

3 Manufacturing Reality

Inuit Harvesting Depictions and the Domestication of Human–Animal Relations

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Introduction

Archaeologists who study the Inuit record have long attended to nonhuman animals, although not always to the ways that Inuit thought about and related to them (Betts et al. 2015 provide an exceptional counter-illustration for Pre-Inuit Dorset), and almost never to the ways that northern animals themselves related to and even thought about their world (Whitridge 2018). This diminishes or neglects the utter, existential reliance of Inuit on their animalian prey and domesticates for food, materials, information, and collaborative labor, and the perpetual unfolding of this relationship in the changing ways that Inuit harvested, utilized, represented and communicated with them (Whitridge 2004a, 2013; Hill 2011, 2013). It also ignores the essential agentic character of intelligent animals. However people think about them, many animals think about their world, sometimes in recognizably sophisticated ways; the biological literature on animal intelligence seems always to be in the process of extending new gradations of complex cognition to an expanding array of taxa (amounting to a “cognitive turn in behavioral biology”; Menzel 2021:23). Archaeology is only now catching up.

If, as appears increasingly likely, many or all of the species with which humans interacted exhibit an array of sophisticated ecological, social, and situational intelligences, then archaeologists need to reimagine human–nonhuman relations in terms not only of the ecological interactions that have dominated our thinking in the past, but also social and situationally agentic ones. The field of human–animal studies that has arisen in recent decades invites precisely this sort of theoretical unpacking of both the idiosyncratic configurations of human–animal relationships in the past, and animals’ own lifeworlds (Shapiro and DeMello 2010; Boyd 2017). While archaeologists and zooarchaeologists can continue to approach the former in various ways as a familiar sort of interpretive puzzle, the latter is daunting. As much as zoologists may be able to divine experimentally and ethologically about nonhuman animal ontologies and intentionalities in the present, extending this project into the distant past seems tenuous, not least because of the attenuated

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material trace of animals' lives outside of archaeological contexts. Nevertheless, paleontology and allied specialties (paleobiology, paleoecology) have long cultivated similar sorts of analytic approaches to those that archaeologists and bioarchaeologists employ for reconstructing context and life history from biological traces (Stearns 2000), and zooarchaeologists themselves have increasingly problematized nonhuman animals' own lives, especially osteobiographically (Losey et al. 2011; Tourigny et al. 2016; Hull 2020).

Besides such fertile zooarchaeological evidence, the archaeological record yields numerous indicators of human–nonhuman relations that bear on both human and nonhuman lives. These include representations of animals that speak not only to human constructions of nonhumans and their interactions with them (in hunting, herding, consumption, sacrifice, narrative, myth, dreams, etc.), but record observational clues relating to such things as animal age, sex, physiology, sociality, seasonality, behavior, and ecumene that contribute to an understanding of their lives independent of humans. Here, the interpretive possibilities of a particular category of pictorial evidence bearing on past Inuit–animal interactions is explored, namely conventional whale harvesting scenarios incised as stick figures on tool handles. The aim of this analysis is to detect patterning in the precontact and historical representations of whaling that is reflective of deeper Inuit understandings of human–whale relations. Although various approaches to this question might be fruitful, including analyses of the wider universe of whale depictions (especially semi-abstract representations of whale tails in the form of figurines and decorative motifs) or the patterned utilization of whale bone in architectural and artifactual contexts, the images taken up here provide exceptionally detailed representations of actual engagements between people and whales, and so speak rather directly to Inuit understandings of this relationship. These images reveal not only interesting things about Inuit thinking about animals, but also about the lives of the animals themselves, including *their* understandings of people. By repetitively citing idealized turns of event these objects helped to discursively stabilize particular harvesting “setups” (Latour 1988; Whitridge 2004a), while didactically reiterating the roles in which animals were in fact observed to cast themselves.

A brief overview of Inuit–animal relations is first provided in the next section, followed by considerations of Inuit depictions of animals, and of whale harvesting in particular. Incised representations of whaling are then assembled from the archaeological and ethnographic literatures. Given the close stylistic similarity of Eastern and Western Arctic images, their occurrence on analogous objects in commensurate settings, and the origins of Eastern Arctic Inuit themselves in migrations of Western Thule groups from North Alaska (Friesen and Arnold 2008), it seems reasonable here to put the respective bodies of imagery in dialogue. The scenarios they depict are decomposed to illustrate a number of core themes in the Inuit whaling imaginary, namely the varieties of whale behavior, the outfitting of boat crews, the logistics of actually harpooning a whale, and the overall sequence of stages in the whale

hunt. This analysis informs a concluding discussion of the agencies of whales and hunters implied in these rich pictorial records.

Inuit–Animal Relations

The growing archaeological engagement with human–animal relations is a boon for northern archaeologists. Not only were premodern northern diets overwhelmingly animal-based (Savelle and McCartney 1988; Friesen and Arnold 1995; Whitridge 2001; Betts 2016; Howse 2019), but nonhuman animals provided both the raw materials that clothed, equipped and housed people at every moment, and the conceptual resources from which they assembled their world (Tanner 1976; Scott 1996; Wenzel 2004; Fienup-Riordan 2020). In the Inuit case, before the adoption of Western commodities such as sugar and flour (from the late eighteenth century in parts of Greenland and Labrador, and from the mid to late nineteenth century elsewhere), most foodstuffs were directly acquired from animals; indeed, Inuit diet in many regions has continued to be, quite deliberately, strongly animal-based (Searles 2002). Animal foodstuffs include muscle, organs (including the prized skin of various whales) and fat directly consumed as food, and the fats rendered into oils for preserving and cooking animal and plant foods. A regionally variable array of mammals, fish, birds, and shellfish were harvested at all seasons, and their bodies thoroughly reduced for food, fuel and raw materials; berries, roots, greens, fungi and seaweeds were relatively minor supplements. Clothing was principally made from animal hides (especially those of caribou and small seals, but occasionally including polar bear, dog/wolf, and wolverine fur, animal gut, and the skins of certain birds and fish [Oakes 1991; Issenman 1997]), as were tent and boat covers, bedding and cordage. Antler, ivory, bone, horn, baleen, and sinew were used to manufacture essential everyday tools or tool components, dwelling frames, watercraft, and sleds. The exceptional taphonomic environment provided by permanently frozen deposits surrounding sod winter houses and encasing middens frequently preserves even the most perishable examples of such uses (Reynolds 1995).

Some animals constituted real hazards, such as polar bear and walrus, or were persistent annoyances, such as mosquitoes and lice, but a large number with recognized utilitarian or symbolic value were potential prey. Inuit economies were generally founded on sea mammal hunting, especially of various seals, walrus, and whales (Savelle and McCartney 1988). Caribou and fish were also often key resources (Stenton 1991; Whitridge 2001; Betts 2008), and virtually any useable species might be harvested for fur, feathers, or food where practicable. Dogs were harnessed as allies in hunting and travel, and as co-inhabitants of Inuit dwellings and settlements, though they too could become food and raw material (Whitridge 2013, 2018; Hill 2018; Losey et al. 2018; Harris et al. 2020). While dogs occur at low frequencies and in the absence of traction technology on pre-Inuit sites in the Eastern Arctic (Morey and Aaris-Sorensen 2002; Sinding et al. 2020), Inuit travel and harvesting

were critically dependent on them, and so they must be considered essential members of the Inuit lifeworld. It is difficult to envision the rapid Inuit colonization of the Eastern Arctic and displacement of indigenous Dorset groups in the absence of dog collaboration (Whitridge 2018; Ameen et al. 2019).

Arctic living was premised on a thorough, industrial filtering of a characteristically sparse, patchy, and seasonal animal biome. But although animals were broadly recognized as potential human resources, they were also understood to have autonomous intelligence and agency, to varying degrees, and sometimes to socialize amongst themselves in distinct cultural enclaves as humans did, in human rather than animal form. The woman who lived at the bottom of the ocean, *sanna* or “down there” (Laugrand and Oosten 2015: 478), and often referred to ethnographically as Sedna or Nuliajuk in the Eastern Arctic, was considered the mother of sea mammals, and some groups are reported to have recognized a mother of caribou (Laugrand and Oosten 2015:212–215). No unambiguous depictions of such figures occur archaeologically, suggesting perhaps an avoidance of their explicit representation analogous to the deliberate depersonalization of dolls and female figurines (Whitridge 2023), but hints of mythic characters connected to underwater domains occasionally occur (e.g., a drag handle [used for hauling seals harvested on the sea ice] with opposing human faces from Learmonth; Taylor and McGhee 1979:72). The transformation of children into hunters entailed the individual’s attentive cultivation of knowledge and respect over a lifetime of observing and interacting with game, observing other hunters, and following ritual protocols (Wenzel 2004). The latter yields a variety of archaeological traces, including the prominent incorporation of whale crania in ceremonial structures (Habu and Savelle 1994), the careful disposal of caribou remains to protect them from dogs and other scavengers (Friesen and Stewart 2017), and the deliberate separation of seasonal activities and their respective animal products.

