-defined small notches at its widest part. There is an accompanying one-piece, folded, cedar bark cover for the head. It measures 26.5 x 11.5 cm. Approximately 5 or 6 cm. of the open ends have been split in strands that are ca. 5 mm. wide. These strands are woven together to provide a cylindrical open end which fits around the lanyard.

Specimen:	2191	Group:	Nootkan
Proviences:	Barkley Sound	Collector:	C. F. Newcombe
Date Collected:	1911	Date Acquired:	1911
Collection:	B.C.P.M.		

Length: 210 mm.  
Body width: 44 mm.  
Body thickness: 43 mm.  
Basal thickness: 40 mm.  
Length of wrapped body area: ca. 78 mm.  
Arming element length: 155 mm.  
Arming element width: 74 mm.

Arming element thickness: 2 mm.  
Length of valves exposed proximally: 34/35 mm.  
Valve length: 155/157 mm.  
\*Valve width: 16/16 mm.  
\*Valve thickness: 11/11 mm.  
Foreshaft socket diameter: ca. 13 mm.

\*Posterior end of body wrapping

Documentation: Harpoon point, iron blade, bone barbs, twisted sinew wrapped with twine.

Description: Socketed head with two antler (?) valves and a thin, iron (?) excurvate, arming element with a large basal notch. The valves are secured with braided sinew which is covered with pitched string. The anterior valve ends are perpendicular to the valve edges whereas the valve spur tips are pointed. The valve spurs are steeply plano-convex in cross-section. The anterior portions of the valves have a less pronounced convex dorsal cross-section. The lanyard, ca. 750 cm. in length, is three-strand sinew served with string.

Specimen:	2192	Group:	Nootkan
Proviences:	Barkley Sound(?)	Collector:	C. F. Newcombe

Date Collected:	1912	Date Acquired:	1912
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Collection: B.C.P.M.

Body width:	42 mm.	Valve length:	134/130 mm.
Body thickness:	43 mm.	*Valve width:	14/14 mm.
Basal thickness:	43 mm.	*Valve thickness:	12/12 mm.
Length of wrapped body area:	73 mm.	Arming element channel length:	ca. 22 mm.
Length of valves exposed proximally:	38/34 mm.	Arming element channel width:	ca. 17 mm.
		Arming element channel thickness:	7 mm.
		Foreshaft socket diameter:	15 mm.

\*Posterior end of body wrapping. At the posterior end of the blade channel the valves are 18 and ca. 19 mm. wide.

Documentation: Whale harpoon line of sinew, iron blade. Antler barbs etched showing Haletlik.

Description: Socketed head with two antler (?) valves. The arming element is missing. The valves are secured with braided sinew which is covered with cedar bark that is pitched. The anterior valve tips are rounded. The valve spurs have pointed tips, a straight dorsal outline, and are decorated with two pairs of animal heads. The designs have unbroken engraved outlines which are filled with punctate dots. The valve spurs are steeply plano-convex in cross-section, whereas the anterior portion of each valve has a flattened plano-convex cross-section. The proximal end of the unbound arming element channel bed has a piece of rubber tubing which may act as a cushion against which

the inside of the arming element's basal notch rests. The lanyard, ca. 620 cm. in length, is sinew served with string which appears to be nettle fibre. The end loop is covered with cherry bark.

Specimen: 4505 Group: Nootkan

Province: Nootka (Yuquot?) Collector: N.I.

Date Collected: N.I. Date Acquired: 1931

Collection: B.C.P.M.

Length: 197 mm.

Body width: ca. 42 mm.

Body thickness: 48 mm.

Basal thickness: 43 mm.

Arming element length:

149 mm.

Arming element width:

69 mm.

Arming element thickness:

2 mm.

Length of valves exposed

proximally: 41/40 mm.

Valve length: ca. 155/ ca. 158 mm.

\*Valve width: 16/15 mm.

\*Valve thickness: 15/15 mm.

Foreshaft socket diameter: ca.

10 mm.

\*Posterior end of body wrapping

Documentation: Harpoon, point of brass, barbs of antler, lanyard of sinew, 20' long (serving removed). Point and barbs newly pitched.

Description: Socketed head with two antler valves and a thin, flat incurvate-excurvate, brass arming element that is not shanked. The valves are secured with braided sinew and covered with a thick black pitch of tar. It cannot be determined if the sinew wrapping is covered with another material. The valve spurs have pointed tips, and are steeply plano-convex in cross-section, with a straight, slightly convex, dorsal outline. Both spurs are decorated with a pair of symmetrically applied animal head motifs similar to those on specimen 2192. They probably represent the lightning-snake or haletlik. The lanyard, ca. 610 cm. in length, is of three-strand sinew with an end loop. The lanyard is not served.

Specimen: 5060b Group: Nootkan

Province: Opitsaht Collector: G. Nicholson

Date Collected: 1921 Date Acquired: 1940

Collection: B.C.P.M.

Length: 171 mm.	Length of valves exposed
Basal thickness: 42 mm.	proximally: 43/43 mm.
Length of wrapped body	Valve length: 138/139 mm.
area: 58 mm.	*Valve width: 16/17 mm.
Arming element length:	*Valve thickness: 14/14 mm.
115 mm.	Foreshaft socket diameter: 14 mm.
Arming element width: 62 mm.	Distance of lashing groove step
Arming element thickness:	from distal tip of valves:
ca. 1 mm.	ca. 36/ca. 38 mm.

\*Posterior end of body wrapping.  
Maximum width observable on  
both valves, 20 mm.

**Description:** Socketed head with two antler(?) valves and a thin, flat, excurvate, iron or steel arming element that is not shanked. Valves are secured with braided sinew which is covered with pitched cloth. The anterior valve ends are rounded and have a plano-convex cross-section. The valve spurs have pointed tips and are steeply plano-convex in cross-section. Their dorsal outline is straight. The conical foreshaft socket has traces of red staining which may be red ochre. The valve spurs are decorated in the same manner as specimen 4505, but with a much superior execution. The edges of the convex dorsal face have a wavy line formed by symmetrical, diagonally opposed, triangular depressions. Above the latter, approximately half way between the spur edge and the center of the dorsal face, beginning at the posterior edge of the body wrapping is another undulating line formed by pairs of punctate dots. The dotted double line diverges toward the medial section of the valve spur forming an animal head similar to what is referred to as the haletlik in other better documented specimens. The same motif is applied to the opposite side of both valve spur dorsal faces and edges. The lanyard, ca. 650 cm. long, is of three-strand sinew covered with what appears to be nettle fibre string. The end loop was covered with cherry bark which is now largely missing.

Specimen:	5060d	Group:	Nootkan
Proviencce:	Opitsaht	Collector:	G. Nicholson
Date Collected:	1921	Date Acquired:	1940
Collection:	B.C.P.M.		

Length: 187 mm.	Valve length: 145/ca. 147 mm.
Body width: 45 mm.	*Valve width: ca. 16/ca. 16 mm.
Body thickness: 42 mm.	*Valve thickness: 14/14 mm.
Basal thickness: 36 mm.	Foreshaft socket diameter: 11 mm.

Length of wrapped body area: ca. 61 mm. Distance of lashing groove step from distal tip of valves: ca. 41/ca. 40(?)mm.  
 Arming element length: 122 mm.  
 Arming element width: 64 mm.  
 Length of valves exposed proximally: 42/42 mm. \*Posterior end of body wrapping

Documentation: See 5060b

Description: Socketed head similar to specimen 5060b. The braided sinew securing the two antler (?) valves is covered with pitched bark rather than cloth. The valve spurs are not decorated. The lanyard, ca. 600 cm. long, is served with what appears to be nettle fibre string. The end loop is secured with a braided fibre cord.

Specimen: 9509 Group: Nootkan  
 Proviencce: N.I. Collector: C. F. or W. A. Newcombe  
 Date Collected: N.I. Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection.

Body width: ca. 43 mm. \*Valve width: ca. 16/ca. 15 mm.  
 Body thickness: 40 mm. \*Valve thickness: 12/13 mm.  
 Basal thickness: 40 mm. \*\*Arming element channel length: length: ca. 22 mm.  
 Length of wrapped body area: 69 mm. Arming element channel width: ca. 16 mm.  
 Length of valves exposed proximally: 41/39 mm. Arming element channel thickness: 6 mm.  
 Foreshaft socket diameter: ca. 12 mm.

\*Posterior end of body wrapping.

\*\*Sinew wrapping which takes a turn through posterior end of blade channel is in situ.

Documentation: Harpoon, steel point, bone barbs, etched.

Description: Socketed head with two decorated antler (?) valves. The arming element is missing. The valves are secured with braided sinew, covered with bark which is pitched. The anterior valve ends have symmetrically rounded tips and a low plano-convex cross-section. That portion of the sinew wrapping which is brought between the ventral faces at the proximal end of the unbound blade channel is covered with a single length of bark similarly

placed as the rubber strip is in specimen 2192. The valve spurs have a straight dorsal outline, a steeply plano-convex cross-section, and pointed tips. The foreshaft socket evidences red staining as does specimen 5060b. The lanyard, ca. 640 mm. in length, is formed of three-strand sinew, served with string. The end loop is covered with cherry bark. The valve spurs are decorated in a complex and finely executed manner. The design comprises two symmetrically placed, profile, animal heads, perhaps haletlik, near the tips with a face straddling the centre of the spur between the two heads. The design is somewhat reminiscent of the Kwakiutl sisiutl with its opposed profile heads and central face/body. Near the margin of the body wrapping are what appear to be diamond or feather designs. The technique involved the use of an engraving tool with a triangular bit.

Specimen: 9751                      Group: Nootkan  
 Province: Barkley                  Collector: C. F. Newcombe  
                     Sound  
 Date Collected: 1911              Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection.

Length: 163 mm.	Arming element thickness: 2 mm.
Body width: ca. 43 mm.	Length of valves exposed
Body thickness: 36 mm.	proximally: 32/29 mm.
Basal thickness: 33 mm.	Valve length: ca. 122/ca. 123 mm.
Length of wrapped body	*Valve width: ca. 13/ca. 13 mm.
area: ca. 57 mm.	*Valve thickness: 10/11 mm.
Arming element length:	Foreshaft socket diameter: ca.
119 mm.	11 mm.
Arming element width: 60 mm.	

\*Posterior end of body wrapping

Documentation: Harpoon head and lanyard of sinew, wrapped with cord.

Description: Socketed head with two antler (?) valves and a thin, flat, excurvate, iron, or steel, arming element that is not shanked. The anterior valve ends have rounded tips and a low plano-convex cross-section. The undecorated valve spurs have rounded tips, are steeply plano-convex in cross-section, and have a straight dorsal outline. The valves are secured with braided sinew which is covered with pitched cherry (?) bark. The lanyard, ca. 680 cm. in length, is of three-strand sinew, served with string.





Documentation: Whaling harpoon. Mussel shell point - lanyard of whale sinew, with nettle wrapping, coiled tightly around. 4" loop at end wrapped in twisted bark. Tip held by 2 pointed bone struts, held firmly by braided wood (?) wrapping covered by brown gum.

Description: Socketed head with two undecorated antler (?) valves and a Mytilus californianus arming element. The arming element has a concavo-convex cross-section, and is pentagonal in outline with a large basal notch. The valves are secured with braided sinew, covered with pitched bark. The valve spurs are plano-convex in cross-section with a straight dorsal outline and pointed tips. The lanyard is sinew, served with nettle (?) fibre string with a cherry bark covered end loop. The arming element is very loosely held between the two flat, unbound channel beds. Although the posterior end of one edge appears barbed, in its original condition both ends were covered with pitch.

Specimen:	VII-F-58	Group:	Noetkan (Ts'tcya'atH)
Proviencce:	Alberni	Collector:	E. Sapir
Date Collected:	1910	Date Acquired:	1910
Collection:	N.M.M.		
Length:	186 mm.	Length of valves exposed	
Body thickness:	136 mm.	proximally:	38/39 mm.
Length of wrapped body		Valve length:	156/155 mm.
area:	88 mm.	*Valve width:	15/16 mm.
Arming element length:		*Valve thickness:	11/11 mm.
133 mm.		Foreshaft socket diameter:	10 mm.
Arming element thickness:			
1 mm.		*Posterior end of body wrapping	

Documentation: Lanyard of whale sinew and nettle fibre wrapping. T. tribe, xwicTmit (Sapir).

Description: Socketed head with two undecorated antler (?) valves and a thin, flat, excurvate, iron or steel, arming element that is not shanked. The lanyard is of sinew served with nettle (?) fibre.

Specimen:	VII-F-71	Group:	Nootkan
Proviencce:	Alberni	Collector:	E. Sapir
Date Collected:	1910	Date Acquired:	N.I.

Collection: N.M.M.

Body width: 49 mm.  
 Body thickness: 45 mm.  
 Basal thickness: 45 mm.  
 Length of wrapped body  
 area: ca. 66 mm.  
 Length of valves exposed  
 proximally: 36/36 mm.

Valve length: 136/136 mm.  
 \*Valve width: 14/15 mm.  
 \*Valve thickness: 12/11 mm.  
 Arming element channel  
 length: ca. 25 mm.  
 Arming element channel  
 width: ca. 12 mm.  
 Arming element channel  
 thickness: 5 mm.  
 Foreshaft socket diameter:  
 13 mm.

\*Posterior end of body wrapping

Documentation: Whaling harpoon with He'ilik drawings and lanyard Hopatcl'as'atH tribe, xwic'imit.

Description: Socketed head with two decorated antler (?) valves. The arming element is missing. The attributes of the channel beds were not recorded. The valves are secured with sinew covered with pitched bark. The decorative motifs applied to the valve spurs may represent the haletlik.

Specimen: VII-F-72 Group: Nootkan  
 (hopatcl'as'atH)

Providence: Alberni Collector: E. Sapir

Date Collected: 1910 Date Acquired: 1910

Collection: N.M.M.

Length: 165 mm. Length of valves exposed  
 Body thickness: 34 mm. proximally: 37/36 mm.  
 Basal thickness: 34 mm. Valve length: 122/123 mm.  
 Arming element length: 117 mm \*Valve width: 15/15 mm.  
 Arming element width: 55 mm. \*Valve thickness: 11/12 mm.  
 Arming element thickness: Foreshaft socket diameter: 10 mm.  
 2 mm.

\*Posterior end of body wrapping

Documentation: Whaling harpoon of sorisplatos, for attaching of floats to float whale H. tribe, Xwicimil (Sapir).

Description: Socketed head with two undecorated antler (?) valves and an iron or steel, thin, flat excurvate, arming element that is not shanked. The lanyard is sinew which is served.

Specimen: VII-F-85                      Group: Nootkan  
 Proviences: Alberni                      Collector: E. Sapir  
 Date Collected: 1910                      Date Acquired: 1910  
 Collection: N.M.M.

Length: 164 mm.                      Valve length: 135/135 mm.  
 Body thickness: 39 mm.                      \*Valve width: 17/17 mm.  
 Arming element length: 114 mm.                      \*Valve thickness: 13/12 mm.  
 Arming element width: 62 mm.                      Foreshaft socket diameter: 11 mm.  
 Arming element thickness: ca. 1 mm.  
 Length of valves exposed proximally: 40/40 mm.                      \*Posterior end of body wrapping

Documentation: Whaling harpoon with design and lanyard.  
 Ts'licya'ath tribe, xwicimt (Sapir).

Description: Socketed head with two decorated antler (?) valves and thin, flat excurvate, iron or steel, arming element that is not shanked. The valves are secured with braided sinew covered with pitched bark. The lanyard is sinew, served with string. The foreshaft socket has a red stain, presumably red ochre. The valve spurs are decorated with symmetrically applied punctate animal head (haietlik?) designs. The valves are unusual in that the anterior portions are not covered with pitch and in addition are decorated with an engraved zoomorphic design. The anterior portions of the valves have a low plano-convex cross-section and blunted ends. The valve spurs have steeper plano-convex cross-sections and pointed tips.

Specimen: VII-F-86                      Group: N.I.  
 Proviences: N.I.                      Collector: E. Sapir  
 Date Collected: 1910                      Date Acquired: 1910  
 Collection: N.M.M.

Length: 179 mm.                      Length of valves exposed proximally: 39/39 mm.  
 Body thickness: 39 mm.                      Valve length: 142/138 mm.  
 Length of wrapped body area: 65 mm.                      \*Valve width: ca. 16/ca. 16 mm.  
 Arming element length: 124 mm.                      \*Valve thickness: 13/13 mm.  
 Arming element width: 64 mm.                      Arming element channel length: ca. 26 mm.

Arming element thickness: 2 mm.      Arming element channel width: ca. 17 mm.  
 Foreshaft socket diameter: 10 mm.

\*Posterior end of body wrapping

Documentation: Whaling harpoon with design and lanyard.  
 Ts'ish ya'ath, Alberni (H. tribe, xaicimit).

Description: Socketed head with two decorated (haletlik?), antler (?) valves and a thin, flat, excurved, iron or steel, arming element that is not shanked. The valves are secured with sinew covered with pitched bark. The lanyard is sinew served with string and has an end loop covered with cherry bark.

Specimen:	VII-F-87	Group:	Nootkan
Proviences:	Alberni	Collector:	E. Sapir
Date Collected:	1910	Date Acquired:	1910
Collection:	N.M.M.		

Body width:	42 (?) mm.	*Valve width:	17/17 (?) mm.
Body thickness:	42 mm.	*Valve thickness:	13/13 (?) mm.
Basal thickness:	42 mm.	Arming element channel length:	ca. 20 mm.
Length of wrapped body area:	67 mm.	Arming element channel width:	ca. 12 mm.
Length of valves exposed proximally:	40/40 mm.	Arming element channel thickness:	ca. 5 mm.
Valve length:	137/137(?) mm	Foreshaft socket diameter:	ca. 12 mm.

\*Posterior end of body wrapping

Documentation: Whaling harpoon with design and lanyard, and yew wood spear. (C.F.N.)

Description: Socketed head with two decorated antler (?) valves. The arming element is missing. The channel beds are unbound. Their end attributes are not observable. The valves are secured with sinew covered with pitched bark. The sinew lanyard is served with nettle (?) fibre string. The decorated motifs applied to the valve spurs may represent the haletlik

Specimen: VII-F-95                      Group: Nootkan  
 Province: N.I.                              Collector: F. Boas  
 Date Collected: 1889                      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 196 mm.                              Length of valves exposed  
 Body thickness: 45 mm.                      proximally: 44/42 mm.  
 Basal thickness: 45 mm.                      Valve length: 150/148 mm.  
 Arming element length:                      \*Valve width: ca. 17/ca. 18 mm.  
 139 mm.                                          \*Valve thickness: 14/15 mm.  
 Arming element width: 74 mm.              Foreshaft socket diameter:  
 Arming element thickness:                      ca. 11 mm.  
 1 mm.                                              \*Posterior end of body wrapping

Documentation: Whaling harpoon, Nootka, Coast B.C.

Description: Socketed head with two undecorated antler(?)  
 valves and a flat, thin, iron or steel, arming element that  
 is not shanked. The valves are secured with sinew, covered  
 with pitched bark. The lanyard is sinew, served with  
 string and has a cherry bark covered end loop.

Specimen: VII-F-96                      Group: Nootkan  
 Province: N.I.                              Collector: N.I.  
 Date Collected: N.I.                      Date Acquired: N.I.  
 Collection: N.M.M.

Body width: 39 mm.                              \*Valve width: 14/14 mm.  
 Body thickness: 39 mm.                      \*Valve thickness: 11/11 mm.  
 Length of wrapped body                      Arming element channel length:  
 area: 56 mm.                                      ca. 22 mm.  
 Length of valves exposed                      Arming element channel width:  
 proximally: 36/36 mm.                      ca. 15 mm.  
 Valve length: 127/124 mm.                  Arming element channel thickness:  
                                                             5 mm.  
                                                             Foreshaft socket diameter: 13 mm.  
                                                             \*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two decorated antler (?)  
 valves. The arming element is missing. The valves are  
 secured with sinew covered with bark. The valve channel

beds are flat and unbound. The end attributes are not observable. The sinew lanyard is served with string. The anterior valve portions have a low plano-convex cross-section and pointed tips. The punctate dotted decorative elements on the spurs are two symmetrically applied animal head motifs (haletlik?) at the proximal ends of the valve spurs and two dotted lines anterior to the latter forming a semi-circle.

Specimen: VII-F-98                      Group: Nootkan  
 Provienc: N.I.                              Collector: F. Boas  
 Date Collected: 1889                      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 209 mm.                              Length of valves exposed  
 Body thickness: 48 mm.                      proximally: 55/54 mm.  
 Basal thickness: 48 mm.                      Valve length: 163/153 mm.  
 Length of wrapped body                      \*Valve width: 22/ca. 22 mm.  
 area: 70 mm.                                      \*Valve thickness: 17/17 mm.  
 Arming element length:                      Foreshaft socket diameter: ca.  
 145 mm.                                              16 mm.  
 Arming element width: 84 mm.  
 Arming element thickness:  
 1 mm.                                              \*Posterior end of body wrapping

Documentation: Harpoon whaling gear. Nootka, W. C. Vancouver.

Description: Socketed head with two undecorated antler (?) valves and a flat, thin, excurvate, iron or steel, arming element that is not shanked. The valves are secured with sinew and covered with pitched bark. The lanyard is of sinew served with cherry bark.

Specimen: VII-F-194                      Group: Nootkan  
 Provienc: Clayoquat                      Collector: C. F. Newcombe  
 Date Collected: 1895-1901                      Date Acquired: N.I.  
 Collection: N.M.M.

Body width: 44 (?) mm.                      Arming element channel length:  
 Body thickness: 37 mm.                      ca. 19 mm.  
 Length of wrapped body                      Arming element channel width:  
 area: 60 mm.                                      ca. 12 mm.  
 Length of valves exposed                      Arming element channel thickness:  
 proximally: 32/30 mm.                      ca. 6 mm.

Valve length: 124/119 mm. Foreshaft socket diameter: 11 mm.  
 \*Valve width: ca. 15/15 mm.  
 \*Valve thickness: 14/14 mm. \*Posterior end of body wrapping

Documentation: Harpoon, etc., whaling; lanyard of sinew  
 (C.F.N.).

Description: Socketed head with two undecorated antler(?)  
 valves. The arming element is missing. The channel beds  
 are unbound. The end attributes are not observable. The  
 valves are secured with sinew covered with pitched bark.  
 The sinew lanyard is served with nettle (?) fibre string.

Specimen:	VII-F-304	Group:	Nootkan
Proviencce:	Barkley Sound	Collector:	Dept. of Indian Affairs
Date Collected:	1893 (?)	Date Acquired:	N.I.
Collection:	N.M.M. (See specimen VII-F-305 for collection history)		

Length:	196 mm.	Valve length:	149/146 mm.
Body thickness:	47 mm.	*Valve width:	14/14 mm.
Arming element length:	134 mm.	*Valve thickness:	14/13 mm.
Arming element width:	69 mm.	Foreshaft socket diameter:	14 mm.
Arming element thickness:	1 mm.		
Length of valves exposed proximally:	39/36 mm.	*Posterior end of body wrapping	

Documentation: Whaling harpoon and lanyard.

Description: Socketed head with two undecorated antler(?)  
 valves and a flat, thin, iron, or steel, arming element,  
 that is not shanked. The valves are secured with sinew  
 covered with pitched thread. The foreshaft socket shows  
 red staining, probably red ochre. The sinew lanyard is  
 served with string with the end loop covered with cherry  
 bark.

Specimen:	VII-F-305	Group:	Nootkan
Proviencce:	Alberni	Collector:	N.I.

Date Collected: N.I.

Date Acquired: N.I.

Collection: N.M.M. Collection from the Department of Indian Affairs transmitted and handed over to the Ethnological Division of the Geological Survey of Canada December 1897, which represents part of collection displayed by the Canadian Government at the Columbian Exposition, Chicago. 1893.

Length of wrapped body area: 62 mm.	Arming element channel length: 24 mm.
Length of valves exposed proximally: 30/30 mm.	Arming element channel width: 16 mm.
Valve length: 131/131 mm.	Arming element channel thick- ness: 4 mm.
*Valve width: 13/14 mm.	Foreshaft socket diameter: ca. 11 mm.
*Valve thickness: 11/12 mm.	

\*Posterior end of body wrapping

Documentation: Sealing spear. Alberni, British Columbia.

Description: Socketed head with two undecorated antler (?) valves. The arming element is missing. The channel beds are unbound. Their end attributes are not observable. The valves are secured with sinew and covered with pitched bark. The sinew lanyard is served with thread and has an end loop covered with cherry bark.

Specimen: VII-F-398a Group: Nootkan

Providence: Alberni Collector: E. Sapir

Date Collected: 1913-1914 Date Acquired: N.I.

Collection: N.M.M.

Length: 184 mm.	Valve length: ca. 132/132 mm.
Body thickness: 38 mm.	*Valve width: 14/15 mm.
Arming element length: 133 mm.	*Valve thickness: 11/10 mm.
Arming element width: 69 mm.	Foreshaft socket diameter: ca. 10 mm.
Arming element thickness: ca. 2 mm.	
Length of valves exposed proximally: 39/36 mm.	*Posterior end of body wrapping

Documentation: (refers to 398a, b, c, d, e). Whaling outfit consisting (a) of main harpoon for spearing, and (b) - (d) three smaller harpoons for towing. Obtained from Alfred



Joe (Hoyal atH<sup>a</sup> tribe), whose uncle used to use it. Also (e) another main harpoon.

**Description:** Socketed head with two undecorated antler (?) valves and a flat, thin, excurvate iron, or steel arming element that is not shanked. The valves are secured with sinew which is covered with pitched bark. The three-strand long, sinew lanyard is served with fibre thread.

Specimen: VII-F-398e      Group: Nootkan  
 Proviences: Alberni      Collector: E. Sapir  
 Date Collected: 1913-14      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 181 mm.      Length of valves exposed  
 Body thickness: 36 mm.      proximally: 30/28 mm.  
 Arming element length:      Valve length: 126/ca. 126 mm.  
     133 mm.      \*Valve width: ca. 13/13 mm.  
 Arming element width:      \*Valve thickness: 10/10 mm.  
     66 mm.  
 Arming element thickness:      \*Posterior end of body wrapping  
     1 mm.

Documentation: See VII-F-398a.

**Description:** Socketed head with two undecorated antler (?) valves and a thin, flat, excurvate, iron, or steel, arming element that is not shanked. The valves are secured with sinew covered with pitched bark. The long, three-strand, twisted sinew lanyard is served with nettle (?) fibre.

Specimen: 169-L-134      Group: Nootkan, Makah  
 Proviences: N.I.      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: N.I.  
 Collection: S.F.U. MAE.

Basal thickness: 40 mm.      \*Valve width: 16/15 mm.  
 Length of wrapped body      \*Valve thickness: 12/12 mm.  
     area: 67 mm.      Arming element channel length:  
 Length of valves exposed      25 mm.  
     proximally: 37/38 mm.      Arming element channel width:  
 Valve length: 145/146 mm.      19 mm.  
     Arming element channel thickness:  
     5 mm.

Foreshaft socket diameter: 12 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two undecorated antler (?) valves. The arming element is missing. The channel beds are unbound. The end attributes are not observable. The valves are secured with sinew. Some pitch is present on the anterior ends of the valves. The long lanyard is of three-strand, twisted sinew.

Specimen:	169-L-136	Group:	Nootkan, Makah
Providence:	N.I.	Collector:	N.I.
Date Collected:	N.I.	Date Acquired:	N.I.
Collection:	S.F.U., MAE		

Length of wrapped body  
area: 71 mm.

Valve length: 141/139 mm.

\*Valve width: ca. 18/ca.  
17 mm.

\*Valve thickness: 11/11 mm.

Arming element channel  
length: 24/23 mm.

Arming element channel width:  
18/17 mm.

Arming element channel thick-  
ness: 4 mm.

Foreshaft socket diameter: 12 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two undecorated antler (?) valves. The valves are secured with sinew covered with pitched bark. The long, three-strand, twisted sinew lanyard is served with string. The arming element is missing. The valve channel beds are flat and unbound. Their end attributes are not observable.

Specimen:	SFU-A	Group:	Nootkan, Makah
Providence:	N.I.	Collector:	N.I.
Date Collected:	N.I.	Date Acquired:	N.I.
Collection:	S.F.U., MAE		

Basal thickness: 35 mm. \*Valve width: ca. 15/ca. 15 mm.  
 Length of wrapped body \*Valve thickness: 11/10 mm.  
 area: 60 mm. Arming element channel  
 Length of valves exposed length: maximum: 28 mm.  
 proximally: 32/31 mm. minimum: 22 mm.  
 Valve length: 121/113 mm.

\*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two undecorated antler (?) valves of unequal length. The arming element is missing. The valve channel beds are flat and unbound. Their end attributes are not observable. The valves are secured with sinew covered with pitched cloth. The sinew valve wrapping is spliced to a long hemp rope lanyard.

Type III - Heads with short, three-strand twisted sinew lanyards.

Specimen:	1224	Group:	Nootkan
Providence:	Ohiat, Barkley Sound	Collector:	C. F. Newcombe
Date Collected:	1900	Date Acquired:	1900
Collection:	B.C.P.M.		
Length:	148 mm.	Arming element thickness:	2 mm.
Body width:	37 mm.	Length of valves exposed	
Body thickness:	34 mm.	proximally:	25/26 mm.
Basal thickness:	34 mm.	Valve length:	104/108 mm.
Length of wrapped body		*Valve width:	12/12 mm.
area:	ca. 54 mm.	*Valve thickness:	8/9 mm.
Arming element length:		Foreshaft socket diameter:	11 mm.
105 mm.			
Arming element width:	58 mm.	*Posterior end of body wrapping	

Documentation: Whale harpoon, lanyard of sinew.