Historically, animals and animal harvesting were the frequent subjects of stories, songs, and everyday conversation, and throughout the Inuit cultural tradition have been recurring motifs in visual arts (Laugrand and Oosten 2017). Zoomorphic design elements were occasionally integrated into tool forms, such as harpoon parts, combs, drag handles, and fish lures, and freestanding representations of animals functioned as playthings, decorative devices and/or amulets. Virtually any animal larger than a rodent (and occasionally even smaller ones; Laugrand and Oosten 2010) might be represented in these ways, but bears, whales, caribou, and birds seem to have been the most common, interestingly despite the overwhelming economic importance of pinnipeds in many regions (whales were focal resources in some areas, caribou in others). Flat-based ivory bird figurines correspond to pieces in the historical game of *tingmiujaaq* (Whitridge 2017), and occasionally these bear human torsos and even faces evocative of an aquatic deity (Sproull Thomson 1979), while flat-based ivory whale figurines like the precontact Inuit example from the Central Canadian Arctic in Figure 3.1 were likely affixed to

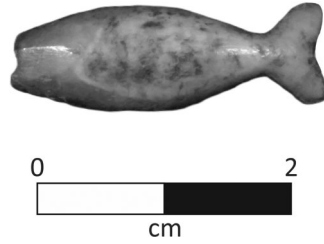


Figure 3.1 Flat-based ivory or tooth whale figurine from precontact Inuit site of Qariaraqyuk (PaJs-2), southeast Somerset Island, Nunavut (PaJs-2:114), ca. AD 1200–1450. Similar figurines were historically affixed to the rims of wooden or baleen vessels in North Alaska that were used to give the dead whale a drink of fresh water.

ceremonial vessels like those used historically to give the dead whale a drink of water in North Alaska (see Hill, this volume; Larsen and Rainey 1948). Knapped (in the Western Arctic) and ground stone (in the Eastern Arctic) pendants depict whales or whale tails (e.g., Taylor and McGhee 1979:167), and a Y-motif that becomes common in Punuk, Western Thule, and precontact Inuit ornament (including as a tattoo element on women's hands, arms, thighs, and faces [Jenness 1946:123; Kapel et al. 1991:105; Jelinski 2018]) is often interpreted as an evocation of the tail of a sounding whale. Small, pierced ermine-like figurines may have functioned as amulets, given the link between *angakkuit* (ritualists) and ermine, and some bear and dog figurines were plausibly toys, analogous to the ubiquitous wooden dolls, but the relative importance of ritual, ornamental, or play uses of some genres can be ambiguous (Whitridge 2023).

Incised Harvesting Depictions

A wholly distinct genre of figurative art consists of stylized stick (or schematically infilled) figures incised on tools and engaged in various scenes of harvesting, warfare, and everyday village life. Hoffman (1897) illustrated and interpreted a substantial body of such imagery, most on objects assembled by ethnographers in the Western Arctic (e.g., Nelson 1899; Murdoch 1892) for eastern American museums. The quantity and quality of Hoffman's reproductions make that text foundational for later investigations of Inuit pictorial arts (e.g., Ray 1969; Fitzhugh and Kaplan 1982), though it seems to have attracted relatively little archaeological discussion. The intensive exchange with Euro-American agents that accompanied contact resulted in the generation of substantial collections of this extraordinary material culture, including large numbers of similarly decorated tools. Although a variety of decorated tool types (including boat hooks and tobacco pipes) are included in this analysis, the vast majority of specimens are drill bows: curved handles pierced at either end to hold a loose cord (Figure 3.2). The cord was wrapped around a shaft

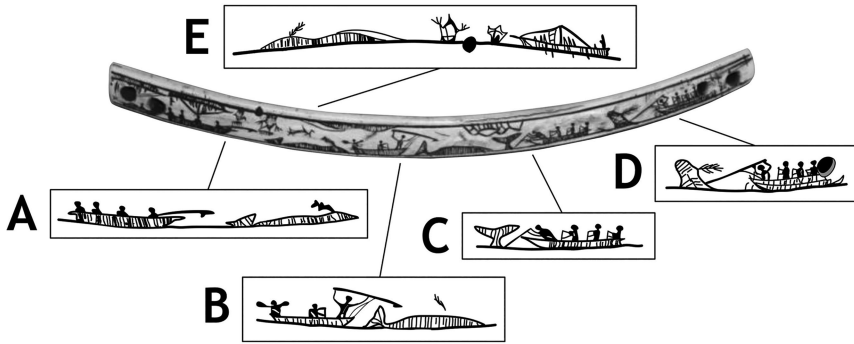


Figure 3.2 One side of engraved ivory drill bow depicting five whaling episodes (A–E), collected by Lucien Turner at Cape Darby, Alaska, 1874–1877 (Smithsonian National Museum of Natural History; Acc. 19248; L 22.1, W 1.22, D 1.15 cm; photo and information from Chan 2013:569). A. Readying harpoon. B. Preparing to strike. C. Striking. D. Striking (scene truncated by drilled hole above stern of umiak). E. Floats in water (two floats between whale and boat, with non-figurative gouged depression between them). Based on the variable crew sizes and strike locations it is assumed that different episodes are represented.

tipped with a stone or metal bit and the drill operated by moving the bow back and forth while holding the shaft vertically with a hand- or mouthpiece. The drill bows extracted from Chan (2013) for this analysis average 38.1 cm in length (range 21.1–60.0 cm), likely reflecting a compromise between ergonomic convenience and the functional advantages of a longer and heavier bow. These were highly curated possessions and the object of personal craft projects that could extend over years (Lucien Turner, quoted in Hoffmann 1897:774–775; Ray 1982). Particular engravings were sometimes solicited from friends, and decorated bows presented as formal gifts on ceremonial occasions. Chan’s (2013) dissertation helpfully updates the literature on decorated drill bows, documenting the history and current state of Bering Strait Yup’ik and Iñupiaq carving traditions, providing an extensive catalogue of incised examples from American and British collections, and reproducing a substantial proportion of the actual imagery. Taken together, the hundreds of objects and thousands of individual pictograms and tableaux constitute an impressively fine-grained pictorial record of later nineteenth and earlier twentieth-century lifeways created by Yup’ik and Iñupiaq carvers themselves.

It would obviously be archaeologically invaluable if such imagery existed for earlier periods as well, but aside from incised geometric decoration on tools and ornaments (which clearly constitutes its own symbolic design language warranting concerted archaeological analysis), and three-dimensional figurative renderings of human-like figures and animals (likewise semantically dense and informative), this kind of pictographic imagery is absent or exceedingly rare in early Yup’ik-Iñupiaq (Old Bering Sea, Birnirk, Puduk, Western Thule) archaeological contexts in the Western Arctic (e.g., Geist

and Rainey 1936; Collins 1937; Giddings 1952; Ford 1959; Rudenko 1961; Morrison 1991). Furthermore, recognizable drill bows like those at the heart of the historical discourse seem to be mostly absent as well. Bockstoe (1977) suggests that these objects emerged as specialized trade items only in the later nineteenth century, and it is noteworthy that Giddings and Anderson (1986) don't report a single drill bow amongst a collection of 2,626 objects from protohistoric Iñupiaq, Thule and Birnirk houses at Cape Krusenstern that produced 53 other drill parts, a pattern that obtains in other large collections from these periods (e.g., Giddings 1952; Ford 1959; Stanford 1976). Presumably, minimally modified wood, bone, or antler equivalents served the purpose. It is thus not only the case that drill bows suddenly acquire decoration during the trade era, as Bockstoe suggested, but also that recognizable examples finally exist from this time, and they turn out to be decorated.

It is unclear when predominantly abstract decoration came to be supplemented with a dense, figurative "pictorialism." An elaborately decorated ivory drill bow from Un'en'en (Pringle 2008), on the south side of the Chukotsk Peninsula, with a set of syntactically complex whaling and village scenes that are generally consistent with nineteenth century Yup'ik and Iñupiaq imagery, produced a somewhat surprising age estimate of 3061–4089 BP ($\pm 2\sigma$ range, based on an uncalibrated ^{14}C date of 3320 ± 200 derived from "underlying deposits;" Gusev 2022:298–304). There seems to be skepticism, or at least caution, about this early dating among some researchers (Fitzhugh and Luvukkanen 2019:492; Mason and Rasic 2019:471), which seems justified given the object's close resemblance to much later decorated drill bows. On the latter grounds, and given the existence of an overlying Birnirk occupation at Un'en'en from which the object might have intruded, Chan (2013:221–226) feels it is better assigned to the later first millennium AD. This is potentially still older than an incised depiction of a caribou and archer on an adz handle recovered at Kurigitavik, northwest Alaska, in 1936 (Chan 2013:241) that Henry Collins then considered "the oldest known example of pictographic art" (quoted in Chan 2013:239) in the Yup'ik-Iñupiaq tradition. Giddings and Anderson (1986:85–86; Giddings 1967:91) similarly suggested that an exceptional caribou hunting scene (apparently depicting use of an atlatl) incised on an ivory bodkin from an early Western Thule (ca. AD 950–1300) house at Cape Krusenstern "presages" (Giddings and Anderson 1986:86) the elaborate incised scenes that figure so prominently in historical collections but are scarce prehistorically. All three objects display similar engraving techniques and figurative idioms on similar sorts of everyday tools.

While it seems clear that pictographic tool decoration has significant time depth in the Iñupiaq-Yup'ik tradition, it did not attain anything close to its historical ubiquity before the nineteenth century. Plausibly, some of the latter examples may have been deliberately produced for an emerging souvenir trade as explorers, fur traders, and whalers increasingly frequented Alaskan coasts over the course of the century. However, the diversity, complexity, and idiosyncratic specificity of the imagery, much of which must have

been uninterpretable to casual collectors, suggest the genre was principally addressed, at least initially, to the sort of local discursive community that Turner describes, especially the men and youths who gathered in *qariyit* (ceremonial or men's houses; sing. *qargi*) for tool manufacture utilizing these very implements. The contact-era timing of the surge in their production may rather reflect two things. On the one hand, one can imagine an anxious intensification of harvesting discourse due to the intrusion of foreign *competitors* for whale and walrus stocks, and the consequent threat to the species and to Iñupiaq-Yup'ik livelihood. On the other, this imagery reflected, and helped instantiate, a historiographic self-consciousness among whaling groups that was likely in part elicited by the influx of foreign *observers*.