Description: Socketed head with two antler (?) valves and an unbarbed, thin, excurvate, metal arming element with a pronounced basal notch. Valves are secured with braided sinew. The arming element fits over the wrapped valves and is secured by pitch. The lanyard is sinew, covered with string, ca. 80 cm. in length. The valve spurs are plano-convex in cross-section with pointed tips, and a straight dorsal outline. They are undecorated.

Specimen: 2190                      Group: Nootkan  
 Proviencce: Barkley                      Collector: C. F. Newcombe  
                     Sound  
 Date Collected: 1911                      Date Acquired: 1911  
 Collection: B.C.P.M.

Length: 173 mm.                      Arming element width: 60 mm.  
 Body width: ca. 37 mm.                      Arming element thickness: 1 mm.  
 Body thickness: 36 mm.                      Length of valves exposed  
 Length of wrapped body                      proximally: 35/33 mm.  
   area: ca. 56 mm.                      Valve length: 130/130 mm.  
 Arming element length:                      \*Valve width: 15/14 mm.  
   132 mm.                      \*Valve thickness: 13/11 mm.

\*Posterior end of body wrapping

Documentation: Harpoon point, iron blade, bone barbs, twisted  
 sinew lanyard wrapped with twine.

Description: Socketed head similar in form to specimen 2189.  
 The anterior arming element edges are slightly concave  
 changing to convex at the widest portion, then tapering  
 with a straight outline to the posterior ends which are  
 slightly shouldered. The anterior valve tips are blunted  
 at 90 degrees to the valve edges. The valve spurs have  
 pointed tips. The valve spurs are plano-convex, almost  
 trianguloid, in cross-section. Their dorsal outline is  
 straight. The valves are secured with braided sinew which  
 appears to be covered with bark. The lanyard, ca. 105 cm.  
 in length, is of sinew, wrapped with string, ending in a  
 cherry bark wrapped end loop. The valves appear to be  
 made of antler.

Specimen: VII-F-398b                      Group: Nootkan  
 Proviencce: Alberni                      Collector: E. Sapir  
 Date Collected: 1913-1914                      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 178 mm.                      Length of valved exposed  
 Body thickness: 34 mm.                      proximally: 30/30 mm.  
 Length of wrapped body                      Valve length: 119/122 mm.  
   area: 57 mm.                      \*Valve width: 13/13 mm.  
 Arming element length:                      \*Valve thickness: 11/10 mm.  
   126 mm.                      Foreshaft socket diameter: 11 mm.

Arming element width: 66 mm.  
 Arming element thickness:  
 1 mm.

\*Posterior end of body wrapping

Documentation: See VII-F-398a

Description: Socketed head with two undecorated antler (?) valves and a thin, flat, excurvate, iron or steel, arming element that is not shanked. The valves are secured with sinew and covered with pitched bark. The short lanyard is of three-strand, twisted sinew, served with nettle (?) fibre string.

Specimen: VII-F-398c      Group: Nootkan  
 Proviencce: Alberni      Collector: E. Sapir  
 Date Collected: 1913-1914      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 158 mm.      Arming element length: 113 mm.  
 Body thickness: 35 mm.      Arming element width: 65 mm.  
 Length of wrapped body area: 58 mm.      Arming element thickness: 2 mm.  
 Valve length: 117/115 mm.      Length of valves exposed proximally: 29/27 mm.  
 \*Valve width: 13/13 mm.  
 \*Valve thickness: 10/9 mm.  
 Foreshaft socket diameter: 11 mm.  
 Distance of lashing groove step from distal tips of valves: 29/30 mm.

\*Posterior end of body wrapping. Maximum valve width is 17/17 mm.

Documentation: See VII-F-398a

Description: Socketed head with two undecorated antler (?) valves with well-defined lashing groove steps visible. The thin, flat, excurvate iron or steel arming element is not shanked. The valves are secured with sinew covered with pitched bark. The short, three-strand, twisted sinew lanyard is served with commercial string.

Specimen: VII-F-398d      Group: Nootkan  
 Proviencce: Alberni      Collector: E. Sapir

Date Collected: 1913-1914      Date Acquired: N.I.

Collection: N.M.M.

Length: 166 mm.	Length of valves exposed
Body thickness: 38 mm.	proximally: 35/38 mm.
Length of wrapped body	Valve length: 129/131 mm.
area: 55 mm.	*Valve width: 15/16 mm.
Arming element length:	*Valve thickness: 11/12 mm.
112 mm.	Foreshaft socket diameter: 11 mm.
Arming element width: 61 mm.	
Arming element thickness:	
1 mm.	*Posterior end of body wrapping

Documentation: See VII-F-398a.

Description: Socketed head with two undecorated antler (?) valves and a thin, flat, iron or steel, arming element that is not shanked. The arming element's outline is similar to VII-F-27, -28, and -29, having incurvate edges from the widest portion anterior to the distal tip, and an excurvate outline to the posterior ends. The valves are secured with sinew covered with pitched bark. The short, three-strand, twisted sinew lanyard is served with commercial string.

Specimen: VII-F-644      Group: Nootkan

Providence: West Coast, Van-      Collector: Lord Bossom  
    couver Island

Date Collected: ca. 1900      Date Acquired: 1955

Collection: N.M.M.

Length: 261 mm.	Length of valves exposed
Body thickness: 419 mm.	proximally: 50/ca. 50 mm.
Length of wrapped body	Valve length: 191/192 mm.
area: 83 mm.	*Valve width: 25/25 mm.
Arming element length:	*Valve thickness: 15/17 mm.
195 mm.	Foreshaft socket diameter: 14 mm.
Arming element width:	Distance of lashing groove step
94 mm.	from distal tips of valves:
Arming element thickness:	52/52 mm.
1 mm.	

\*Posterior end of body wrapping

Documentation: Iron harpoon, whale sinew line: used for whaling. Iron head held by two bone supports lashed together with braided sinew, spruce gum, and cherry bark wrapping. The twisted whale sinew line extends from the harpoon head and ends with a loop.

Description: Socketed head with two undecorated antler (?) valves and a thin, flat, excurvate, iron or steel, arming element that is not shanked. The valves are secured by braided sinew covered with pitched bark. The short, three-strand, sinew lanyard is served with fragmentary fibre string. The valves anterior to the lashing groove steps have a low plano-convex cross-section and rounded tips. The valve spurs have plano-convex cross-sections and gently pointed tips. The dorsal faces of the anterior valve portions are unpitched as is the case with specimen VII-F-85.

Type III - Heads with short, one-piece, hide lanyards, and short, two-strand lanyards.

Specimen: 2189                      Group: Nootkan  
 Provienc: Barkley                      Collector: C. F. Newcombe  
                     Sound

Date Collected: 1911                      Date Acquired: 1911

Collection: B.C.P.M.

Length: 157 mm.	Body thickness: 35 mm.
Body width: 31 mm.	Basal thickness: 35 mm.
Length of wrapped body area: 66 mm.	Valve length: ca. 130/ca. 128 mm.
Arming element length: 99 mm.	*Valve width: 16/16 mm.
Arming element width: 43 mm	*Valve thickness: 11/11 mm.
Arming element thickness: 1 mm.	Foreshaft socket diameter: ca. 11 mm.
Length of valves exposed proximally: 34/31 mm.	Distance of lashing groove step from distal tip of valves: 29/30 mm.

\*Posterior end of body wrapping

Documentation: Harpoon, small iron point, bone barbs, elk skin lanyard.

Description: Socketed head with two antler (?) valves and a flat, thin, incurvate-excurvate, arming element of iron or steel, with a pronounced basal notch. It is fitted over the two valves which appear to be bound together with sinew and commercial string. It is attached by amber coloured pitch. The dorsal face of the anterior part of each valve is convex in cross-section, with a lashing groove step at its proximal end opposite the posterior end of the arming element channel on the dorsal face. The valve spurs have pointed tips and are plano-convex in cross-section. Their dorsal outline is relatively straight, tending to concave.

The lanyard, ca. 100 cm. long, is made of hide. The head is slightly atypical in that one arming element edge does not terminate flush to the wrapped body but ca. 6 mm. out, thus forming a shoulder.

Specimen: 2196                      Group: Nootkan  
 Proviencce: Nootka                      Collector: C. F. Newcombe  
                   (Yuquot?)  
 Date Collected: 1912                      Date Acquired: 1912  
 Collection: B.C.P.M.  
 Length: 144 mm.                      Valve length: ca. 107/ca. 104 mm.  
 Body width: 31 mm.                      \*Valve width: 16/16 mm.  
 Body thickness: 40 mm.                      \*Valve thickness: ca. 12/14 mm.  
 Basal thickness: 40 mm.  
 Length of wrapped body  
   area: ca. 44 mm.  
 Arming element width: 42 mm.  
 Arming element thickness: 2 mm.  
 Length of valves exposed proximally:  
   37/37 mm.

\*Posterior end of body wrapping

Documentation: Sea lion harpoon, antler barbs, raw hide lanyard.

Description: Socketed, composite head with two antler (?) valves and a thin, flat, iron or steel arming element that is not shanked. This head is similar to specimen 2189 with the same type of lanyard, ca. 140 cm. long, and a single square shoulder on the posterior end of the arming element edge opposite the lanyard attachment. The valves are secured with sinew which appears to be covered with bark that is pitched. The valves are undecorated. The valve spurs have pointed tips and are sharply plano-convex, almost trianguloid, in cross-section. They have a straight dorsal outline.

Specimen: 9769                      Group: Nootkan  
 Proviencce: Ucluelet                      Collector: N.I.  
 Date Collected: N.I.                      Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection.



Length: 155 mm.  
 Body width: ca. 39 mm.  
 Body thickness: 37 mm.  
 Basal thickness: 37 mm.  
 Exposed arming element  
 length: 110 mm.  
 Arming element width:  
 52 mm.  
 Arming element thickness:  
 2 mm.

Length of valves exposed  
 proximally: 38/38 mm.  
 Valve length: 131/131 mm.  
 \*Valve width: 15/15 mm.  
 \*Valve thickness: 11/11 mm.  
 Foreshaft socket diameter:  
 ca. 10 mm.

\*Posterior end of body wrapping

Documentation: Sea lion harpoon head and lanyard, barbs  
 etched with Haietlik design. Small, used for sea lion.

Description: Socketed head with two antler (?) valves and  
 a flat, thin, excurvate, arming element that is not shanked.  
 It has two shoulders formed by the posterior tips. The  
 posterior tip opposite the lanyard attachment forms a  
 slight barb, perhaps due to the fragmentary state of the  
 pitch. The wrapping which secures the two valves cannot be  
 seen but is covered with bark and then pitched string.  
 The anterior valve tips are blunted, rounded asymmetrically  
 in one case, squared in the other, and have a low plano-  
 convex cross-section. The valve spurs have a straight dor-  
 sal outline, pointed tips, and a steep plano-convex cross-  
 section. Each spur is decorated with two profile animal  
 heads, perhaps haietlik, near the tips. There is also a  
 single engraved zig-zag line leading back from each figure  
 terminating in a curved band of incised lines which joins  
 each engraved zig-zag line. Four on one valve, five on  
 the other, incised diamond-shaped feather designs emanate  
 from the inner line of the curved band. They, like the  
 profile heads, have incised lines inside the engraved out-  
 lines. The lanyard, ca. 82 cm. in length, is of two strand,  
 each strand wrapped with string, sinew.

Specimen:	VII-F-27	Group:	Nootkan (Tsiieya'ath)
Proviences:	Alberni	Collector:	E. Sapir
Date Collected:	1910	Date Acquired:	1910
Collection:	N.M.M.		

Length: 166 mm.  
 Body thickness: 36 mm.  
 Basal thickness: 36 mm.  
 Arming element length:  
 110 mm.  
 Arming element width: 40 mm.  
 Arming element thickness:  
 2 mm.

Length of valves exposed  
 proximally: 36/36 mm.  
 Valve length: 118/123 mm.  
 \*Valve width: 11/11 mm.  
 \*Valve thickness: 11/11 mm.  
 Foreshaft socket diameter: 10 mm.

\*Posterior end of body wrapping

Documentation: Sea lion harpoon, iron point, lanyard of sea lion hide and gut wrapped. T. tribe, tcapvtopc (Sapir).

Description: Socketed head with two undecorated antler (?) valves and a thin, flat, iron or steel, arming element without a shank. Its outline from the widest point to the anterior tip is slightly incurvate. From the widest point to the posterior ends, the edges have a straight, or slightly, convex outline. The anterior portions of the valves have a low plano-convex cross-section and rounded tips. The valve spurs have straight dorsal outlines with steep plano-convex cross-sections and pointed tips. The valves are secured with braided sinew covered with pitched bark. The lanyard appears to be similar to those of specimens 2189 and 2196. C. F. Newcombe describes 2189's lanyard as "elk skin" whereas he described 2196 as having a lanyard of "raw hide." Sapir's catalogue describes VII-F-27's lanyard as being of sea lion hide.

Specimen:	VII-F-28	Group:	Nootkan (Ts'ica'atH)
Providence:	Alberni	Collector:	E. Sapir
Date Collected:	1910	Date Acquired:	1910
Collection:	N.M.M.		

Length:	167 mm.	Arming element thickness:	1 mm.
Body thickness:	31 mm.	Length of valves exposed	
Basal thickness:	31 mm.	proximally:	39/39 mm.
Arming element length:		Valve length:	132/ca. 129 mm.
ca. 102 mm.		*Valve width:	14/13 mm.
Arming element width:		*Valve thickness:	11/11 mm.
41 mm.		Foreshaft socket diameter:	9 mm.

\*Posterior end of body wrapping

Documentation: Sea lion harpoon with lanyard of elk hide and trade mark on harpoon, T. tribe tcapxtopc (Sapir).

Description: This specimen is very similar to VII-F-27. Sapir describes its lanyard as being of elk hide. Although the lanyard lengths of VII-F-27 and -28 were not recorded they are within the range of 2189 and 2196 which are respectively, 84 and 140 cms. The valves appear to be made of antler.

Specimen: VII-F-29 Group: Nootkan  
(Tsi!icya'atH)  
Provienc:e: Alberni Collector: E. Sapir  
Date Collected: 1910 Date Acquired: 1910  
Collection: N.M.M.

Length: 126 mm. Length of valves exposed  
Body thickness: 32 mm. proximally: 30/31 mm.  
Basal thickness: 32 mm. Valve length: 101/-mm.  
Arming element length: \*Valve width: 11/11 mm.  
ca. 88 mm. \*Valve thickness: 9/7 mm.  
Arming element width: Foreshaft socket diameter: 10 mm.  
36 mm.  
Arming element thickness: \*Posterior end of body wrapping  
2 mm.