In the Eastern Arctic pictographic engraving was never a particularly common form of decoration either, but it does seem to occur at low frequency throughout the Inuit record, from the Mackenzie Delta to Greenland and from the late twelfth or early thirteenth century onwards. Precontact examples have been reported on men's knife handles (Habu and Savelle 1994; Whitridge 2015), drill bows (Mary-Rousselière 1960; Maxwell 1983), snow knives (Whitridge 1992), combs (McGhee 1984), an ulu, an ivory dagger (Mary-Rousselière 1960), and a sod house roof support post (McGhee 1984). Although most occur on implements used by men, the decorated combs, ulu and post indicate they were part of women's and other household members' imaginaries as well. Consistent with the historical Alaskan appreciation for decorated drill bows characterized by Turner, the two specimens from the Eastern Arctic seem to have held distinctly elevated values for their owners, given their ultimate disposition; one was collected from a burial cairn on northern Baffin Island, and the other from a cache associated with a burial on southeastern Baffin (Maxwell 1985). Given the formal and contextual similarities, the large pictorial record of nineteenth century Iñupiaq lifeways from drill bows and other objects can be plausibly juxtaposed with the sparser bodies of precontact Inuit and Iñupiaq imagery.

With the notable exception of the well-preserved Arctic Bay drill bow (reproduced in Mary-Rousselière 1960:10–11; Whitridge 2004b:225; and in greatest detail in Maxwell 1983: Figures 2–6), discussed below, the content of the Eastern Arctic depictions is fairly consistent, often conveying a fairly simple narrative setup connected to harvesting. For example, a men's knife handle from Somerset Island depicts an archer, caribou, inuksuk, and kayaker on one side and a kayaker and three swimming caribou on the reverse (Whitridge 2013:234). Most are somewhat simpler, such as the caribou and kayakers on a knife handle from a nearby Somerset Island site (Habu and Savelle 1994:3), or what seems to be a lone young caribou on an ivory comb from Bathurst Island (McGhee 1984:149). All of these examples date to the thirteenth or fourteenth century. The scenes are often generic, although even simple ones sometimes include idiosyncratic content that may relate to an actual historical episode. For example, what is described as an "ivory knife or spear head" from the same mortuary cairn

as the Arctic Bay drill bow is incised with a caribou, a man in a kayak with a bird perched on the stern, and a man on the beach with upraised arms (Mary-Rousselière 1960:13).

A number of things seem to be going on in this sparse imagery. On the one hand things were being referenced – birds, caribou, kayak hunting – that were presumably meaningful to the community in and of themselves, since they sometimes stood alone. They might have evoked generic sights, experiences, activities, memories, or times of year, depicting things which people considered beautiful or nostalgic, and so functioned as pleasing, *decorative* adornments to the everyday furniture of the world. Second, it sometimes appears that concrete events are being represented, such as the ones associated with the bird on the kayak and the person on shore. Such images have a historical, *commemorative* function, recalling a particular scenario for the viewer, and perhaps cuing an associated story that would itself have been passed along as the object changed hands. Third, some imagery could also be considered *instructional*, since many have a recognizable didactic content apart from any particular historical referent, for example showing hunters positioned in practical ways with particular equipment in the process of dispatching prey (like the knife handle depicting archer, caribou, inuksuk, and kayaker). Such items may have figured in the transmission of technical harvesting knowledge among a hunter's peers, and its inter-generational transfer, if only by silently reiterating what perhaps was common knowledge about how to approach a caribou or release the floats when a whale was harpooned. And finally, it is possible to recognize a more abstract *symbolic* or magical content, a subtext, perhaps, of the most redundantly cited images, since distinct articulations of people, material culture, nonhuman animals, and landscapes are sometimes repeated quite closely on different objects, in widely separated times and places. Despite their occasional idiosyncrasies, the repeated juxtaposition of caribou, hunters and kayakers on thirteenth century and later objects from the Central Canadian Arctic (Maxwell 1983; Habu and Savelle 1994; Whitridge 2013) and North Alaska (Chan 2013; Giddings and Anderson 1986) evoke an underlying semantic nucleus, in the form of a network of humans, animals and things. They convey not merely pleasing, memorable or instructive turns of event, but idealized and generically desirable ones (capturing a whale or a caribou) which the engravings serve to materially and discursively fix. This may have been an explicit function, along the lines of a hunting amulet or a rock art depiction that aims to mimetically guarantee an outcome, or it may have been an unconscious effect achieved through a vividly stylized citation of imagined or remembered events.

Whaling Depictions

In the precontact Eastern Arctic, there are probably more representations of whaling in this genre than any other activity (caribou hunting is also frequently depicted), but the total number is miniscule and none are as richly

textured as the scenes on the Arctic Bay drill bow (PgHq-1:1). The others include the Brooman Point roof support (McGhee 1984:76), a drill bow from B-1 on Cumberland Sound (Schledermann 1975:122), an ivory pendant from Cape Dorset (Maxwell 1985:268), and fragmentary specimens from northwest Greenland (Holtved 1944:278) and Southampton Island (Mathiasen 1927:251–252, Plate 72). Bowhead whaling was an economic focus for the Inuit colonists of the Eastern Arctic, but suffered a significant collapse during the fifteenth century that in part precipitated the abandonment of much of the Canadian Arctic Archipelago (Whitridge 1999). In North Alaska, however, whaling conditions appear to have been optimal throughout the Little Ice Age; bowheads passed close to shore along narrow leads in spring, and were again accessible on their return migration in fall. When American whalers arrived in the later nineteenth century, the bowhead harvest was one of the most important economic activities in many communities, and a focus of ritual and social activity (Bockstoce 1986; Caswell 1988; Sheehan 1997).

Although some whaling depictions clearly employ graphical shorthands that diverge from actual visual experience, and some are stylized almost to the point of illegibility, beyond the pared down representational technique the content of many is actually surprisingly robust. Indeed, some of the Alaskan engravings appear to be more or less photorealistic renderings of witnessed events, capturing a caribou turning its head to interrogate a sound, or a whale dramatically breaching the surface. They thus inform us not only about the kinds of activities that people considered worthy of memorializing in this form but also, apparently, about actual harvesting techniques, such as the frequent deployment of kayakers alongside umiaks in whaling, and alongside land-based archers in caribou hunting. But whaling depictions go further still, since they often depict in quite realistic detail the actual profile, above the waterline, of bowheads during the hunt, and so not only the location on the whale's back where a harpoon line might ideally be affixed, but sometimes the very timing of this act. This is possible because bowheads exhibit a reasonably predictable sequence of body positions as they move past the air-water interface, outside of their watery element. A wildlife biologist's depiction of the conventional bowhead surfacing, breathing and diving sequence (Carroll et al. 1987:107) closely evokes the precontact engravings, suggesting the latter possess real ethological precision (Figure 3.3); the portion of the back exposed above the surface during the 'slow swimming' phase (as shown in profile at stage 2 in Figure 3.3) is repeatedly depicted quite accurately in Inupiaq and Inuit engravings. The sense that engravings represent 'frames' in realistic animations of the whaling sequence seems to be confirmed by the straightforward superimposition of the depictions atop footage of actual bowheads surfacing, swimming and diving. In Figure 3.4 one of the whaling vignettes on the Arctic Bay drill bow is superimposed over a still from footage of a bowhead whale swimming at the surface of the Beaufort Sea (from dissolve.com; numerous

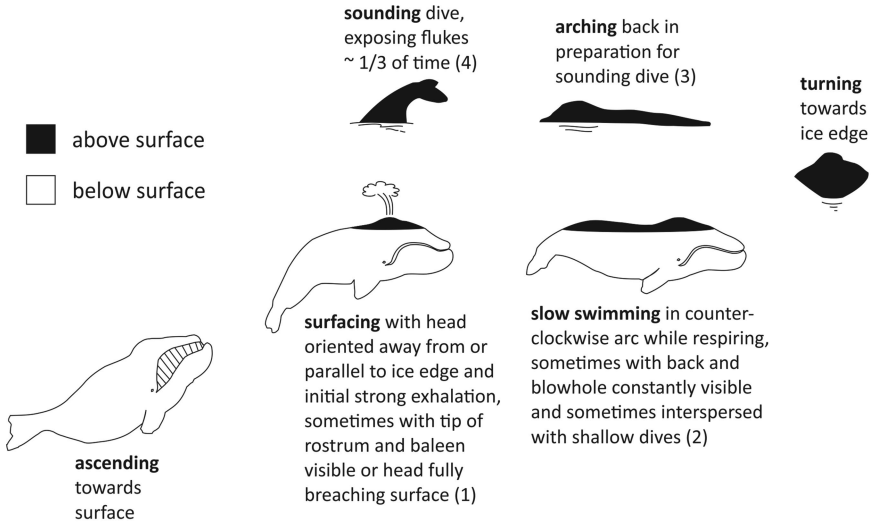


Figure 3.3 Bowhead whale surfacing sequence (after Carroll et al. 1987:107, Figure 2). Incised Iñupiaq and Inuit depictions of whaling typically show only the portion of the whale visible above the water surface.



Figure 3.4 Incised whaling scene from precontact Inuit drill bow collected at Arctic Bay, Baffin Island (Maxwell 1983:87, Figure 6), superimposed on photograph of bowhead whale swimming at surface.

such stills and clips are archived on this and similar online stock photo sites). The whales display closely similar profiles in the Eastern Arctic depictions. The Lake site snow knife provides interesting detail on the umiak, paddlers, and their equipment, but the whale is shown somewhat schematically, in plan (Collins 1951). Nevertheless, the harpoon head is on course to a strike location about a third of a body length from the tail. Maxwell (1985) plausibly suggests the Cape Dorset engraving depicts a whale being dragged to shore tail first, in which case the lines issuing from its back could be taken to suggest the same strike locations once again. These all closely overlap the attachment points depicted in the North Alaskan engravings. Although some show a harpoon being readied for the strike, or no harpoon or line at all, many show the harpoon head about to enter the whale or the line already attached, and the strikes appear to be concentrated in the rear half of the whale's body.