Documentation: Sea lion harpoon, T. tribe, tcapxtop<sup>c</sup>.

Description: The specimen is similar to VII-F-27 and -28.  
The essential difference being that the valves are both  
decorated with the same diamond or feather designs as seen  
on specimens 9509, 9769, and 10689. The valves appear to  
be made of antler.

Specimen: VII-F-308 Group: Nootkan  
Provienc:e: Barkley Sound Collector: N.I.  
(Oialet?)  
Date Collected: N.I. Date Acquired: N.I.  
Collection: N.M.M. See specimen VII-F-305 for collection  
history.

Body width: 31 mm. \*Valve width: 15/ca. 15 mm.  
Body thickness: 35 mm. \*Valve thickness: 11/11 mm.  
Basal thickness: 35 mm. Arming element channel length:  
Length of wrapped body 20 mm.  
area: 64 mm. Arming element channel width:  
Length of valves exposed 14 mm.  
proximally: 32/32 mm. Arming element channel thickness:  
Valve length: 130/126 mm. 4 mm.  
Distance of lashing groove step  
from distal tips of valves:  
36/32 mm.  
  
\*Posterior end of body wrapping

Documentation: Whaling gear Oialet, Barkley Sound. Spear or lance head with sea lion skin. Strong thown with one blade attached.

Description: Socketed head with two undecorated antler (?) valves. The arming element is missing. The valve channel beds are unbound. Their end attributes are not observable. The valves are secured with sinew covered with pitched bark. The valve portions, anterior to the well defined lashing groove steps, have a low plano-convex cross-section and rounded tips. The valve spurs have a steeper plano-convex cross-section with pointed tips. The lanyard is short as is the case with VII-F-27, and other specimens noted above. According to the catalogue description, the lanyard is sea lion skin. It is not served.

Type III - Heads with incomplete lanyards or unrecorded lanyard attributes.

Specimen:	5060e	Group:	Nootkan
Proviencie:	Opitsaht	Collector:	G. Nicholson
Date Collected:	1921	Date Acquired:	1940
Collection:	B.C.P.M.		

Body width: 43 mm.  
 Body thickness: 40 mm.  
 Basal thickness: 40 mm.  
 Length of wrapped body area: ca. 64 mm.  
 Length of valves exposed proximally: 40/43 mm.  
 Valve length: 141/140 mm.  
 \*Valve width: ca. 15/ca. 16 mm.

\*Valve thickness: 11/12 mm.  
 \*\*Arming element channel length: 23 mm.  
 Arming element channel width: ca. 15 mm.  
 Arming element channel thickness: 6 mm.  
 Foreshaft socket diameter: ca. 12 mm.

\*Posterior end of body wrapping  
 \*\*Sinew wrapping which takes a turn through posterior end of blade channel is in situ.

Documentation: See 5060b.

Description: Socketed head with two antler (?) valves. The arming element is missing. The channel beds are unbound. Valves are secured with braided sinew, covered with bark that is pitched. The anterior valve ends are perpendicular to the valve edges with rounded corners. The anterior portions have a low plano-convex cross-section. The valve spurs have sharp pointed tips and are plano-convex in

cross-section. They are undecorated. The valve spurs have a straight dorsal outline. The lanyard, ca. 255 cm. in length, is incomplete. It is of three-strand sinew and is served with what appears to be nettle fibre string. The serving is very fragmentary.

Specimen: VII-F-419 Group: Nootkan  
 Province: Alberni Collector: E. Sapir  
 Date Collected: September 1913 Date Acquired: N.I.  
 - February 1914

Collection: N.M.M.

Length: 163 mm. \*Valve length: 124 mm.  
 Body width: 17 mm. \*\*Valve width: ca. 15 mm.  
 Body thickness: 39 mm. \*\*Valve thickness: ca. 13 mm.  
 Basal thickness: 39 mm. Arming element channel  
 Length of wrapped body length: ca. 30 mm.  
 area: 31 mm. Foreshaft socket diameter:  
 Arming element length: 11 mm.  
 104 mm. Distance of lashing groove step  
 Arming element width: from distal tip of valves:  
 41 mm. 34 mm.  
 Arming element thickness: ca. 1 mm. \*Only one valve was measured.  
 Inside length of distal \*\*Posterior end of body wrapping  
 barbs: 44/23 mm.  
 Length of valves exposed proxinally: 45/45 mm.

Documentation: Sea lion harpoon of bone, with iron. Obtained from Jones (?) (Ts'lica'attl<sup>a</sup> Indian).

Description: Socketed head with two sea mammal bone valves and a thin, flat, bilaterally asymmetrical, barbed, excurvate, arming element with a large basal notch. The valves have a lashing groove step with a fragmentary string wrapping. The spur tips are rounded as are the anterior ends. The valves have a plano-convex cross-section and a relatively straight dorsal outline. The anterior valve portions and the arming element have an incomplete covering of pitch.

Specimen: VII-F-679a Group: Nootkan  
 Province: Vancouver Collector: F. G. Speck  
 Island(?)  
 Date Collected: N.I. Date Acquired: 1937  
 Collection: N.M.M.

Length: 202 mm. \*Valve width: ca. 15/16 mm.  
 Body thickness: 41 mm. \*Valve thickness: 13/12 mm.  
 Arming element length: 160 mm Foreshaft socket diameter:  
 Arming element width: 69 mm. ca. 10(?) mm.  
 Arming element thickness: 2 mm.  
 Length of valves exposed  
 proximally: 37/38 mm. \*Posterior end of body wrapping

Documentation: Harpoon head and case

- a) Harpoon head bone support with iron blade--bound to 8½" cedar foreshaft and twine. Coat of gum accompanied by short lengths of twine and rope.
- b) Case; strip of cedar bark folded over; ends slit and woven double with cotton strips.

Description: Socketed head with two undecorated antler (?) valves and a thin, flat, excurvate, iron, or steel arming element that is not shanked. The valves are secured together with braided sinew, covered with pitched nettle fibre (?) string. The valve spurs have steep plano-convex cross-sections and pointed tips. The sinew lanyard is served with string.

Specimen: VII-F-685 Group: Nootkan

Proviencce: N.I. Collector: N.I.

Date Collected: N.I. Date Acquired: N.I.

Collection: N.M.M.

Length: 160 mm. Length of valves exposed  
 Body thickness: 32 mm. proximally: 31/30 mm.  
 Length of wrapped body Valve length: 130/130 mm.  
 area: 63 mm. \*Valve width: ca. 15/ca. 14 mm.  
 Arming element length: \*Valve thickness: 10/10 mm.  
 105 mm. Foreshaft socket diameter:  
 Arming element width: 56 mm. 12 mm.  
 Arming element thickness: 2 mm. \*Posterior end of body wrapping

Documentation: N.I.

Description: Socketed head with two undecorated antler (?) valves and a thin, flat, incurvate-excurvate edged, iron or steel, arming element that is not shanked. The valves are secured with sinew covered with pitched bark. The anterior valve portions have a low plano-convex cross-section and pointed tips. The lanyard is of sinew.

Specimen: VII-E-606      Group: Kwakiutl (?)  
 Proviencce: Alert Bay      Collector: George M. Dawson  
 Date Collected: 1885      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 199 mm.      Length of valves exposed  
 Body thickness: 41 mm.      proximally: 43/43 mm.  
 Basal thickness: 41 mm.      Valve length: 152/146 mm.  
 Arming element length:      \*Valve width: 16/ca. 15 mm.  
 144 mm.      \*Valve thickness: 13/13 mm.  
 Arming element width: 64 mm.      Foreshaft socket diameter: 14 mm.  
 Arming element thickness:      \*Posterior end of body wrapping  
 2 mm.

Documentation: Whaling harpoon head and lanyard. Kwakiutl,  
 Alert Bay.

Description: Socketed head with two undecorated antler (?)  
 valves and a thin, flat, arming element of iron or steel  
 that is not shanked. The valves are secured with sinew  
 and covered with pitch. The lanyard is of three-strand,  
 twisted sinew served with string.

Specimen: N.M.M. D      Group: N.I.  
 Proviencce: N.I.      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 164 mm.      Length of valves exposed  
 Body thickness: 35 mm.      proximally: 35/32 mm.  
 Basal thickness: 35 mm.      Valve length: 119/122 mm.  
 Length of wrapped body      \*Valve width: 13/13 mm.  
 area: 64 mm.      \*Valve thickness: 10/10 mm.  
 Arming element length:      Foreshaft socket diameter: 11 mm.  
 100 mm.  
 Arming element width: 50 mm.  
 Arming element thickness:      \*Posterior end of body wrapping  
 1 mm.

Documentation: N.I.

Description: Socketed head with two undecorated antler (?)  
 valves with an iron or steel arming element which has a  
 slightly concavo-convex cross-section and is not shanked.  
 The valves are secured with sinew covered with pitched  
 bark. The three-strand, twisted sinew lanyard is served

with nettle fibre (?) string. The lanyard end loop is served with cherry bark.

### Type III - Valves

Specimen:	2194	Group:	Nootkan
Providence:	Ucluelet	Collector:	C. F. Newcombe
Date Collected:	1911	Date Acquired:	1911
Collection:	B.C.P.M.		
Basal thickness:	43 mm.	Arming element channel width:	20-16/20-16 mm.
Length of wrapped body area:	ca. 36 mm.	Arming element channel thickness:	ca. 4 mm.
Valve length:	153/153 mm.	Foreshaft socket diameter:	12 mm.
Valve width:	21/21 mm.	Foreshaft socket width:	10 mm.
Valve thickness:	ca. 15/ ca. 15 mm.	Distance of lashing groove step from distal tip of valves:	43/44 mm.
Arming element channel length:	33-40/33-39 mm.		

Documentation: Harpoon socket antler, one pair ready to mount.

Description: A pair of undecorated antler valves lashed together with sinew and commercial (?) string. The valves have flat arming element channel beds that terminate at 90 degrees to the edge faces at the anterior ends. The proximal ends of the unbound channel beds are semi-circular in outline stepped down from the bearing surface of the valves. Opposite the lateral ends of the channel beds on the convex dorsal face of each valve is a lashing groove step. From the lashing groove step to the anterior valve tip, the cross-section is gently plano-convex. From the lashing groove step to the pointed tips of the valve spurs the cross-section is also plano-convex, but slightly recurving at the edges of the dorsal faces. The foreshaft socket is conical in form. The bearing surface measures 67 mm. The ventral valve spur faces from their apex to their distal tips both measure 57 mm. The dorsal outline of the valves is essentially straight with a slightly convex curving toward their anterior tips.



Specimen: 2195a                      Group: Nootkan  
 Provienc: Nootka                      Collector: C. F. Newcombe  
           (Yuquot?)  
 Date Collected: 1912                      Date Acquired: 1912  
 Collection: B.C.P.M.

Valve length: 187 mm.	Arming element channel thick-
Valve width: 30 mm.	ness: 3 mm. (height of arm-
Valve thickness: 16 mm.	ing element end step).
Arming element channel	Foreshaft socket length: 64 mm.
length: maximum 30 mm.	Foreshaft socket width: 19 mm.
Arming element channel	Foreshaft socket depth: ca. 6 mm.
width: distal end: 8 mm.	Distance of lashing groove step
proximal end: 23 mm.	from distal tip of valves:
	32 mm.
	Height of lashing groove step:
	ca. 2 mm.

Documentation: Whale harpoon socket, two pieces of elk antler, edge etched with a wavy design, from a shell mound.

Description: A valve with a large concave foreshaft channel, a stepped trianguloid, flat, unbound arming channel bed and an elevated lashing groove step on the convex dorsal surface located near the proximal end of the blade channel bed on the opposite ventral face. The valve is plano-convex in cross-section; the anterior tip is rounded; the posterior tip of the valve spur is pointed. The valve is decorated with a wavy line along the edge of the dorsal face from the spur tip to approximately the anterior end of the foreshaft socket concavity. This line is ca. 1 mm. in width, and ca. 79 mm. long on one dorsal face edge but is largely missing on the opposite edge as the valve is partially eroded along that edge. The line is comprised of diagonally opposed symmetrical, triangular depressions, thus producing a centrally positioned, raised, wavy line. A similar line is placed in the centre of the dorsal face, extending in an anterior direction from the valve spur tip ca. 74 mm. The length of the ventral face of the valve spur is ca. 64 mm. The dorsal outline is essentially straight with a slight convex curving near the anterior tip, and a slight concave curving near the posterior tip. The material is either sea mammal or antler. This specimen and valve 2195b form a pair.

Specimen: 2195 b                      Group: Nootkan  
 Proviencce: Nootka                      Collector: C. F. Newcombe  
                   (Yuquot?)  
 Date Collected: 1912                      Date Acquired: 1912  
 Collection: B.C.P.M.

Valve length: 185 mm.	Foreshaft socket length: ca.
Valve width: 31 mm.	59 mm.
Valve thickness: 16 mm.	Foreshaft socket width: 17 mm.
Arming element channel	Foreshaft socket depth: ca. 5 mm.
length: 30 mm.	Distance of lashing groove step
Arming element channel	from distal tip of valves:
width: distal end: 8 mm.	35 mm.
proximal end: 23 mm.	Height of lashing groove step:
Arming element channel	ca. 2 mm.
thickness: 2 mm. (height	
of arming element end step)	

Documentation: See 2195a.

Description: This specimen is essentially similar to specimen 2195a. It is shorter in length but longer from the raised lashing groove step to the anterior tip. This valve is more eroded on its posterior dorsal face, making it difficult to find any evidence of the decoration that is on specimen 2195a. The combined bearing surface has a maximum length of ca. 98 mm. The length of the anterior face of the valve spur is ca. 59 mm. Specimen 2195 a and b are a matched pair.

Specimen: 10064a                      Group: Nootkan  
 Proviencce: Bamfield                      Collector: C. F. Newcombe  
 Date Collected: 1915                      Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection.

Valve length: 141 mm.	Arming element channel thickness:
Valve width: 19 mm.	ca. 1 mm. (height of arming
Valve thickness: 13 mm.	element end-step)
Arming element channel	Foreshaft socket length: ca.
length: 37-42 mm.	31 mm.
Arming element channel	Foreshaft socket width: ca.
width: 19 mm.	10 mm.
	Foreshaft socket depth: ca. 6 mm.
	Distance of lashing groove step
	from distal tip of valves:
	43 mm.
	Height of lashing groove step:
	ca. 1 mm.

Documentation: Spear or harpoon heads, pair of (?) horn

Description: Both 10064a and 10064b are essentially the same as the valves of specimen 2194, with laterally unbound and curved end-stepped channel beds. The anterior tips, although squared, as in specimen 2194, have rounded corners. The combined bearing surface length is 57 mm. The length of the ventral surface of the valve spurs is 51 mm. for both valves. The material is antler.

Specimen:	10064b	Group:	Nootkan
Proviencce:	Bamfield	Collector:	C. F. Newcombe
Date Collected:	1915	Date Acquired:	1962
Collection:	B.C.P.M., Newcombe Collection.		
Valve length:	142 mm.	Foreshaft socket length:	ca. 31 mm.
Valve width:	20 mm.	Foreshaft socket width:	ca. 10 mm.
Valve thickness:	13 mm.	Foreshaft socket depth:	ca. 6 mm.
Arming element channel length:	36-42 mm.	Distance of lashing groove step from distal tip of valves:	42 mm.
Arming element channel width:	19 mm.	Height of lashing groove step:	ca. 1 mm.
Arming element channel thickness:	ca. 4 (height of arming element end-step)		

Documentation: See 10064a.

Description: See Specimen 10064a. Specimens 10064a and b are a matched valve pair.

Specimen:	11461(1)	Group:	N.I.
Proviencce:	N.I.	Collector:	N.I.
Date Collected:	N.I.	Date Acquired:	1962
Collection:	B.C.P.M., Newcombe Collection.		
Valve length:	120 mm.	Foreshaft socket length:	ca. 35 mm.
Valve width:	17 mm.	Foreshaft socket width:	ca. 10 mm.
Valve thickness:	16 mm.	Foreshaft socket depth:	ca. 5 mm.
Arming element channel length:	ca. 23-ca. 31 mm	Distance of lashing groove step from distal tip of valves:	ca. 35 mm.
Arming element channel width:	17 mm.	Height of lashing groove step:	
Arming element channel			

thickness: ca. 2 mm.                      ca. 2 mm.  
 (height of arming ele-  
 ment end-step)

Documentation: N.I.

Description: This specimen and 11461(2) form a socketed valve pair. They are essentially similar to specimens 2194, 10064a and 10064b. The anterior tips are squared. The dorsal faces opposite the flat, unbound, curved end-stepped channel beds as well as the channel beds themselves, have the remnants of pitch adhering to their surfaces. The material is antler.

Specimen:            11461(2)            Group:                N.I.  
 Proviencence:      N.I.                Collector:            N.I.  
 Date Collected:   N.I.                Date Acquired:      1962  
 Collection:         B.C.P.M., Newcombe Collection.

Valve length: 120 mm.	Foreshaft socket length: ca. 36 mm.
Valve width: 17 mm.	Foreshaft socket width: ca. 11 mm.
Valve thickness: 13 mm.	Foreshaft socket depth: ca. 6 mm.
Arming element channel length: ca. 23-ca. 34 mm.	Distance of lashing groove step from distal tip of valves: 36 mm.
Arming element channel width: 16 mm.	Height of lashing groove step: ca. 2 mm.
Arming element channel thickness: ca. 2 mm. (height of arming element end-step)	

Documentation: N.I.

Description: See specimen 11461(1). This valve forms a pair with 11461(1).

Specimen:            VII-F-400            Group:                Nootkan  
 Proviencence:      Alberni              Collector:            E. Sapir  
 Date Collected:   September 1913      Date Acquired:      N.I.  
                          -February 1914  
 Collection:         N.M.M.

Valve length: 137/137 mm. Arming element channel width: 16/17 mm.  
 Valve width: 16/17 mm. Arming element channel thickness: ca. 4 mm.  
 Valve thickness: 14/14 mm. Arming element channel length: 35/35 mm.  
 Distance of lashing groove step from distal tips of valves: 44/43 mm.

Documentation: Sea lion harpoon (tcApxtop<sup>c</sup>) without point or line (tcapxt OpaaL). Carving represents bladder or float (TukwagEmit) with feather painted on it of mixtAte bird (supernatural being) from whom power was obtained; this bird always gives good luck to hunters. Made by Galick's father's father.

Description: Two decorated antler (?) valves secured with sinew. The decoration (see catalogue description above) is applied with short engraved lines that are placed end to end. In form these specimens closely resemble B.C.P.M. specimens 2194, 10064 (a,b), 11461 (1,2) and S.F.U. specimens 3519 (a,b). The channel beds are flat and unbound with curved end-steps. There is a single lashing groove step in the dorsal face of each valve opposite the posterior end of the arming element channel bed.

Specimen: VII-F-401 Group: Nootkan  
 Proviencce: Alberni Collector: E. Sapir  
 Date Collected: September 1913 Date Acquired: N.I.  
 -February 1914  
 Collection: N.M.M.

Valve length: 133/133 mm. Arming element channel width: 18/18 mm.  
 Valve width: 18/18 mm. Arming element channel thickness: ca. 4 mm.  
 Valve thickness: 12/11 mm. Arming element channel length: 27/26 mm.  
 Foreshaft socket diameter: 11 mm.  
 Distance of lashing groove step from distal tips of valves: 36/35 mm.

Documentation: Sea lion harpoon without point or line. Carving on one barb represents Uk,sk (main line of harpoon) with mixtAte feathers on as above (VLL-F-400). Made by Galick's father.

Description: This specimen comprises two antler (?) valves of which one is decorated (see catalogue information above) with engraved lines. The two valves are secured together with string. In form these two valves are essentially similar to B.C.P.M. specimens 2194, 10064 (a,b), 11461 (1,2) and S.F.U. specimens 3519 (a,b). The channel beds are flat and unbound with curved end-steps. This valve pair has lashing groove steps similar in form and location to VII-F-400 and the above mentioned specimens.

Specimen:	3519a	Group:	Nootkan
Province:	Nitinat	Collector:	H. B. Roloff
Date Collected:	N.I.	Date Acquired:	March, 1972
Collection:	S.F.U., M.A.E.		

Valve length:	139 mm.	Arming element channel thickness:	2 mm. (depth of arming element end-step)
Valve width:	17 mm.	Foreshaft socket length:	ca. 31 mm.
Valve thickness:	14 mm.	Foreshaft socket width:	ca. 11 mm.
Arming element channel length:	maximum: 41 mm. minimum: 30 mm.	Foreshaft socket depth:	ca. 5 mm.
Arming element channel width:	17 mm.	Distance of lashing groove step from distal tip of valves:	39 mm.

Documentation: Pair of bone valves for a whaling harpoon head. These valves are incised with a design of a serpent or similar motif.

Description: This valve and specimen 3519a form a pair that are essentially identical to B.C.P.M. specimens 2194, 10064 (a,b) and 11461 (1,2). They both have flat unbound arming element channel beds with curved end-steps and a lashing groove step on the dorsal face. The anterior portion of the dorsal faces have a low plano-convex cross-section and rounded distal tips. The cross-section of the dorsal faces from the lashing groove step to the posterior ends is also plano-convex but slightly steeper. The distal tips of the valve spurs are pointed. The dorsal outline from the lashing groove steps to the posterior tips is slightly concave. From the lashing groove steps to the anterior tips, the dorsal outline is slightly convex. Although there is the previously noted variation, the dorsal outline of the valves is generally straight. The valve spurs have a punctate animal head design. The design comprises two symmetrically placed heads, joining by a double, curving line emanating from the back of each head. The

design may represent the haietlik.

Specimen:	3519b	Group:	Nootkan
Proviences:	Nitinat	Collector:	H. B. Roloff
Date Collected:	N.I.	Date Acquired:	March 1972
Collection:	S.F.U., M.A.E.		

Valve length:	140 mm.	Arming element channel width:	17 mm.
Valve width:	17 mm.	Arming element channel thickness:	2 mm. (depth of arming element end-step)
Valve thickness:	15 mm.	Foreshaft socket length:	ca. 30 mm.
Arming element channel length:	maximum: 39 mm. minimum: 31 mm.	Foreshaft socket width:	ca. 11 mm.
		Foreshaft socket depth:	ca. 6 mm.
		Distance of lashing groove step from distal tip of valves:	41 mm.

Documentation: See 3519a.

Description: This valve forms a pair with specimen 3519a.  
For a detailed description see 3519a.

Miscellaneous specimens not classifiable as type III.

Specimen:	1339	Group:	Nootkan
Proviences:	Barkley Sound	Collector:	Mr. A. Laing
Date Collected:	1909 (?)	Date Acquired:	1909
Collection:	B.C.P.M.		

Body width:	ca. 28 mm.	**Arming element channel length:	ca. 32 mm.
Body thickness:	35 mm.	Arming element channel width:	ca. 16 mm.
Basal thickness:	35 mm.	Arming element channel thickness:	ca. 4 mm.
Length of wrapped body area:	ca. 33 mm.	Foreshaft socket diameter:	ca. 12 mm.
Length of valves exposed proximally:	36/37 mm.		
Valve length:	100/100 mm.		

\*Valve width: ca. 18/ca. 18 mm. Distance of lashing groove step from distal tip of valves: 31/31 mm.  
 \*Valve thickness: ca. 14/ca. 13 mm. Lanyard length: ca. 123 cm.

\*Posterior end of body wrapping.

\*\*Anterior valve tips to anterior end of body wrapping.

Documentation: The catalogue information is contradictory, reading as follows: "Whale harpoon, blade made of mussel shell. Seal and sea-lion spears."

Description: Socketed head with two bone, perhaps sea mammal, decorated valves. The valves have pointed anterior ends with a plano-convex cross-section. The arming element channel is flat without a posterior step, the thickness of the channel diminishing toward the posterior end. The spurs have truncated pointed tips and a plano-convex cross-section. The medial area posterior from the encircling lashing groove step to the apex of the valve spur ventral faces is wrapped with string and covered with pitched cherry bark. A bark lanyard served with cherry bark is secured by the wrapping. Both valve spurs have two symmetrically placed designs. The creatures represented may be sea mammals. They are outlined with an engraved line, the body area dotted with small conical holes. The head of each creature with an outlined mouth and larger conical hole for an eye is oriented toward the posterior end of the spur. A pitch free channel, ca. 2 mm wide is evident directly posterior to the arming element channel on the bark wrapping on the non-lanyard edge of the head. There is also a depression in the bark immediately posterior to the arming element channel end on the same edge. Both of these attributes indicate that the arming element probably had a generally excurvate outline with at least one edge laying against the body wrapping, with the only means of attachment being pitch.

Specimen:	1340	Group:	Nootkan
Provience:	Barkley Sound	Collector:	Mrs. A. Laing
Date Collected:	1909 (?)	Date Acquired:	1909
Collection:	B.C.P.M.		

Body width: ca. 24 mm.  
 Body thickness: 34 mm.  
 Basal thickness: 34 mm.  
 Length of wrapped body area: ca. 22 mm.

\*\*Arming element channel length: ca. 25 mm.  
 Arming element channel width: ca. 18 mm.  
 Arming element channel thickness: ca. 2 mm.



Length of valves exposed proximally: 31/32 mm.	Foreshaft socket diameter: ca. 11 mm.
Valve length: 79/80 mm.	Distance of lashing groove step from distal tip of valves: 26/28 mm.
*Valve width: ca. 18/ca. 18 mm.	Lanyard length: ca. 70 cm.
*Valve thickness: ca. 12/ ca. 12 mm.	

\*Posterior end of body wrapping.

\*\*Anterior valve tips to anterior end of body wrapping.

Documentation: Sea lion harpoon, blade mussel shell.

Description: This specimen is very similar in form to specimen 1339. The valves are approximately 20 mm. shorter than those of the latter head. The lanyard is also bark served with cherry bark but the body wrapping is not cherry bark but some other unidentified bark or grass fibre which is pitched. There are no specific details allowing identification of the arming element form and shape other than the very thin channel and the similar structure of it to specimen 1339. Whether or not the arming elements were barbed at their posterior, lateral ends is difficult to determine. Both spurs have a triangular design near the posterior end which conforms to the spur outline. It is formed of small conical holes.

Specimen:	10151a	Group:	Coast Salish
Province:	Chemainus	Collector:	N.I.
Date Collected:	N.I.	Date Acquired:	1962
Collection:	B.C.P.M., Newcombe Collection, ex Humphrey Collection.		

Length: 143 mm.	Arming element thickness: 3 mm.
Body width: 22 mm.	Length of valves exposed proximally: ca. 30/ca. 32 mm.
Body thickness: 33 mm.	Valve length: 97/92 mm.
Basal thickness: 33 mm.	*Valve width: 16/16 mm.
Length of wrapped body area: 35 mm.	*Valve thickness: ca. 8/ca. 9 mm.
Exposed arming element length: 81 mm.	Foreshaft socket diameter: 11 mm.
Arming element width: 43 mm.	

\*Anterior end of body wrapping.

\*\*Posterior end of body wrapping.

Documentation: Spear points, models of (2) slate points with bone barbs wrapped with cherry bark and pitched.

**Description:** Socketed, head with two sea mammal, bone valves and a thin, flat shouldered, triangular arming element that is not shanked and has beveled edges. The valves have a concave dorsal outline and a plano-convex cross-section. The anterior valve ends are pointed in one case and irregularly rounded in the other. The spur tips are blunted with a single sloping facet. The arming element channel beds are flat and unbound. The arming element and valves are secured together with pitched cherry bark wrapping. The cherry bark wrapping at the posterior end of the arming element juts out beyond the lateral edges of the valves, perhaps indicating the presence of a stem. The ventral face of one valve spur has the word "model" in brackets.

**Specimen:** 10151b                      **Group:** Coast Salish  
**Providence:** Chamainus              **Collector:** N.I.  
**Date Collected:** N.I.                  **Date Acquired:** 1962  
**Collection:** B.C.P.M., Newcombe Collection, ex. Humphrey Collection.

<b>Length:</b> 126 mm.	<b>Exposed arming element length:</b>
<b>Body width:</b> 23 mm.	89 mm.
<b>Body thickness:</b> 37 mm.	<b>Arming element width:</b> ca. 49 mm.
<b>Basal thickness:</b> 37 mm.	<b>Arming element thickness:</b> 4 mm.
<b>Length of wrapped body</b>	<b>Inside length of distal barbs:</b>
<b>area: anterior:</b> 25 mm.	ca. 39 mm.
<b>posterior:</b> 13 mm.	<b>Length of valves exposed prox-</b>
<b>Valve length:</b> 80/80 mm.	<b>imally:</b> 27/25 mm.
<b>Valve width:</b> 18/18 mm.	<b>Foreshaft socket diameter:</b> ca.
<b>Valve thickness:</b> ca. 9/	9 mm.
<b>ca. 9 mm.</b>	<b>Distance of lashing groove step</b>
	<b>from distal tip of valves:</b>
	43 mm.