In order to gauge the overall verisimilitude of the imagery, and explore its potential for characterizing whaling practices and past understandings of human-whale relations, 139 examples of incised umiak-whaling scenes depicting both whaling boat and, in all but three cases, whale were assembled from illustrations or reproductions of archaeological and ethnographic objects, and their contents encoded (Table 3.1; the three exceptions were retained as part of a small subset of archaeological specimens from which other useful information could be extracted). The sample includes seven vignettes from five archaeological specimens from the Western Arctic and seven vignettes from six Eastern Arctic specimens, with most of the remainder derived from Western Arctic drill bows collected in the late eighteenth through early twentieth centuries and assumed to have been in use at or near the time of their acquisition. The majority of the depictions (107) were extracted from the Appendix to Chan's (2013) dissertation, since she typically included higher resolution photographs than those in the original published reports, if any (e.g., Nelson 1899). Chan often reproduced just one side of objects that tended to be decorated on two sides, so in theory this sample could be greatly expanded. Additional imagery was assembled from Hoffman (1897), Bockstoce (1977) and various archaeological publications (Table 3.1). Some of this imagery is quite complex, including dozens of individual pictograms composing multiple distinct tableaux that stretch in sequence along each long edge of the object, and sometimes through a central pictorial field as well. On stylistic grounds, some of these objects appear to have been decorated by multiple individuals (Chan 2013:413). Although the aggregate composition and stylistic variability (both inter- and intra-object) of these panels are clearly meaningful, as is the frequent depiction of non-whaling themes such as walrus hunting and everyday village life, this analysis focuses on the content of individual umiak-whaling tableaux consisting of one, and occasionally two, boatloads of whalers, their gear, and a single whale. The coding and results for key facets of the whaling cycle are discussed below.

Whale Behavior

The depiction of bowheads in these engravings is highly conventionalized. Although there are occasional instances of whales depicted in plan view (e.g., on the prehistoric drill bow from the Lake site; Collins 1951), the majority are shown in naturalistic profile, with a line representing the ocean's surface above which part of the whale body projects (Figure 3.2). Of the six steps outlined by Carroll et al. (1987:106–107) four are regularly depicted: surfacing, slow swimming, arching, and sounding. The initial act of surfacing typically entails the whale's head projecting above the surface just enough for exhalation and inhalation; more occasionally the head fully breaches the surface. Only the latter behavior appears to be depicted in the engravings (e.g., Figure 3.2D), and only rarely (Figure 3.5). Next, the whale swims slowly on the surface, sometimes briefly submerging. The overwhelming majority of depictions in which the surfacing/diving stage was discernible (69%, excluding instances of a dead whale being towed on the surface) illustrate this step, with an extended dorsal fraction of the whale depicted as two low humps and blow issuing from the blowhole in the forward one (the consistent depiction of blow was presumably a graphical convention that clarified the direction in which the whale was swimming). In a number of instances, it was difficult to discern whether the whale was slow swimming or arching, so half of these ambiguous cases were arbitrarily assigned to each stage. A smaller number of engravings appear to depict the whale arching its back in preparation for diving, with the rostral (head) segment distinctly higher than the caudal (tail) one. Fewer still show the whale fluking (tail flukes elevated and the body mostly

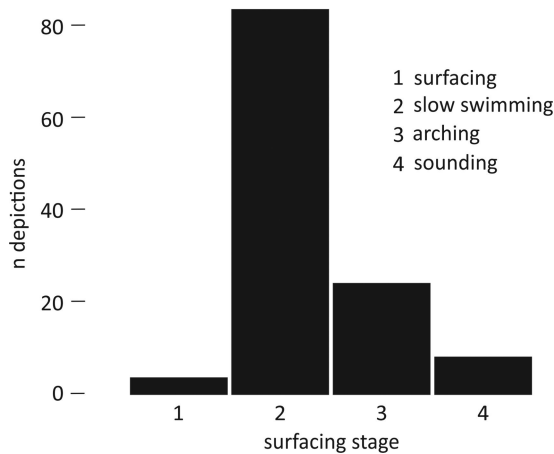


Figure 3.5 Assessed frequency of depiction of Carroll et al.'s (1987) key bowhead surfacing stages shown in Figure 3.3 (surfacing, slow swimming, arching, sounding) on incised Yup'ik, Iñupiaq, Western Thule, precontact Inuit, and historical Inuit tools (based on data in Table 3.1). Ascending to the surface and turning toward the ice edge are not depicted.

submerged) while executing a sounding dive (a few ambiguous instances were likewise arbitrarily split between arching and fluking). Not surprisingly, the period when the whale displays the largest profile out of the water, hence appears most vulnerable to harpooning, was most often depicted (Figure 3.5). In plan view, the whale's exposure at this stage is even more dramatic, since the rostral portion of the whale projects above the surface only as a narrow ridge, whereas the caudal/lumbar portion exposed during slow swimming and arching breaks the surface in a broad lenticular hump. Logistically and anatomically, it would have been challenging to immediately affix a harpoon to a surfacing whale, even if this occurred close to an umiak.

Umiak Crew

A typical umiak crew would have consisted of a helmsman in the stern (conventionally, the boat owner or *umialik*), a variable number of paddlers (often, presumably, paired on port and starboard sides of the vessel), and a harpooner in the bow who would set down his paddle and take up the harpoon in preparation for a strike. The individuals crewing the umiak are sometimes depicted quite realistically in the engravings, paddle or harpoon in hand (e.g., Figure 3.2B, C, D), and sometimes as simple stick figures with dots for heads. Since the vessels are invariably shown in profile it is difficult to estimate the implied crew size with certainty. Where an entire umiak is discernable, an average of 4.4 crew members is shown. It seems unlikely that a crew of four could effectively pursue, strike and tow a whale of at least seven tons with consistent success, so it seems reasonable to assume that pairs of paddlers are implied amidships, and a single helmsman and harpooner. On this assumption, a depiction of four crew members would actually signify a crew of six, five would represent eight, and so on. Converting the depicted crews in this way yields a modal crew size of six and mean of 6.7 (Figure 3.6). This corresponds reasonably well to the range of six to nine crew members suggested ethnographically for North Alaska (e.g., Spencer 1959, 1972). Although it seems possible that the depictions are schematic simplifications of a busier reality, hence that actual boat crews were larger than those depicted, it is also plausible that boat crews, and the boats themselves, were smaller in the smaller, self-sustaining whaling settlements of the precontact and early historical periods than in mid to late twentieth century ones underwritten by thicker connections to the world system.

Harpoon Strike

A harpoon longer than the harpooner is tall (perhaps 2.5–3.0 m) is often depicted resting on the umiak prow, held aloft, or striking the whale, and is sometimes shown connected by a harpoon line to floats held by crew members or concealed in the vessel (e.g., Figure 3.2B). Where the harpoon appears to be targeted at the whale in preparation for a strike (i.e., held obliquely aloft

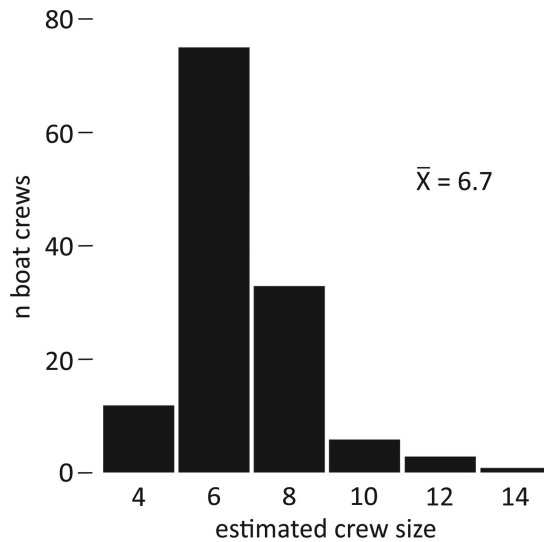


Figure 3.6 Whaling boat crew size frequencies estimated from depictions of bowhead whaling on incised Yup'ik, Iñupiaq, Western Thule, precontact Inuit, and historical Inuit tools (based on data in Table 3.1). The bow and stern figures in the depictions are taken to be the harpooner and helmsman, respectively, and the rest are doubled in the calculation to allow for paddlers on both port and starboard sides of the umiak.

as in Figure 3.2B), actually or inferentially in contact with the whale (Figures 3.2C and 2D), or where a line connected to floats issues from the whale (Figure 3.2E), it is possible to infer the approximate anatomical location of the strike (or intended strike). The bowhead body was here schematically divided into seven equal segments from flukes to anterior rostrum, closely corresponding to distinct anatomical portions, to which each of 86 legible strikes was assigned. The tail anterior of the flukes (roughly, the caudal portion of the vertebral column) and the adjacent trunk (the lumbar region) were the zones most frequently targeted by far (Figure 3.7), with a secondary mode in the cervical/cranial region and adjoining posterior rostrum. The flukes themselves, the region adjacent to the thoracic vertebrae, and the anterior portion of the rostrum, were relatively rarely depicted as strike targets. This patterning is sensible in terms of what can be inferred about umiak whaling. The most attractive target would have been the broadly exposed back of a whale swimming slowly at the surface, and an umiak would have preferentially approached surreptitiously from the rear. Rostral strikes are sometimes shown for later arriving umiaks (i.e., after floats had already been attached with a caudal strike), and in other instances may simply have been opportunistic. The suggestion in the incised art of carefully targeted caudal and rostral strike zones is consistent with whale anatomy and behavior, and logical whaling tactics.

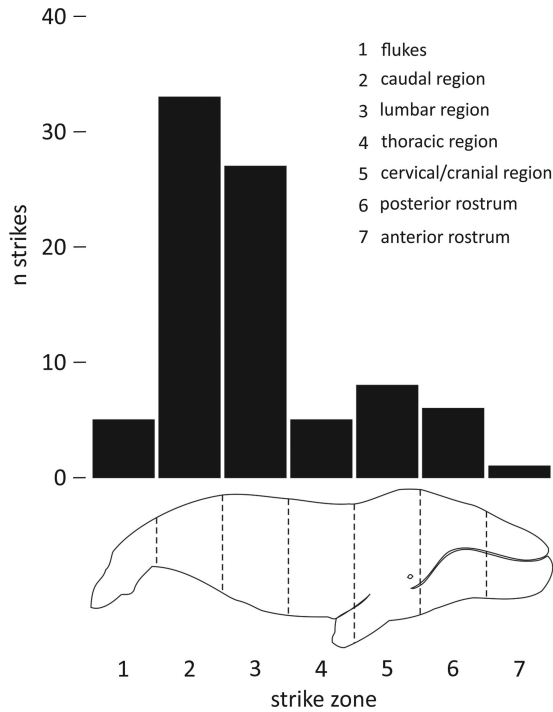


Figure 3.7 Assessed strike location frequency in bowhead whaling scenes on incised Yup’ik, Iñupiaq, Western Thule, precontact Inuit, and historical Inuit tools (based on data in Table 3.1). ‘Strike zones’ are based on arbitrary division of whale length into seven equal segments that correspond reasonably closely to real anatomical regions.

Whaling Sequence

As Rainey (1947:244–249, 257–263) and others describe (e.g., Lantis 1938; Spencer 1959; Crowell 2009; Hill 2011), whaling in North Alaska entailed a protracted series of rites and festivities, socializing and politicking, equipment production and maintenance, final logistical preparations, and the harvest itself, that effectively extended throughout the year. Some of these episodes are depicted in the incised imagery (Hoffman [1897] provides a detailed breakdown), including magical visitation of the whale by ritualists ahead of the harvest, preparing and launching umiaks, the communal effort of dragging the whale onto ice or shore, flensing the carcass and transporting the products, and subsequent celebrations with music, costumes and dancing in the *qargi*. These terrestrial moments in the incised auto-ethnographies provide valuable insights into the overall whaling round, but none were reproduced as consistently as the events surrounding the act of actually harpooning a whale out on the water. It sometimes appears that sequential episodes in particular hunts are depicted on the same object, but variations

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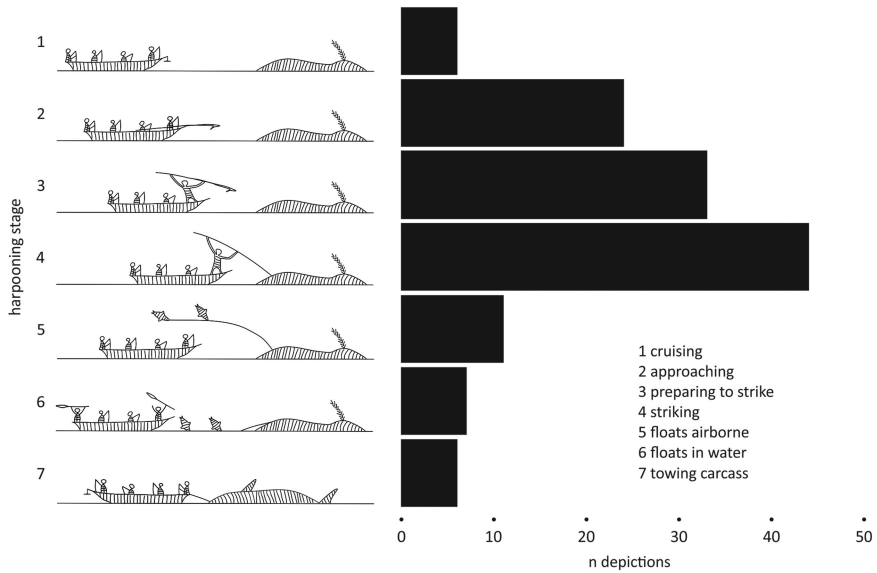


Figure 3.8 Frequency of depiction of key stages in bowhead whaling sequence on incised Yup'ik, Iñupiaq, Western Thule, precontact Inuit, and historical Inuit tools (based on data in Table 3.1). The standardized scenes shown here are illustrative, based on depictions like those in Figure 3.2, and are not meant to reproduce imagery from a particular drill bow.

in the number of crew members and the strike point often indicate distinct encounters (e.g., compare Figures 3.2A and B, and 3.2C and D). However, aggregating all of the depictions and ordering them temporally with respect to a notional whaling sequence reveals redundant themes in the whaling pictographs (Figure 3.8):

- 1 cruising – umiak is paddled toward whale, a whaling amulet occasionally dangling from bowsprit
- 2 approaching – umiak is paddled toward whale, a harpoon visibly resting on bowsprit
- 3 preparing to strike – umiak nears whale, the harpooner standing in bow holding harpoon aloft; harpoon often angled toward intended strike location
- 4 striking – umiak adjacent to whale, the harpooner standing in bow striking whale with harpoon
- 5 floats airborne – umiak follows whale, a harpoon line with attached floats extending airborne from strike point
- 6 floats in water – umiak follows whale, a harpoon line extending from strike point toward partially submerged floats; umialik and other crew members may signal success to observers with upraised paddles
- 7 towing carcass – umiak tows inverted whale with line attached to stern of umiak

Each of these constituted a necessary step in a successful hunt, but they were not equally celebrated in art. Rather, the frequency of their depiction rises steadily toward the moment at which the harpooner finally made contact with the whale (Figure 3.8, stage 4), and then falls precipitously. The practical resolution of the harvesting effort occurred when the whale was hauled out of the water and flensed, but the harpoon strike clearly represented its narratological climax. Although unpredictable in many respects (in terms of the behavior of the whale, the performance of the equipment, the coordination of boat crews on the water, weather and ice conditions) the hunt was not a chaotic process, but rather the realization of an imaginatively rehearsed sequence of steps that was accurately materialized in the incised art.

Whale and Hunter Agencies

The Eastern Arctic whaling depictions are thus interesting not only as tokens of Inuit engagement with whaling, but as detailed visual records of the entire organizational setup: the number of umiaks and paddlers and their coordination with kayakers, the lines of approach to the whale, the size of the harpoon and the practice of resting it on the bowsprit, the ideal moment and location to strike the whale, the act of towing it to shore. The much larger body of Western Arctic imagery goes well beyond this in capturing details of the floats used, signaling of a strike and a kill, butchering the whale on shore, varieties of whale behavior, prior ritual communication with the whale, and the celebrations afterwards. All of this, in any case, hinged on a successful strike; this seems to have been the crux of the endeavor and the moment that was most consistently, most obsessively, immortalized. Like an evocative logo that summarily distills and indexes a sprawling reality (e.g., a batter about to swing at a ball in the Major League Baseball logo), the coordinated acts and accommodations of a huge array of people, things, animals and natural settings was condensed in a single image.

But the pictorial record is sufficiently rich and realistic that the experiences, perceptions and agency of the whales also begin to emerge. For example, the frequent depiction of lines of waterfowl in North Alaskan imagery situates the whales along shore leads or next to the coast during the avian spring and fall migrations, hence experientially within distinct moments in bowheads' annual migratory life history. The diving behavior that is sometimes depicted (fluking) reflects one of the bowheads' characteristic responses to threat (along with retreat to shallow or ice-choked waters; Hay et al. 2000; Matthews et al. 2020), as opposed to the flight response of many baleen whales (Ford and Reeves 2008), or the defensive circle and coordinated tail slapping of sperm whales (Pitman et al. 2001), though bowheads sometimes adopt the latter tactics (Ford and Reeves 2008). Indeed, the entire harvesting setup captured in the incised art and other archaeological evidence of whaling – the size and material of harpoon heads, the length of harpoon shafts, the number and volume of floats, the size and crewing of watercraft – can be read in negative, as an elaborate series of technological adjustments to the whale's sensory

abilities, behaviors and physiology, each line hole and float plug an insinuation of cetacean ontology into human material culture (Whitridge 2004a).

Similarly, the larger pattern of Inuit expansion into, and withdrawal from, the principal whaling channels of the Central Canadian Arctic between about AD 1200 and 1400 mirrors bowheads' own occupancy of this biotope as part of their ongoing adjustment to the ebb and flow of sea ice formation across the Holocene (Dyke et al. 1996). At a finer scale, Savelle and McCartney (1994) have demonstrated the progression of seasonal bowhead migrations through the 'core' precontact Inuit whaling zone of Lancaster Sound and Prince Regent Inlet based on the incremental growth (determined osteometrically) of the preferred juvenile prey. This hints at the shifting social texture of bowhead pods and, unavoidably, the trauma that recurrent seasonal human predation must have represented for a highly intelligent, long-lived creature. At over 200 years, the estimated longevity of bowheads is greater than that of any other mammal assessed to date (Keane et al. 2015), and harvested whales from North Alaska have yielded antique ivory harpoon heads with slate and nephrite blades, as well as industrially manufactured, century-old bomb lance fragments (George and Bockstoce 2008). One individual harvested in North Alaska between 1978 and 1997 was estimated by aspartic acid racemization to be 211 years old (George et al. 1999). Such a whale could have personally experienced the entire period of Inuit occupancy of the Central Canadian Arctic whaling channels as the sudden intrusion, and then disappearance, of an adversary.

Conclusion

It has proven useful here to collapse illustrations from the Western and Eastern Arctic, and precontact and historical time periods, into a single sample, but they actually represent distinct renderings of individual Inuit and Iñupiaq carvers' understandings that variously overlap and diverge with respect to the human-whale relations depicted. We could think of these in terms of idiosyncratic zoöntologies which nevertheless share various graphical tropes and substantive themes. Although whales themselves may not have been specifically addressed in these ways (other material culture appears to have served this dialogic function, such as the richly ornamented bow seat of a whaling umiak [Anichtchenko 2016; Hill, this volume] or the figurine-adorned bent wood vessel used to give the dead whale a drink of water [Figure 3.1]), it is partly whales' own lives and agencies, in performative engagement with hunters', that were photorealistically depicted. A material document of cetacean lives also exists in the paleontological, zooarchaeological and historical archives (e.g., Bockstoce 1986; Savelle and McCartney 1994; Whitridge 2002; McLeod et al. 2012; Wagner et al. 2020), and in the bodies of living whales, in the form of harpoon heads and bomb lances that failed to hold their targets, and individuals' own biochemical compositions, all of which capture facets of bowhead thought and action that await assembly in more zoöcentric ways. The bowhead was also a discussant in the whaling dialogue.