**Documentation:** Spear points, models of (2) slate points with bone barbs wrapped with cherry bark and pitched.

**Description:** Socketed head with two sea mammal bone valves and a thin, flat, slate arming element that is not shanked. The arming element has an excruciate form, beveled edges, and a large triangular notch. Instead of the valves being hafted in the centre of the basal notch, as they are in specimen VII-F-419 (Fig. 24), they are attached to one of the barbs formed by the notch, thus giving the head a unilaterally barbed form. The valves are attached by two wrapped areas. The anterior wrapped area is composed of string overlaid with pitched cherry bark. The posterior wrapped area has a lashing groove step at its anterior margin. The wrapping is pitched bark. The valves have a

plano-convex cross-section. Their dorsal outline is convex from the blunted anterior ends to the lashing groove step and markedly concave posterior to the spurs tip that are blunted with a single shaping facet. One barb face of the arming element has the word "model" in brackets written on it.

Specimen: VII-F-384      Group: Nootkan  
 Provienc: Alberni      Collector: E. Sapir  
 Date Collected: 1913-1914      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 169 mm.      Foreshaft socket diameter: 15 mm.  
 Arming element width: 59 mm.      outside diameter: 28 mm.  
 Arming element thickness:  
 2 mm.

Documentation: Butt-end support of fishing spear or sealing spear (L!aL!aH<sup>a</sup> at Hanimi). Made of bone and whale (?). Wooden shaft fits into it. Obtained from TaxT1?a.

Description: Socketed head with a flat, thin, iron or steel, excurve arming element with what appears to be a basal notch. The socket is formed of two unspurred wooden valves, bound with bark and pitch. The socket has a cylindrical cross-section at its posterior end, tapering to flat ventral faces which fit against the faces of the arming element. The dorsal faces at the anterior ends have a low convex cross-section. The anterior tips are pointed. No lanyard is present, thus making it appear that the specimen is not a true harpoon head.

Specimen: VII-F-681      Group: Nootkan  
 Provienc: N.I.      Collector: A. A. Aarronson  
 Date Collected: 1899      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 161 mm.      Foreshaft socket diameter: 20 mm.  
 Arming element width: 60 mm.      outside diameter: 30 mm.  
 Arming element thickness:  
 1 mm.

Documentation: Old spear head for sealing.

**Description:** This specimen is similar to VII-F-384. It has a rectangular foreshaft socket. The two wooden unspurred valves are secured with pitched cherry (?) bark.

#### Miscellaneous Specimens

Specimen: 11464b                      Group: N.I.  
 Proviencce: N.I.                      Collector: N.I.  
 Date Collected: N.I.                      Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection.

Valve length: 122 mm.  
 Valve width: 18 mm.  
 Valve thickness: 14 mm.

Documentation: N.I.

**Description:** This specimen is an antler valve blank. It has a flat, slightly convex, ventral face and a rough, irregularly faceted, dorsal face which is trianguloid in cross-section except for the anterior dorsal portion which has three flat faces. This portion tapers in cross-section toward the anterior end which is perpendicular to the valve edges. The distal tip of the valve spur is triangularly pointed. There is not an excavated foreshaft socket-half nor a stepped blade channel bed.

Specimen: 14183                      Group: Nootkan  
 Proviencce: Hesquiat or Ahousat                      Collector: A. E. Caldwell  
 Date Collected: 1934-1939                      Date Acquired: 1974  
 Collection: B.C.P.M., Caldwell Collection.

Length: (87) mm.	Length of valves exposed
Body width: 26 mm.	proximally: ca. 30/ca. 30 mm.
Body thickness: 28 mm.	Valve length: (62)/(65) mm.
Basal thickness: 32 mm.	*Valve width: 14/14 mm.
Length of wrapped body	*Valve thickness: 10/19 mm.
area: ca. 38 mm.	Foreshaft socket diameter: 10 mm.
Exposed arming element	
length: (23) mm.	
Arming element width: (20) mm.	

Arming element thickness:  
(3) mm.

\*Posterior end of body wrapping.

Documentation: N.I.

Description: Socketed head with two sea mammal bone valves and a Mytilus californianus arming element. Both valves are fragmented at their anterior ends. One valve spur is trianguloid in cross-section, the other is plano-convex. Both have straight dorsal outlines and blunted, pointed spur tips. The mussel shell arming element has straight, non-beveled, parallel edges. It is fragmented at right angles to the edges. The valves and arming element are loosely joined by a bulky, shredded or pounded, red cedar bark wrapping that is haphazardly bound with block commercial thread. A cord lanyard, partially served with thread, is secured to the head by the wrapping.

## APPENDIX B

This appendix lists and describes, with accompanying catalogue and metric information, the tanged heads that were examined in the British Columbia Provincial Museum and the National Museum of Man. They are arranged according to cultural province and in order of catalogue number with the British Columbia Provincial Museum specimens first. Provincial Museum specimens 2185, 1451, 1452, 1626, 9813, 9815, and a number of National Museum specimens have wooden, two-piece, cedar sheaths in which the heads were placed when not in use. The basic attributes of the Provincial Museum specimens, which are representative of all specimens are as follows. They have biconvex or rectanguloid cross-sections. The cross-section of the inner channel varies as to size and shape of the head. The closed end of each sheath has two, bilaterally symmetrical, or occasionally asymmetrical, projections, giving the end a forked outline. The two pieces are secured together with bark or string wrapping or by wooden pegs. The following metric ranges are for the six Provincial Museum specimens listed above:

Length range: 219 - 252

Width range: 34 - 47

Thickness range: 26 - 32

## Bella Coola

Specimen: 10341                      Group: Bella Coola  
 Provienc: Kimsquit                  Collector: N.I.  
 Date Collected: N.I.                  Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection.

Length: 174 mm.  
 Width: 25 mm.  
 Thickness: 5 mm.

Documentation: Spear point. Made from old file. Two rows of barbs. For seal or sea lion.

Description: Tanged, one-piece, iron (?) harpoon head with four, bilaterally applied, asymmetrical barbs. The barbs are isolated and extended. Three barbs are low. The posterior barb is much higher. The two anterior barbs have triangular cross-sections whereas the two posterior barbs are very irregular in cross-section. The anterior arming tip has a biconvex cross-section and a parallel-excurvate form. The cross-section of the shaft from the anterior barbs posterior to the base is rectangular. The tang has anterior and posterior shoulders with straight edges and a small, shouldered, stem. The tang appears to be the unmodified basal portion of the file from which the harpoon head was made. The tang has a single circular line hole drilled through near its anterior end.

## Tsimshian

Specimen: 1626                      Group: Tsimshian  
 Provienc: Metlakatla                  Collector: C. F. Newcombe  
 Date Collected: 1911                  Date Acquired: 1911  
 Collection: B.C.P.M.

Length: 231 mm.  
 Width: 24 mm.  
 Thickness: 6 mm.

Documentation: Spear and shaft. Spear point of iron attached to shaft by plaited sea lion gut lanyard, 6' 9" long.

**Description:** Tanged, one-piece, iron (?) harpoon head with five bilaterally applied, symmetrical, barb pairs and a biconvex cross-section. The barbs are low, isolated and extended with a triangular cross-section and a slightly concave outer edge. The tear-shaped tang has a biconvex cross-section, and a looped iron (?) shackle riveted through the face. A braided sinew lanyard is attached to the shackle. The anterior arming tip is shouldered and parallel-excurvate in form. A centrally positioned engraved line extends from the shackle to the anterior barb pair on each face.

**Specimen:** VII-B-363      **Group:** Tsimshian (?)  
**Provience:** Masset      **Collector:** C. F. Newcombe  
(place collected)  
**Date Collected:** 1895-1901      **Date Acquired:** 1909  
**Collection:** N.M.M.

**Length:** 231 mm.  
**Width:** 21 mm.  
**Thickness:** 11 mm.

**Documentation:** Seal and sea otter spears. Points made from old files, flattened with barbs on each edge, and generally with longitudinal grooves on the flat sides for the escape of blood. At the top there is usually an edge, or copper for the attachment of a long lanyard of sea lion gut which is of three or more strands and often plaited. The upper end of the lanyard is fastened to the middle of a shaft made of cedar, tapering towards the ends, at one of which is a socket to receive the top of the iron point. When not in use the iron spear head is kept in a sheath of wood (cedar) which is forked at one end, to prevent the lanyard from slipping out of place when wound round it. (Newcombe)

**Description:** Tanged, one-piece, iron (?) harpoon head with five pairs of bilaterally applied, symmetrical barbs and a biconvex cross-section. The barbs are low, isolated, and extended with a concave outer edge outline and a rounded trianguloid cross-section. Engraved lines extend in an anterior direction from the inner edges of the barbs. There is also an interrupted, centrally positioned, engraved line on each face. Two pieces of copper sheeting are riveted to the tang giving it a tear-shaped outline, a rounded base and a thick, flat cross-section. A looped copper shackle is riveted through the middle of the tang. A braided sinew lanyard is attached to the metal shackle. The anterior arming tip is slightly recurved.



Specimen: VII-C-488      Group: Tsimshian (?)  
 Proviencce: N.I.      Collector: A. A. Aaronson  
 Date Collected: N.I      Date Acquired: 1908  
 Collection: N.M.M.

Length: 391 mm.  
 Width: 29 mm.  
 Thickness: 13 mm.

Documentation: Bone spear very ancient with copper point made from natural copper and used for sealing and fishing by the Northern Indians of British Columbia. (Aaronson) (Catalogue notes indicates that the catalogue which includes the above information was made by James Deans of Victoria, largely by guesswork.)

Description: Tanged, two-piece, bone harpoon head with four pairs of bilaterally applied, symmetrical barbs and a cylindrical cross-section. The barbs are low, isolated and extended with a triangular cross-section and a convex outer edge. The tang has an encircling shoulder with the edges tapering convexly to the pointed butt giving it a parallel-excurvate form. It has a single, rectangular, off-centered line hole. Anterior to the tang are two bilaterally applied symmetrical line guards. They have a recurved concave-convex outline in plain view. The inner edges of the barbs are extended toward the anterior end producing a well-defined medial line on each face. The anterior end has a slotted channel containing a contracting-excurvate copper arming tip, lashed in place with sinew.

#### Haida

Specimen: 1029      Group: Haida  
 Proviencce: Skidegate      Collector: C. F. Newcombe  
 Date Collected: 1897      Date Acquired: 1897  
 Collection: B.C.P.M.

Length: 143 mm.  
 Width: 17 mm.  
 Thickness: 10 mm.

Documentation: Haida fur seal harpoon. Barbed bone point perforated for lashing.

Description: Tanged, one-piece, bone harpoon head with thirteen bilaterally applied, asymmetrical barbs and a hexagonal cross-section. The barbs are low, and slightly extended with a triangular cross-section, and a straight or slightly convex outer edge. The five barbs applied to the edge to which the lanyard is attached are isolated whereas the eight barbs applied to the opposite edge are dense. Two barbs are missing from the latter. The tear-shaped tang has a single ovoidal line hole with an attached two-strand sinew lanyard. Parallel, dashed, striations are applied to both faces of the tang between the line hole and the rounded base. The tang is biconvex in cross-section, tapering toward the base. The anterior arming tip has a straight form and a biconvex cross-section.

Specimen:	1030	Group:	Haida
Providence:	Skidegate	Collector:	C. F. Newcombe
Date Collected:	1897	Date Acquired:	1897
Collection:	B.C.P.M.		
Length:	257 mm.		
Width:	22 mm.		
Thickness:	5 mm.		

Documentation: Fur seal harpoon, twisted sinew lashing.

Description: Tanged, one-piece, iron (?) harpoon head, with nine bilaterally applied, asymmetrical barbs and a biconvex cross-section. The barbs are low, isolated, and extended, with a trianguloid cross-section and a concave outer edge. The tang has a rhomboidal-shaped outline, a biconvex cross-section and a centrally placed, rectangular line hole. A four-strand sinew lanyard is attached to the line hole. A centrally placed engraved line extends from the anterior end of the line hole to the anterior barb pairs on each face. Short engraved lines extend from the inner barb edges toward the central line. The parallel-excurvate arming tip has a biconvex cross-section. This specimen appears to be made from a file.

Specimen: 1285                      Group:                      Haida  
 Proviencce:                      Masset                      Collector:                      C. F. Newcombe  
 Date Collected: 1900                      Date Acquired: 1900  
 Collection:                      B.C.P.M.

Length: 208 mm.  
 Width: 25 mm.  
 Thickness: 6 mm.

Documentation: Fur seal harpoon. Lanyard of plaited sinew.

Description: Tanged, one-piece, iron (?) harpoon head, with nine bilaterally applied barbs and a biconvex cross-section. The barbs are low, isolated, and extended with a trianguloid cross-section and a concave outer edge. The anterior and posterior barbs are symmetrical, bilateral, pairs. The tear-shaped tang has a single ovoidal line hole, a flat cross-section with rounded edges and a rounded base. A braided sinew lanyard is attached to the line hole. The anterior arming tip is shouldered and excurvate.

Specimen: 1450                      Group:                      Haida  
 Proviencce:                      Masset                      Collector:                      C. F. Newcombe  
 Date Collected: 1911                      Date Acquired: 1911  
 Collection:                      B.C.P.M.

Length: 252 mm.  
 Width: 19 mm.  
 Thickness: 6 mm.

Documentation: Sea otter spear. Bone point. Twisted gut three-strand plaited lanyard.

Description: Tanged, one-piece, sea mammal bone harpoon head, with bilaterally applied barbs and a biconvex cross-section. The barbs along one edge are low, enclosed and dense with a barb shape that McMurdo (1972:33a) terms squared. The barbs along the other edge are low, enclosed, and dense, with an outer edge that varies from concave or straight at the anterior end, recurving convexly toward the shaft at the posterior tips. All barbs are approximately trianguloid in cross-section. Both the anterior arming tip and the tang have a biconvex cross-section and a parallel-excurvate form. The tang has a biconical line hole with an attached, braided, three-strand, sinew lanyard. A

bifacially applied engraved line extends from near the base of the tang to the anterior tip.

Specimen: 1451                      Group: Haida  
 Province: Skidegate              Collector: C. F. Newcombe  
 Date Collected: 1911              Date Acquired: 1911  
 Collection: B.C.P.M.

Length: 256 mm.  
 Width: 24 mm.  
 Thickness: 11 mm.

Documentation: Sea otter.

Description: Tanged one-piece, iron or steel, quadrilaterally barbed harpoon head with an incurvate rhomboidal cross-section. The barbs are applied as two sets of bilateral, symmetrical pairs. The four large barb pairs are in the same plane as the tang and the anterior arming tip edges. The smaller six barb pairs are in a plane which is 180 degrees to the plane of the larger barbs. The smaller barbs have a triangular cross-section and a concave outer edge. The larger barbs have a thin, flat cross-section with an outer edge that is either rounded or faceted. The outline of the outer edges changes from concave at the anterior end, to convex, to concave at the posterior tip. All barbs are low, extended, and isolated. The tang has anterior shoulders and convex edges which taper toward the rounded base. Its form is intermediate between parallel-excurvate and tear-shaped. Six holes are drilled through the tang and are placed as three symmetrical pairs. The four-strand, loosely braided, sinew lanyard is attached through the four anterior holes. The tang has a ridged biconcavo-convex cross-section anterior from the two posterior line holes which changes to biconvex, tapering to the base. The anterior arming tip has an excurvate form and a ridged biconcavo-convex cross-section which tapers toward the distal end.