Table 3.1 Depictions of bowhead whaling on incised Yup'ik, Iñupiaq and Inuit tool handles included in this analysis. Surfacing stage: (1) surfacing (br: breaching) (2) slow swimming (3) arching (4) sounding (5) dead whale being towed on surface. Depicted crew: number of depicted individuals. Inferred crew: number of depicted individuals interpreted as single harpooner in bow, pairs of paddlers amidships, and helmsman in stern. Approach direction: anatomical region of whale approached by umiak. Strike point: y if harpoon or harpoon line in contact with whale. Inferred strike point: y if harpoon obliquely angled toward whale. Strike zone: (0) no strike (1) flukes (2) caudal region (3) lumbar region (4) thoracic region (5) cervical/cranial region (6) posterior rostrum (7) anterior rostrum. Harpooning stage: (1) cruising (2) approaching (3) preparing to strike (4) striking (5) floats airborne (6) floats in water (7) towing carcass

<i>Source</i>	<i>Surfacing Stage</i>	<i>Depicted Crew</i>	<i>Inferred Crew</i>	<i>Approach Direction</i>	<i>Strike Point</i>	<i>Inferred Strike pt</i>	<i>Strike Zone</i>	<i>Harpooning Stage</i>	<i>Collection site</i>	<i>Arch Age</i>	<i>Description</i>	<i>Catalogue information</i>
Schledermann 1975:122	2	6	10	Tail	y?		2	-	Cumberland Sound, NT	Late precontact	Six paddlers (perhaps complete crew), poss attached to profile whale with long blow; ambiguity in attachment & line of back	B1 site (LiDj-1:102), burial cache
Maxwell 1983:84.3.1	2	4	6	Rostrum	n	n	0	2	Arctic Bay, NT	Early precontact	Four individs in umiak, sitting harpooner and harpoon resting on prow	PgHp-1:1; b16 & b17
Maxwell 1983:84.3.2	2	4	6	Tail	n	y	3	3	Arctic Bay, NT	Early precontact	Four paddlers approach from tail, standing harpooner with poised and tilted harpoon; prob second boat approaching from rostrum	PgHp-1:1; b21 & b22
Holtved 1944:278	-	5	8	-	n	n	-	3	Thule, NW Greenland	Early precontact	Five paddlers in profile, standing harpooner with poised harpoon; whale completely truncated from scene	Thule House 21, Midden 24.5

(Continued)

Table 3.1 (Continued)

<i>Source</i>	<i>Surfacing Stage</i>	<i>Depicted Crew</i>	<i>Inferred Crew</i>	<i>Approach Direction</i>	<i>Strike Point</i>	<i>Inferred Strike pt</i>	<i>Strike Zone</i>	<i>Harpooning Stage</i>	<i>Collection site</i>	<i>Arch Age</i>	<i>Description</i>	<i>Catalogue information</i>
Collins 1951:63. pl16	-	5	8	Tail	n	y	2	3	Lake site, NT	Early precontact	Five paddlers in x-ray, standing harpooner, harpoon aimed at plan view whale; prob stacks of coiled cord onboard	Lake site House B
Maxwell 1985:268.8.12	5	5	8	Tail	y?		3	7	Cape Dorset, NT	Early precontact	Five to six figures in umiak, prob whale with two issuing marks (blow and harpoon towline?)	Cape Dorset
McGhee 1984:76	3?	7	12	-	n	n	-	1	Brooman Pt, NT	Early precontact	Seven individs in umiak approaching sounding whale	Brooman Point (QiLd-1) House 5
Mathiassen 1927:pl 72.5	-	-	-	-	n	n	-	-	Kuk, NT	Late precontact	kayak with float and umiak (obv); images severely truncated	Kuk site; Mathiassen 1927:251-252
Mathiassen 1927:fig 81	-	-	-	-	n	n	-	-	Kuk, NT	Late precontact	Kayak following whale (rev); images severely truncated	Kuk site; Mathiassen 1927:251-252
Hoffman 1897 pl 58	2/3	4	6	Tail	y		3	5	Pt Barrow, AK P.H. Ray -1899	Historic	Four individs in umiak next to plan view whale with double float	USNM 89487
Hoffman 1897:pl 59.2	3	3	4	Rostrum	y		6	4	Cape Prince of Wales, AK Nelson 1877-80	Historic	Three paddlers, harpooner standing and striking whale	USNM 43360; opp face of Chan 2013:548
Hoffman 1897:pl 68.3 1	2	4	6	Tail	n	n	0	2	Cape Nome, AK	Historic	Four paddlers approach from tail, harpoon resting on prow	no cat #

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Hoffman 1897:pl 68.3 2	3/4	5	8	Rostrum	y		2	4	Cape Nome, AK	Historic	Five paddlers, harpoon in contact; boat behind throwing two floats in water; unusual strike over whale from rostrum to tail	no cat #
Hoffman 1897:pl 68.3 3	2	4	6	Tail	y		2	4	Cape Nome, AK	Historic	Four paddlers approach from tail, harp in contact, poss float in water, second boat close behind	no cat #
Hoffman 1897:pl 68.3 4	4	4	6	Rostrum?	y		2	4	Cape Nome, AK	Historic	Four paddlers strike diving whale; based on tail angle imply approach from rostrum	no cat #
Hoffman 1897:pl 68.5 5	2	>2	>3	Tail	n	n	-	1	?	Historic	At least two individs in truncated and unfinished umiak approach from tail	no cat #
Hoffman 1897:887.105	2	4	6	Tail	y		2	4	?	Historic	Four paddlers approach from tail, harp in contact, crew member holding two floats aloft	no cat #
Hoffman 1897:pl 69 1	2	3	4	Tail	y		3	4	?	Historic	Three individs approach whale from tail, harpoon in contact	no cat #

(Continued)

Table 3.1 (Continued)

<i>Source</i>	<i>Surfacing Stage</i>	<i>Depicted Crew</i>	<i>Inferred Crew</i>	<i>Approach Direction</i>	<i>Strike Point</i>	<i>Inferred Strike pt</i>	<i>Strike Zone</i>	<i>Harpooning Stage</i>	<i>Collection site</i>	<i>Arch Age</i>	<i>Description</i>	<i>Catalogue information</i>
Hoffman 1897:pl 70	2	4	6	Tail	y		2	4	?	Historic	Four paddlers approach from tail, harp in contact, crew member holding two floats aloft	no cat #
Bockstoce 1977:fig 61 1	5	5	8	Tail	n	n	-	6	Kotzebue Sd, AK Beechey Coll 1826-27	Historic	Five individs approach from tail, line from upside down whale to boat but strike pt unclear, float in water; migrating fowl	PRM A.M. 692
Bockstoce 1977:fig 61 2	2	5	8	Tail	Y		2	4	Kotzebue Sd, AK Beechey Coll 1826-27	Historic	Five individs approaching from tail, harp in contact with whale; migrating fowl	PRM A.M. 692
Bockstoce 1977:fig 61 3	2	4	6	Rostrum	n	n	-	1	Kotzebue Sd, AK Beechey Coll 1826-27	Historic	Four individs poss approaching from rostrum? details hard to resolve	PRM A.M. 692
Bockstoce 1977:fig 64a	2	6	10	Tail	n	y	3	4	Kotzebue Sd, AK Beechey Coll 1826-27	Historic	Six individs approaching from tail, harp in contact w whale; two floats in air but source uncertain	PRM A.M. 695
Bockstoce 1977:fig 64b	2	5	8	Rostrum	n	y	3	3	Kotzebue Sd, AK Beechey Coll 1826-27	Historic	Five individs approaching from rostrum, harp about to strike medially	PRM A.M. 695

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Arch		Catalogue information	
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage	Collection site	Age		Description
Bockstoce 1977:fig 66 1	3	4	6	Tail	y		3	4	Icy Cape/Pt Barrow, AK Beechey Coll 1826-27	Historic	Four individs approaching from tail, harp in contact w whale	PRM P.R. 2794
Bockstoce 1977:fig 66 2	2	5	8	Tail	n	y	2	3	Icy Cape/Pt Barrow, AK Beechey Coll 1826-27	Historic	Five individs approaching from tail, harp apparently poised to strike	PRM P.R. 2794
Bockstoce 1977:fig 66 3	2/3	4	6	Tail	y		3	4	Icy Cape/Pt Barrow, AK Beechey Coll 1826-27	Historic	Four individs approaching from tail, harp in contact with whale	PRM P.R. 2794
Bockstoce 1977:fig 67a	2	4	6	Tail	n	n	0	2	N Alaska, Beechey Coll 1826-27	Historic	Four individs approaching from tail, harpoon resting on prow	PRM A.M. 696
Bockstoce 1977:fig 67b	2	>2	>3	Rostrum	n	n	0	2	N Alaska, Beechey Coll 1826-27	Historic	Umiak approaching same whale from rostrum with apparent harpoon resting on prow; crew unfinished	PRM A.M. 696
Met 1979.206.522	3	4	6	Tail	n	y	4	3	“Alaska”	Historic	Four paddlers approach tail of whale beginning to arch for dive, harp preparing to launch	https://www.metmuseum.org/art/collection/search/312731
Met 1970.45.72 a, b	2	5	8	Tail	y		2	5	“Canada”	Historic	Five paddlers approach whale w harp line & single float	https://www.metmuseum.org/art/collection/search/309705

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Chan 2013:fig 1.1a	2	4	6	Tail	n	n	0	3	Pt Barrow, AK Edward Nelson 1877-81	Historic	One of two boats w/ four crew, harp slightly angled toward whale	NMNH E48522; note double spout
Chan 2013:fig 1.1b	2	4	6	Rostrum	n	n	0	3	Pt Barrow, AK Edward Nelson 1877-81	Historic	Two of two boats w/ four crew, harp upraised but not targeted	NMNH E48522; note double spout
Chan 2013:fig 1.2	2	4	6	Tail	n	y	3	3	Pt Barrow, AK Edward Nelson 1877-81	Historic	Four individs approach whale from tail, harpooner almost touching whale with harpoon tip	NMNH E48522
Chan 2013:fig 29	2/3	4	6	Tail	n	y	5	3	Pt Hope, AK Sheldon Jackson 1887-98	Historic	Four individs approaching from tail, harpooner preparing to strike	SJM SJ-II-K-106, late 19th c db
Chan 2013:fig 67	3	4	6	Tail	y		3	5	Indian Pt, Chukotka, Cpt Cook 1778	Historic	Four individs approaching from tail, floats attached to whale	HM 27.4.61/32
Chan 2013:fig 68	3	5	8	Tail	y		3	5	Indian Pt, Chukotka, Cpt Cook 1778	Historic	Five individs approaching from tail, floats attached to whale	HM 27.4.61/32
Chan 2013:fig 69	2/3	5	8	Tail	n	y	2	3	Kotzebue Sound, AK Kotzebue/Choris 1816	Historic	Five individs approaching from tail, harpooner preparing to strike	10556732
Chan 2013:fig 199	3	5	8	Tail	n	n	0	3	Pt Hope, AK Johnny Borden 1927	Historic	Five individs approaching from tail, harpoon upraised horizontally	FM 177754

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Arch		Catalogue information	
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage	Collection site	Age		Description
Chan 2013:fig 201	1 br	>2	>3	Tail	n	n	0	2	Uelen, Chukotka State Museum of Oriental Art	Early precontact	Truncated boat approaching breaching whale from tail, harp resting on prow	11319
Chan 2013:fig 211	3/4	4	6	Rostrum	n	y	6	3	Little Diomede I./C. Prince of Wales, AK Jenness Thule/Punuk	Early precontact	Four hunters approach from rostrum, harpoon launched in air and retained line visible	CMC IX-F-8513
Chan 2013:fig 212	2	4	6	Tail	n	y	1	3	Bering Str area Collins 1930s prehist	Early precontact	Four individs approach from tail, harpoon poised to strike	NMNH AT5952
Chan 2013:fig 278	-	4	6	-	n	n	-	4	Cape Prince of Wales, AK Collins 1936 prehist	Early precontact	Four individs approaching whale; prob strike or near strike but portion of object (incl whale) missing	NMNH A394649
Chan 2013:fig 281.1	4	4	6	-	n	y	1	3	Little Diomede Island, AK Peabody Mus	Historic	Four individs approaching from tail, harpooner poised to strike; whale in vertical dive	PMAE 67-9-10/144
Chan 2013:fig 281.2	5	4	6	-	n	n	-	7	Little Diomede Island, AK Peabody Mus	Historic	Four individs towing whale by line attached at rostrum below waterline	PMAE 67-9-10/144; migrating fowl

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Chan 2013:fig 284.1	2/3	4	6	Tail	n	n	0	2	Cape Nome, AK Nelson 1877-80	Historic	Four individs approaching from tail, harpoon resting on prow	NMNH E44398
Chan 2013:fig 284.2	2/3	5	8	Tail	y		2	4	Cape Nome, AK Nelson 1877-80	Historic	Five individs approaching from tail, harpoon in contact with whale; whale orientation somewhat ambiguous	NMNH E44398; migrating fowl
Chan 2013:fig 286	3	4	6	Rostrum	y		4	4	Cape Darby, AK Rudolph Neumann -1898	Historic	Four individs approaching from rostrum, harpooner touching whale over spout	PHMA 2-4121; diff side than p 569 view
Chan 2013:fig 323.1	2	4	6	Rostrum	n	y	6	3	Pt Hope region, AK Hackman 1889-1905	Historic	Four individs approaching from rostrum, harpooner about to strike whale	NMAI 54337
Chan 2013:fig 323.2	3/4	5	8	Tail	n	n	-	4?	Pt Hope region, AK Hackman 1889-1905	Historic	Five individs approaching from tail, harpooner seems to have struck whale but illustration truncated	NMAI 54337
Chan 2013:fig 353	1/2	3	4	Tail	n	y	5	3	Pt Barrow, AK Frederick Ringe 1875-94	Historic	Three individs approaching from tail, harpooner positioned to strike near blowhole w/ dog harpoon head (?) (mythical)	PMAE 94-57-10/ R106

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Arch			Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage	Collection site	Age	Description	
Chan 2013:fig 373.1	2/3	5	8	Tail	y		3	5	East Cape, Chukotka Nelson 1877-80	Historic	Five individs approaching struck whale from tail, floats in air	NMNH E45333; "multiple hands"
Chan 2013:fig 373.2	2/3	4	6	Tail	n	n	-	6	East Cape, Chukotka Nelson 1877-80	Historic	Four individs following whale with 3(?) floats in water but no visible harpoon line	NMNH E45333; "multiple hands"
Chan 2013:fig 373.3	4	4	6	-	y		2	4	East Cape, Chukotka Nelson 1877-80	Historic	Four individs approaching whale fluking symmetrically, harpooner striking near tail	NMNH E45333; "multiple hands"
Chan 2013:fig 381	2	4	6	Tail	n	y	2	3	Cape Prince of Wales, AK George Gordon 1905	Late precontact	Four individs approaching from tail, harpooner about to strike	Gordon 1917:f 247
Chan 2013:539	2	4	6	Tail	n	y	3	3	Indian Pt, Chukotka Wm Hooper 1848-49	Historic	Four individs approaching from tail, harpooner preparing to strike	Am1855.1126.226
Chan 2013:543.1	2	4	6	Rostrum	n	n	0	2	Indian Pt, Chukotka Benjamin Sharp 1895	Historic	Four individs approach from rostrum, harpoon prob resting on prow	97-84-457a
Chan 2013:543.2	2/3	4	6	Tail	n	n	0	2	East Cape, Chukotka Wm Oldman 1890s-1949	Historic	Four individs approach from tail, poss slight arch & tail vis	Am1949.22.23

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Chan 2013:543.3a	2	4	6	Tail	y		2	4	East Cape, Chukotka Walter Wheeler 1922	Historic	Four individs approach from tail, harp in contact	NA9387
Chan 2013:543.3b	2	5	8	Rostrum	y		5	4	East Cape, Chukotka Walter Wheeler 1922	Historic	Five individs approach same whale from tail, harp leaning steeply into strike across blowhole	NA9387
Chan 2013:543.4	2	4	6	Tail	n	n	-	6	East Cape, Chukotka Walter Wheeler 1922	Historic	Four individs following from tail w/ prob two floats in water	NA9387
Chan 2013:543.5	2	5	8	Tail	y		3	4	East Cape, Chukotka Walter Wheeler 1922	Historic	Five individs approach from tail, harpooner touching whale	NA9387
Chan 2013:543.6	2	5	8	Tail?	n	y	2	3	East Cape, Chukotka Walter Wheeler 1922	Historic	Five individs prob approach from tail, harpooner preparing to strike	NA9387
Chan 2013:544a	2	6	10	Tail	y		5	4	East Cape, Chukotka 19th c	Historic	Six individs approach from tail, striking near blow & crossing other boat's harpoon	Am1970.06.1

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Chan 2013:544b	2	6	10	Rostrum	y		4	4	East Cape, Chukotka 19th c	Historic	Six individs approach from rostr, striking mid body & crossing other boat's harpoon	Am1970.06.1
Chan 2013:546.4a	2	4	6	Rostrum	n	y	6	3	East Cape, Chukotka Wm Oldman 1890s-1949	Historic	Four individs approaching from rostrum, almost striking anterior of spout	Am1949.22.22
Chan 2013:546.4b	2	4	6	Tail	y		1	4	East Cape, Chukotka Wm Oldman 1890s-1949	Historic	Four individs approaching from tail, harpooner leaning into strike near tail	Am1949.22.22
Chan 2013:547.1a	2/3	5	8	Tail	n	y	3	3	Cape Prince of Wales, AK Pitt -1874	Historic	Five individs approach from tail, faint harpoon; L of two boats	1884.140.488
Chan 2013:547.1b	2/3	4	6	Rostrum	n	n	-	-	Cape Prince of Wales, AK Pitt -1874	Historic	Four individs approach from rostrum, harpoon not legible; R of two boats	1884.140.488
Chan 2013:547.2	2	4	6	Tail	y		2	4	Cape Prince of Wales, AK Wm Oldman	Historic	Four crew approach from tail, harpoon in contact w/ whale	Am1949.22.26
Chan 2013:548.1a	2/3	5	8	Tail	y		2	4	Cape Prince of Wales, AK Nelson 1877-80	Historic	Five individs approaching from tail, harp leaning into strike near tail; second crew of prob 5(8) poised to strike rostrum	E43360

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Arch		Catalogue information	
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage	Collection site	Age		Description
Chan 2013:548.1b	2/3	5	8	Rostrum	n	n	0	2	Cape Prince of Wales, AK Nelson 1877-80	Historic	Five individs approaching from rostrum, harpoon projecting horizontally toward whale but not raised	E43360
Chan 2013:548.2	2/3	6	10	Tail	n	n	0	2	Cape Prince of Wales, AK Nelson 1877-81	Historic	Six individs approaching from tail, whale arched prob starting dive	E64153
Chan 2013:549	2/3	4	6	Tail	n	y	2	3	Cape Prince of Wales, AK Edward Belcher 1826-27	Historic	Four crew approaching from tail, harpooner about to strike	Am8210
Chan 2013:550.1a	4	4	6	Tail	n	y	1	3	Cape Prince of Wales, AK Neumann 1910-20 prehist	Early precontact	Four paddlers approach diving whale from tail with harpoon angled toward tail while other crew strikes	II-A-13; archaeological
Chan 2013:550.1b	4	8	14	Rostrum	y		2	4	Cape Prince of Wales, AK Neumann 1910-20 prehist	Early precontact	Unusually lg crew incl harp, 6(12) paddlers & helmsman; harpooner striking fluking whale just below waterline	II-A-13; archaeological
Chan 2013:550.2	2	5	8	Tail	n		0	2	Cape Prince of Wales, AK Neumann 1910-20 prehist	Early precontact	Five paddlers approach from tail, harp seems to be resting on prow	II-A-13; archaeological