Specimen: 1452                      Group: Haida  
 Province: Skidegate              Collector: C. F. Newcombe  
 Date Collected: 1911              Date Acquired: 1911  
 Collection: B.C.P.M.

Length: 259 mm.  
 Width: 15 mm.  
 Thickness: 9 mm.

Documentation: Sea otter spear. Steel point. Two strand twisted gut lanyard. Wooden case.

Description: Tanged, one-piece, iron or steel, harpoon head with nine, trilaterally applied, symmetrical, barbs and a cylindrical cross-section. The barbs are low, isolated, and extended with a plano-convex cross-section and a concave outer edge. The tang is flattened bifacially with convex edges. It expands asymmetrically on the edge from which the one-piece, copper or brass, looped, riveted shackle extends. The tang then tapers asymmetrically from the shoulder which is just posterior to the expanded area terminating in a squared base which is cylindrical in cross-section. The anterior arming tip is triangular in cross-section with three flat faces excurvate in outline. A loosely braided, two-strand, sinew lanyard is attached to the shackle.

Specimen:	1456	Group:	Haida
Proviences:	Masset	Collector:	C. F. Newcombe
Date Collected:	1911	Date Acquired:	1911
Collection:	B.C.P.M.		

Length: 129 mm.  
 Width: 18 mm.  
 Thickness: 4 mm.

Documentation: Seal spear. Iron point. Rawhide lanyard. Shaft of cedar, 12' 2".

Description: Tanged, one-piece, iron, harpoon head, with six bilaterally applied barbs and a flat, cross-section with bevelled edges. There are four barbs on the lanyard edge of the head and two on the opposite edge. They are low, isolated and extended with a trianguloid cross-section and a slightly concave outer edge which recurs convexly at the distal tip. The anterior barb on each edge is markedly recurved. The tear-shaped tang has a biconvex cross-section and a rounded base. A looped copper shackle is riveted to the tang. A hide lanyard is attached to the shackle. The non-expanded anterior arming tip is triangular in outline with two facets on each face. Engraved lines extend toward the anterior end from each inner barb edge. One face also has a central engraved line.

Specimen: 6687                      Group: Haida  
 Proviencce: N.I.                      Collector: N.I.  
 Date Collected: N.I.                      Date Acquired: 1949  
 Collection: B.C.P.M., Mrs. A. J. O'Reilly Collection.

Length: 225 mm.  
 Width: 22 mm.  
 Thickness: 13 mm.

Documentation: Seal spear. Bone.

Description: Tanged, bone, harpoon head with three, unilaterally applied barbs. The shaft is an ovoid in cross-section. The barbs are low, isolated, and extended, with a triangular cross-section and an outer edge that is essentially straight. The tang is asymmetrically tear-shaped with a pointed triangular base. It has a biconvex cross-section which tapers toward the base. A two-strand, fibre, lanyard is attached to the rectanguloid line hole. The anterior arming tip has a biconvex cross-section and a straight form. A deeply engraved line is present on the non-barbed edge, extending from the middle of the line hole to within approximately 21 mm. of the anterior distal end. Engraved lines are bifacially applied, extending from the inner barb edges to within a few millimetres of the engraved line on the non-barbed edge. There are also three engraved lines applied unifacially along the main axis of the shaft from the intersection of the inner barb edge and the shaft. These lines range between 24 and 27 mm. in length.

Specimen: 9813                      Group: Haida  
 Proviencce: Masset                      Collector: C. F. Newcombe  
 Date Collected: 1911                      Date Acquired: 1962  
 Collection: B.C.P.M., Newcombe Collection.

Length: 226 mm.  
 Width: 23 mm.  
 Thickness: 11 mm.

Documentation: Spear - seal or sea otter. Lanyard of plaited gut, 6'6". Shaft of cedar, 9'3", and sheath of cedar, 8½".

Description: Tanged, one-piece, iron (?) harpoon head with asymmetrical, trilaterally applied barbs, and a trianguloid cross-section. The barbs are low, isolated, and extended, with a concave outer edge. The cross-section varies but

is generally trianguloid. On the shaft face, opposite the centrally placed, barbed ridge, are two, parallel engraved lines. The tear-shaped tang has a biconvex cross-section which tapers toward the rounded butt. A braided sinew lanyard is attached to the looped copper shackle which is riveted to the tang. The anterior arming tip has small shoulders, an asymmetrical biconvex cross-section and is excurvate in form.

Specimen: 9815                    Group:                    Haida  
 Provienc:                    Masset                    Collector:                    C. F. Newcombe  
 Date Collected: 1911                    Date Acquired: 1962  
 Collection:                    B.C.P.M., Newcombe Collection.

Length: 232 mm.  
 Width: 26 mm.  
 Thickness: 6 mm.

Documentation: Spear. Seal or sea otter. Lanyard, 7'6", of raw hide.

Description: Tanged, one-piece, iron (?) harpoon head with five bilaterally applied, symmetrical pairs of barbs, and a flat cross-section with rounded edges. The barbs are low, isolated, and extended, with a trianguloid cross-section and a concave outer edge. The tear-shaped tang has a flat cross-section with rounded edges and an asymetrically shouldered stem. The anterior arming tip has a rhomboidal cross-section and a contracting-excurvate form. Both faces of the shaft have a centrally placed engraved line and small triangular depressions. The latter appear to relate to the original function of the object before it was modified by the maker of the harpoon head. Presumably it was a file. A looped copper shackle is riveted to the tang. A hide lanyard is attached to the shackle.

Specimen: VII-B-86                    Group:                    Haida  
 Provienc: Queen Charlotte                    Collector:                    Powell  
                   Islands  
 Date Collected: 1879                    Date Acquired: N.I.  
 Collection:                    N.M.M.

Length: (67) mm.  
 Width: 23 mm.  
 Thickness: 11 mm.

Documentation: Otter spear head. Q.C.I. Haida.

Description: Tanged, two-piece, bone harpoon head, with bilaterally applied, asymmetric barbs and a rhomboidal cross-section. The barbs are low and extended. The four barbs along the edge to which the lanyard is attached are isolated whereas the five barbs applied to the opposite are closer together and therefore less isolated. The barbs are triangular in cross-section with a concave outer edge. There is a centrally positioned engraved line on each face. The inner edges of the barbs are well defined by an engraved line which extends to the engraved medial line. The tear-shaped tang has a rounded base, a bi-convex cross-section and a single perforated line hole with a short leather lanyard. The tang area posterior to the line hole has parallel striations across both faces. The anterior end of the head has a slotted channel and an encircling lashing groove step near the distal end of the channel on the dorsal faces of the head. The separate arming tip is missing.

Specimen:	VII-B-183	Group:	Haida
Proviences:	Skidegate	Collector:	C. F. Newcombe
Date Collected:	1905	Date Acquired:	N.I.
Collection:	N.M.M.		

Length: (158) mm.  
 Width: 22 mm.  
 Thickness: 11 mm.

Documentation: CFN - September 1905 - bone spear head - steel tip - Skidegate.

Description: Tanged, two-piece, bone harpoon head, with bilaterally applied, asymmetrical barbs and a flattened rhomboidal cross-section. The barbs are low and enclosed. There are three barbs along the edge nearest which the single line hole is located and five barbs applied to the opposite edge. The barbs are triangular in cross-section and have a variable outer edge outline, concave at their anterior ends and straight or slightly convex for the majority of their length to their posterior distal tips. The shaft has a centrally placed medial ridge formed by the well defined undercut inner edges of the barbs. The tear-shaped tang is biconvex in cross-section and has a



rounded butt. It has concave shoulders at its proximal end which are outlined by a concave pointed design extending toward the centre of the face and then bending sharply in an anterior direction to its apex on the central ridge. The tang posterior to the line hole has transverse striations. The anterior end of the head has a slotted channel with a corresponding lashing groove step on the dorsal faces just posterior of the distal tip. The separate arming tip is missing.

Specimen: VII-B-364      Group: Haida  
 Provienc: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 233 mm.  
 Width: 25 mm.  
 Thickness: 4 mm.

Documentation: Seal and sea otter spear.

Description: Tanged, one-piece iron (?) harpoon head, with three pairs of bilaterally applied, symmetrical barbs and a flat rectangular cross-section with rounded edges. The barbs are low, isolated, and extended, with a markedly concave outer edge and a plano-convex cross-section, and a single, thin, elongated, ovoidal line hole. A twisted or rolled, two-strand, sinew lanyard is attached to the line hole. The anterior arming tip has an excurvate form. An engraved centre line and two lateral lines extend in an anterior direction from the line hole, as well as lines extending from the inner barb edges. The artifact appears to be made from a file.

Specimen: VII-B-365      Group: Haida  
 Provienc: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 247 mm.  
 Width: 25 mm.  
 Thickness: 5 mm.

Documentation: Seal and sea otter spear.

Description: Tanged, one-piece, iron (?) harpoon head, with five pairs of bilaterally applied, symmetrical barbs. This specimen is essentially similar to artifact VII-B-364. The outer edges of the barbs are less markedly concave. The anterior arming tip has a contracting excurvate form. The line hole is more assymetrical. There is a single, centrally placed, engraved line on each face and the lines extending from the inner barb edges are very short and neither intersect nor run parallel to the central line. The specimen appears to be made from a file.

Specimen:	VII-B-366	Group:	Haida
Proviencce:	Masset	Collector:	C. F. Newcombe
Date Collected:	1895-1901	Date Acquired:	1909
Collection:	N.M.M.		

Length: 372 mm.  
Width: 30 mm.  
Thickness: 7 mm.

Documentation: Seal and sea otter spear. For documentation on this specimen see artifact VII-B-363.

Description: Tanged, one-piece, iron (?) harpoon head with bilaterally applied, asymmetrical barbs and a flat rectangular cross-section with rounded edges. Barbs are concave at the anterior ends of their outer edges changing to slightly convex or straight at their posterior tips. The barbs are low, isolated, and extended with a plano-convex cross-section. The tear-shaped, tang has a rounded base with a single, long, ovoidal line hole to which is attached a sinew lanyard. A centrally placed engraved line runs from the posterior end of the line hole to the posterior end of the arming tip. Gently curving engraved lines extending from the inner barb edges join this central line at an angle of approximately twenty degrees. The anterior arming tip is parallel-excurvate in form. This specimen appears to be made from a file.

Specimen:	VII-B-367	Group:	Haida
Proviencce:	Masset	Collector:	C. F. Newcombe
Date Collected:	1895-1901	Date Acquired:	1909

Collection: N.M.M.

Length: 238 mm.  
Width: 26 mm.  
Thickness: 7 mm.

Documentation: N.I.

Description: Tanged, one-piece, iron (?) harpoon head with five pairs of bilaterally applied barbs and a flat rectangular cross-section with rounded edges. The barbs are low, isolated and extended, with a concave outer edge and a plano-convex cross-section. The tear-shaped tang has a rounded base with a single ovoidal line hole with an attached twisted lanyard. As in the bone specimen, VII-B-86 and -183, the tang faces, posterior to the line hole, have transverse parallel striations. A central engraved line extends from just anterior to the line hole to the shoulders on the anterior arming tip. The inner barb edges are outlined by the engraved lines which curve back, run parallel, and then join the central line. The anterior arming tip is shouldered with a parallel-excurvate form. The specimen appears to be made from a file.

Specimen:	VII-B-368	Group:	Haida
Providence:	Masset	Collector:	C. F. Newcombe
Date Collected:	1895-1901	Date Acquired:	N.I.
Collection:	N.M.M.		

Length: 222 mm.  
Width: 20 mm.  
Thickness: 4 mm.

Documentation: Seal and sea otter spear.

Description: This specimen is very similar to artifact VII-B-366 with identical barb, anterior arming tip, and tang forms. The barbs are applied bilaterally and are asymmetrical. There are six on the edge to which the lanyard is attached and five on the opposite edge. A single engraved line is placed centrally on each face. The lanyard is of loosely braided sinew.

Specimen: VII-B-369      Group: Haida  
 Proviencce: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 213 mm.  
 Width: 37 mm.  
 Thickness: 7 mm.

Documentation: Seal and sea otter spear.

Description: Tanged, one-piece, iron (?) harpoon head, with three pairs of bilaterally applied, slightly asymmetrical barbs and a flat rectanguloid cross-section with rounded edges. The barbs are low, isolated, and extended with outer edges that are straight and slightly convex at their distal tips. They are trianguloid in cross-section. The asymmetrically tear-shaped tang has a rounded base, and a single, off-centre, ovoidal line hole to which is attached a sinew lanyard. The anterior arming tip is unusual in that the anterior distal barbs are placed so that their outer edges form the edges of the tip. The two flat barb faces formed between the outer and inner edge of the distal barbs give the arming tip a faceted excurvate form. The three barbs applied to the edge to which the lanyard is attached are noticeable longer than the barbs on the opposite edge.

Specimen: VII-B-370      Group: Haida  
 Proviencce: N.I.      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 227 mm.  
 Width: 23 mm.  
 Thickness: 5 mm.

Documentation: N.I.

Description: Tanged, one-piece, iron (?) harpoon head with four sets of bilaterally applied, slightly asymmetrical barbs and a flat rectanguloid cross-section with rounded edges. The barbs are low, isolated, and extended, with trianguloid cross-sections and concave outer edges. The tear-shaped tang is slightly shouldered with relatively

straight, tapering edges, a rounded base and a biconvex cross-section. The large, ovoidal, single, line hole has an attached braided sinew lanyard. A centrally placed engraved line extends on both faces from the anterior end of the line hole to the anterior distal barb pair. The anterior arming tip has a parallel-excurvate form. This specimen appears to be made from a file.

Specimen: VII-B-371      Group: Haida  
 Proviencce: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: 1909  
 Collection: N.M.M.

Length: 292 mm.  
 Width: 36 mm.  
 Thickness: 7 mm.

Documentation: Seal and sea otter spears. Documentation for this specimen identical to that given for atrifact VII-B-363.

Description: Tanged, one-piece iron (?) harpoon head with four pairs of bilaterally applied, symmetrical barbs and a flat rectanguloid cross-section with rounded edges. The barbs are low, isolated, and extended with a trianguloid cross-section and a concave anterior outer edge that changes to slightly convex at the posterior tip. The tear-shaped tang has a rounded base with a small notch at the extreme posterior tip and a biconvex cross-section. The anterior arming tip has a contracting-excurvate form, a biconvex cross-section and engraved lines which appear to delineate what might be termed vestigial shoulders. The lanyard is missing. The specimen appears to be made from a file.

Specimen: VII-B-371 (2)(?)Group: Haida  
 Proviencce: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 354 mm.  
 Width: 26 mm.  
 Thickness: 12 mm.

Documentation: Seal and sea otter spear.

Description: Tanged, one-piece, iron (?) harpoon head with seven pairs of bilaterally applied, symmetrical barbs. The shaft has a rectanguloid, ridged cross-section. The ridges have perpendicular faces and a rounded edge and are at 90 degrees to the plane of the barbs. The barbs are very small, low, isolated and extended. The anterior outer edge is perpendicular to the shaft, changing its angle abruptly to a straight or slightly convex line to the posterior tip. Posterior to the proximal barb pair are two symmetrically placed, bilateral line guards that have a rectangular outline. The tang is slightly expanded with its edges changing from convex to concave to convex with a rounded base. It has a single, thin, straight edged, line hole with rounded ends placed at an angle on the anterior end of the tang below the line guard. The excurve anterior arming tip is slightly barbed and is twisted approximately 45 degrees to the plane of the main barbs. It has a biconvex cross-section.

Specimen:	VII-B-372	Group:	Haida
Providence:	Masset	Collector:	C. F. Newcombe
Date Collected:	1895-1901	Date Acquired:	1909
Collection:	N.M.M.		
Length:	187 mm.		
Width:	20 mm.		
Thickness:	4 mm.		

Documentation: Seal and sea otter spear. For documentation see artifact VII-B-363.

Description: Tanged, one-piece, iron or steel, harpoon head with nine, bilaterally applied barbs and a flat rectangular cross-section with bevelled edges. The barbs are low, isolated, and extended with a concave outer edge and a trianguloid cross-section. The tear-shaped tang has a biconvex cross-section, and a slightly pointed base with a long, curved, looped shackle for the attachment of the lanyard which is missing. Four barbs are present on the edge from which the shackle extends, whereas the remaining five are on the opposite edge. The anterior and proximal pairs are applied symmetrically. There is a central engraved line and lines extending toward the anterior end from each inner barb edge on both faces. The anterior arming tip has a biconvex cross-section and a parallel-excurvate form. Vestigial shoulders are delineated by engraved transverse lines, as in specimen VII-B-371. The specimen appears to be made from a file as diagonal striations are present on

both faces extending from the tang to the anterior end.

Specimen: VII-B-373      Group: Haida  
 Proviencce: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: 1909  
 Collection: N.M.M.

Length: 257 mm.  
 Width: 21 mm.  
 Thickness: 5 mm.

Documentation: Seal and sea otter spear. For documentation see specimen VII-B-363.

Description: Tanged, one-piece, iron (?) harpoon head with twelve bilaterally applied barbs and a biconvex cross-section. The barbs are low, isolated and extended with a plano-convex cross-section and concave outer edges. There are six barbs present on each edge, the anterior and proximal barbs are symmetrically applied pairs. The anterior arming tip is excurvate. The tang has a rounded, rhomboidal form, a rounded base and a biconvex cross-section. The riveted, looped, copper shackle curves strongly downward as in specimen VII-B-363 and -372. Short engraved lines extend the inner barb edges toward the anterior end of the shaft in some cases, and meet forming an incurvate triangular motif in the case of the anterior barb pair. The specimen is apparently made from a file.

Specimen: VII-B-556      Group: Haida  
 Proviencce: (Queen Charlotte Islands)      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 241 mm.  
 Width: 23 mm.  
 Thickness: 14 mm.

Documentation: Otter spear head, bone.

Description: Tanged, two-piece, bone harpoon head with eleven asymmetrically bilaterally applied barbs. The barbs are low and enclosed with straight outline edges and a triangular cross-section. The tear-shaped tang has a biconvex

cross-section and a rounded butt. It has a single off-centre ovoidal line hole. The separate bone arming tip has a rhomboidal-shaped outline and cross-section. It is secured within the slotted channel by pitched thread. The cross-section of the shaft is rhomboidal-shaped changing to cylindrical anterior to the distal barbs. (See Fig. 37).

Specimen: VII-B-586      Group: Haida  
 Proviencce: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 212 mm.  
 Width: 17 mm.  
 Thickness: 8 mm.

Documentation: Seal and sea otter spear.

Description: Tanged, one-piece, iron (?), trilaterally barbed harpoon head. Fourteen barbs are applied bilaterally, as seven symmetrical pairs whereas the remaining six barbs are applied along a centrally placed ridge at 90 degrees to the plane of the barb pairs. They are placed between the barb pairs. The barbs are low, isolated and extended with triangular cross-sections and concave outer edges. The shaft has a triangular cross-section, the non-barbed face being flat where the other two intersecting faces are concave. The pentagonal-shaped tang expands with convex edges and then tapers slightly posterior to the expanded area where the looped metal shackle is riveted. This posterior portion of the butt is rectanguloid in cross-section with a blunt base. A twisted sinew lanyard is attached to the shackle. The anterior arming tip has a parallel-excurvate form.

Specimen: VII-B-589      Group: Haida  
 Proviencce: Masset      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 256 mm.  
 Width: 20 mm.  
 Thickness: 5 mm.



Documentation: Seal and sea otter spear.

Description: Tanged, one-piece, iron (?), harpoon head with six pairs of bilaterally applied, symmetrical barbs and a biconvex cross-section. The barbs are low, isolated and extended, with a trianguloid cross-section and a concave outer edge. The tang has both anterior and posterior shoulders with the intervening expanded area having convex tapering edges. Posterior to the expanded area through which the looped copper shackle is riveted, the tang is a very narrow rectanguloid tapering to a blunt base. A braided sinew lanyard is attached to the copper shackle. A heavy engraved line is placed on each face extending from the shackle to near the anterior barb pair. The two anterior distal barbs are smaller than the other barbs and are placed at the posterior ends of the parallel-excurvate arming tip. The specimen appears to be made from a file.

Specimen:	VII-B-936	Group:	Haida
Proviencce:	Skidegate	Collector:	C. F. Newcombe
Date Collected:	1905	Date Acquired:	1909
Collection:	N.M.M.		
Length:	274 mm.		
Width:	25 mm.		
Thickness:	15 mm.		

Documentation: Seal spear head (K'a). Bone with an iron tip. Four barbs in each side and stern perforated for the lanyard. Very fine specimen 10 3/4" long. (Newcombe)

Description: Tanged, two-piece, bone harpoon head, with four pairs of bilaterally applied, symmetrical barbs, and a rhomboidal cross-section. The barbs are low, isolated and enclosed, with a triangular cross-section and a variable outer edge outline, concave at the anterior end and straight or slightly convex for the majority of their length to the posterior end. The shaft has a centrally placed medial ridge formed by the well defined undercut inner edges of the barbs. Posterior to the ridge extending to the single ovoidal line hole is a single engraved line. The tear-shaped tang has a biconvex cross-section. The tang faces posterior to the line hole have transverse striations. The anterior end of the shaft has a slotted channel with an excurvate, metal arming tip. Posterior to the shoulders of the arming tip the shaft is circular in cross-section forming a lashing groove which is bound with sinew (?). Anterior to the lashing groove step the distal end of the shaft is excurvate with a biconvex cross-section.

Specimen: VII-B-937      Group: Haida  
 Proviencce: Masset      Collector: Alex Mackenzie  
 Date Collected: 1884      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 234 mm.  
 Width: 21 mm.  
 Thickness: 15 mm.

Documentation: Carved bone spear head.

Description: Tanged, two-piece, bone harpoon head with quadrilaterally applied barbs and a separate, parallel-excurvate metal arming tip secured by thread wrapping in a slotted channel. The tang is tear-shaped with a biconvex cross-section, a rounded base, and a single, off-centre, ovoidal line hole. There are eight transverse, parallel striations on the tang posterior to the line hole. The cross-section of the shaft is rhomboidal-shaped changing to a biconvex cross-section anterior to the distal barbs. The barbs have triangular cross-sections with convex dorsal outlines. There are six symmetrical barb pairs at 90 degrees to the axis of the line hole and five symmetrical pairs in the same plane as the axis of the line hole. (See Fig. 38).

Specimen: VII-B-938      Group: Haida  
 Proviencce: Masset      Collector: Alex Mackenzie  
 Date Collected: 1884      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 286 mm.  
 Width: 20 mm.  
 Thickness: 17 mm.

Documentation: Bone spear-heads (Haida Skoots-kah) -- (Nos. 2197 and 1899). These were made at a time when iron was a rarity, and were used for spearing seals and other sea mammals. (Mackenzie)

Description: Tanged, tow-piece, bone harpoon head with eight pairs of bilaterally applied symmetrical barbs, and a rhomboidal cross-section. The barbs are low and enclosed with a triangular cross-section and a convex outer edge. The barbs are placed relatively close together and might be termed dense. The tear-shaped tang has a pointed base, a biconvex cross-section, and an irregular rectangular line

hole. The tang posterior to the line hole has parallel, transverse striations. Anterior to the distal barbs the shaft has a biconvex cross-section, a slotted channel, a stepped lashing groove, and a pointed distal tip. A parallel-excurvate metal arming tip is fitted into the slotted channel. The wrapping securing the arming tip is largely missing.

Specimen: VII-B-1053      Group: Haida  
 Province: Skidegate      Collector: C. F. Newcombe  
 Date Collected: 1905      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 229  
 Width: 28 mm.  
 Thickness: 6 mm.

Documentation: Seal spear.

Description: Tanged, one-piece, iron (?) harpoon head with fourteen bilaterally applied, asymmetrical, barbs and a rhomboidal cross-section. The barbs are low and extended with a triangular cross-section and a concave outer edge that changes to convex at the posterior tip. The five barbs applied to the lanyard edge of the shaft are isolated whereas the nine barbs applied to opposite edge are closer together and thus less isolated. One barb on the lanyard edge is missing its tip. The tear-shaped tang has a biconvex cross-section, and an asymmetrically rounded base. A braided sinew lanyard is attached to a looped, copper shackle. The anterior end has an excurvate arming tip with a biconvex cross-section. This specimen appears to be made from a file. Incomplete, engraved, centrally applied lines exist on each face and some engraved lines extending toward the anterior and from the inner barb edges.

#### Tlingit

Specimen: VII-A-26      Group: Tlingit  
 Province: N.I.      Collector: C. F. Newcombe  
 Date Collected: 1895-1901      Date Acquired: 1909

Collection: N.M.M.

Length: 296 mm.  
Width: 21 mm.  
Thickness: 5 mm.

Documentation: Spear of iron. Barbed end with long lanyard.  
For hunting sea otter. (Newcombe)

Description: Tanged, one-piece, iron (?) harpoon head, with bilaterally applied, asymmetrical barbs and a biconvex cross-section. The barbs are low and extended. The four barbs along the edge to which the lanyard is attached are isolated whereas the seven barbs applied to the opposite edge are much closer together and perhaps could be termed dense. The barbs have a concave outer edge and are trianguloid in cross-section. There is a centrally positioned engraved line extending along both faces from the proximal end of the tang to the proximal end of the parallel-excurvate, shouldered arming tip. There are also engraved lines which are parallel to each central line extending in an anterior direction from some of the inner barb edges. A looped copper shackle is riveted through the centre of the tear-shaped tang. The tang has a rounded base and is biconvex in cross-section. A braided gut or sinew lanyard attaches to the shackle.

#### Northwest Coast General

Specimen: VII-F-2 (?) (1) Group: N.I.

Providence: N.I. Collector: N.I.

Date Collected: N.I. Date Acquired: N.I.

Collection: N.M.M.

Length: 270 mm.  
Width: 19 mm.  
Thickness: 4 mm.

Documentation: N.I.

Description: Tanged, one-piece, iron (?) harpoon head with barbs applied bilaterally in the same manner as specimen NMM-F. The shaft has a flattened cross-section with bevelled edges. The barbs are low, isolated and extended, with a trianguloid cross-section and a concave outer edge. The tear-shaped tang has a flattened cross-section, a pointed base, and a riveted, looped copper shackle. A

braided sinew lanyard is attached to the shackle. The anterior arming tip has a parallel-excurvate, shouldered form.

Specimen: VII-X-184      Group: N.I.  
 Proviences: N.I.      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: Purchased 1899  
 Collection: N.M.M.

Length: 280 mm.  
 Width: 21 mm.  
 Thickness: 5 mm.

Documentation: N.I.

Description: Tanged, one-piece, iron (?) harpoon head with five pairs of bilaterally applied, symmetrical barbs. The cross-section of the shaft is biconvex. The barbs are low, isolated and extended with a trianguloid cross-section and a concave outer edge. The tang has an irregular tear-shaped form, a flat cross-section with rounded edges, a rounded base, and a single, rectanguloid, line hole. The anterior arming tip has a contracting-excurvate form with a biconvex cross-section. There are two centrally placed engraved lines on each face, extending from the anterior end of the line hole to near the posterior region of the arming tip. There are also intersecting engraved lines extending from the inner barb edges. The specimen is probably made from a file.

Specimen: N.M.M.-E      Group: N.I.  
 Proviences: N.I.      Collector: N.I.  
 Date Collected: N.I.      Date Acquired: N.I.  
 Collection: N.M.M.

Length: 200 mm.  
 Width: 21 mm.  
 Thickness: 4 mm.

Documentation: N.I.

Description: Tanged, one-piece, iron (?) harpoon head with four pairs of bilaterally applied, symmetrical barbs and a

biconvex cross-section. The barbs are low, isolated and extended with a trianguloid cross-section, and a concave outer edge. The tear-shaped tang has a flattened cross-section, rounded edges, a rounded base, and a single, ovoidal, off-centre, line hole. A braided sinew lanyard is attached to the line hole. The anterior arming tip has a parallel-excurvate form with a barb applied at the posterior end of each lateral edge. A single, centrally placed, engraved line extends from the posterior end of the line hole to opposite the anterior barb pair distal ends on each shaft face. Intersecting lines also extend from each inner barb edge to the central lines. The specimen appears to have been made from a file.

Specimen:	N.M.M.-F	Group:	N.I.
Providence:	N.I.	Collector:	N.I.
Date Collected:	N.I.	Date Acquired:	N.I.
Collection:	N.M.M.		

Length: 234 mm.  
 Width: 27 mm.  
 Thickness: 5 mm.

Documentation: N.I.

Description: Tanged, one-piece, iron (?) harpoon head with eleven, bilaterally applied barbs and a flattened cross-section with rounded edges. The barbs are low, isolated and extended with a trianguloid cross-section and a concave outer edge. Eight barbs are applied as four symmetrical pairs with three barbs interspaced between the barb pairs on the non-lanyard edge. The expanded tang has straight edges with an irregularly rounded butt with a small, central basal notch. A braided cord lanyard is attached to a looped copper shackle riveted through the tang. The excurvate arming tip recurves along the lateral edge of the anterior barb pair.