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Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Arch			Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage	Collection site	Age	Description	
Chan 2013:550.3	-	4	6	Tail?	y	-	-	5	Cape Prince of Wales, AK Pitt Rivers, -1874	Historic	Four paddlers approach whale with line attached & float in air; whale trunc so surfacing stage illegible	PRM 1884.68.22
Chan 2013:551	2/3	4	6	Rostrum	n	y	5	3	Cape Prince of Wales, AK Wm Hooper 1848-49	Historic	Four paddlers approach from rostrum, harpoon about to strike close to blowhole	Am1855.1126.224
Chan 2013:552.1a	5	5	8	-	n	n	-	7	Cape Prince of Wales, AK Wm Simpson 1875	Historic	One of two boats poss towing whale by tail	Am9367; migrating fowl
Chan 2013:552.1b	-	4	6	-	n	n	-	-	Cape Prince of Wales, AK Wm Simpson 1875	Historic	Two of two boats poss towing whale by tail	Am9367; migrating fowl
Chan 2013:552.2a	2/3	4	6	Tail	n	n	0	2	Pt Hope, AK Beechey 1826	Historic	Four paddlers approach from tail, harpoon not raised	1886.1.696; unfinished
Chan 2013:552.2b	2/3	3	4	Rost	n	n	0	2	Pt Hope, AK Beechey 1826	Historic	Three paddlers approach from rostrum, harpoon not raised	1886.1.696; unfinished

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Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Chan 2013:553.1	2	4	6	Tail	n	y	4	3	Pt Hope, AK Sheld Jackson -1915	Historic	Prob four paddlers, harp angled toward whale shown in full underwater X-ray view showing flippers (poss depiction of extra paddles beneath boat)	SJ-II-K-106
Chan 2013:553.2	2	4	6	Tail	n	n	0	2	Pt Hope, AK Alanson Skinner -1915	Historic	Four paddlers approaching from tail, harp resting on prow; underwater X-ray view of whale showing flippers (poss extra paddles suggested)	60.1/8339
Chan 2013:553.3	2	4	6	Tail	y		2	4	Pt Hope, AK Miner Bruce 1892-99	Historic	Four paddlers approach from tail, harpoon in contact; poss depiction of two extra paddles beneath boat	60/1731
Chan 2013:554.1	2	7	12	Tail	n	n	0	2	Pt Hope, AK Sheldon Jackson 1891	Historic	Seven paddlers approach from tail, whale shown in plan	SJ-II-K-192
Chan 2013:554.2a	-	4	6	Tail	y		3	5	Pt Hope, AK Keith & Alice Fuller 1964-80	Historic	Four paddlers pursue whale trailing pair of floats shown in plan	II-A-6466

(Continued)

Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Arch		Catalogue information	
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage	Collection site	Age		Description
Chan 2013:554.2b	-	3	4	Rostrum	y		7	-	Pt Hope, AK Keith&Alice Fuller 1964-80	Historic	Three paddlers appr from rostrum; line attached but no floats visible	II-A-6466
Chan 2013:555	2/3	3	4	Tail	n	y	2	3	Little Diomede Island, AK Nelson 1877-80	Historic	Three paddlers approach from tail, fluke & flipper visible, harp poised to strike	E43931; migrating fowl
Chan 2013:556.1	2/3	4	6	Rostrum	n	n	0	2	Little Diomede Island, AK Nelson 1877-81	Historic	Four paddlers, harpoon perhaps pointed at whale but prob resting on prow	E63622
Chan 2013:556.2	2	3	4	Tail	y		3	4	Little Diomede Island, AK Harold McCracken c 1910	Historic	Three paddlers approach from tail, harpoon touching whale, perhaps preceding b	UA74-067-0011A
Chan 2013:556.3	2	3	4	Tail	y		3	5	Little Diomede Island, AK Harold McCracken c 1910	Historic	Three paddlers approach from tail, two floats in air, perhaps following a	UA74-067-0011A
Chan 2013:557.1	2/3	4	6	Tail	y		3	6	Little Diomede Island, AK Nelson 1877-81	Historic	Four paddlers approach from tail, floats in water but line in air	E48518
Chan 2013:557.2	2	4	6	Tail	n	n	0	1	Little Diomede Island, AK Wm Fitzhugh - 1936	Historic	Four paddlers approach from tail, no harp visible	193412

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Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information	
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age			
Chan 2013:557.3	2	4	6	Tail	y			2	6	Little Diomedes Island, AK Wm Fitzhugh - 1936	Historic	Four paddlers approach from tail, two floats in water; somewhat confused graphic, w/ additional boat and harpooner floating above	193412
Chan 2013:562.1	2?	4	6	Tail	y			2	4	Unalakleet, AK Nelson 1877-78	Historic	Four paddlers approach from tail, harpoon in contact, whale in plan view but prob surf swim	E33192
Chan 2013:562.2	2/3	5	8	Tail	y			3	5	Unalakleet, AK G&H Vaux -1987	Historic	Five paddlers approach from tail, two floats in air, but full side view w/ no waterline	86-35-364a
Chan 2013:566	2	-	-	Rostrum	y			5	4	Cape Darby, AK Charles Hall 1894-1901	Historic	Harpooner striking whale near blowhole; prob full boatload but scene obscured by cordage	2-1562
Chan 2013:569.1	2	4	6	Tail	n	n		0	2	Cape Darby, AK Turner 1874-77	Historic	Four paddlers, harpoon resting on prow, whale's tail visible	E129222
Chan 2013:569.2	3	3	4	Tail	n	y		3	3	Cape Darby, AK Turner 1874-77	Historic	Three paddlers, line trailing from raised harpoon, harpoon directed at whale	E129222
Chan 2013:569.3	4	4	6	-	n	y		2	4	Cape Darby, AK Turner 1874-77	Historic	Four paddlers, whale fluking symmetrically, harpoon at air-water-whale junction	E129222

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Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Chan 2013:569.4	1 br	4	6	Tail	y		4	4	Cape Darby, AK Turner 1874-77	Historic	Four paddlers, harpoon in contact with obliquely breaching whale	E129222
Chan 2013:569.5	2	-	-	-	y		3	6	Cape Darby, AK Turner 1874-77	Historic	Two floats in water, two masted boats following but relation to whale unclear	E129222
Chan 2013:569.6	2/3	4	6	Tail	y		3	4	Cape Darby, AK Rudolph Neumann -1898	Historic	Four paddlers, harpoon in contact, poss starting to dive	2-4121; diff side than fig 286 view
Chan 2013:569.7	1 br	4	6	Tail	y		3	4	Cape Darby, AK Rudolph Neumann -1898	Historic	Four paddlers, harp in contact, whale half visible in oblique breach	2-4121; diff side than fig 286 view
Chan 2013:570	2	7	12	Tail	y		2	4	Cape Darby, AK George Rosengarten 1945-80	Historic	Four paddlers, harpoon in contact	IV-E-1161
Chan 2013:571	4	5	8	Tail	y		2	5	Sledge Is, Nelson 1877-81	Historic	Five paddlers, prob harp or harp line attached but no floats visible	E176191
Chan 2013:572.1	2/3	4	6	Tail	n	n	0	3	Sledge Is, Frank Wood -1916	Historic	Four paddlers, harpooner standing holding harpoon	52955
Chan 2013:572.2	2	4	6	Tail	y		0	2	Sledge Is, Nelson 1877-80	Historic	Four paddlers, harp almost in contact with whale but appears resting; not easily legible	E45020

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Table 3.1 (Continued)

<i>Source</i>	<i>Surfacing Stage</i>	<i>Depicted Crew</i>	<i>Inferred Crew</i>	<i>Approach Direction</i>	<i>Strike Point</i>	<i>Inferred Strike pt</i>	<i>Strike Zone</i>	<i>Harpooning Stage</i>	<i>Collection site</i>	<i>Arch Age</i>	<i>Description</i>	<i>Catalogue information</i>
Chan 2013:575	2	6	10	Tail	y		2	4	Cape Nome, AK Nelson 1877-81	Historic	Apparently six paddlers, harp touching whale	E48527
Chan 2013:576	2	4	6	Tail	n	n	0	2	Cape Nome, AK Nelson 1877-80	Historic	Four paddlers, harp resting on prow	E45530
Chan 2013:578	2	3	4	Tail	n	n	1	3	Cape Nome, AK Nelson 1877-81	Historic	Three (or possibly 4?) paddlers, harpooner poised for strike at tail/water junction but somewhat ambiguous	E176172
Chan 2013:579	2	4	6	Tail	n	n	0	1	Cape Nome, AK Nelson 1877-80	Historic	Four paddlers pursue whale, no harp visible	E44213
Chan 2013:585.1	2	4	6	Tail	y		3	4	Hotham Inlet, AK Miner Bruce 1892-99	Historic	Four paddlers, harpoon in contact	60/2122
Chan 2013:585.2	5	4	6	-	n	n	-	7	Hotham Inlet, AK Miner Bruce 1892-99	Historic	One of two boats with four paddlers each apparently towing upside down whale by line attached at rostrum, fin visible	60/2122
Chan 2013:585.2 2nd crew	"	4	6	"	"	"	"	"	"	Historic	Two of two boats with four paddlers each apparently towing upside down whale by line attached at rostrum, fin visible	"

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Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Chan 2013:585.3	2	4	6	Rostrum	y		6	4	Hotham Inlet, AK John Borden 1927	Historic	Four paddlers, harp in contact w whale anterior of blowhole	177756
Chan 2013:585.4	2	4	6	Rostrum	n	n	0	2	Hotham Inlet, AK John Borden 1927	Historic	Three or four paddlers, obscured by cord, approaching whale w harp resting on prow	177756
Chan 2013:586	2	4	6	Tail	y		2	4	Hotham Inlet, AK John McLean 1882	Historic	Four paddlers, harp in contact w surf swimming whale, poss float in water behind boat	E67904
Chan 2013:594	2	-	-	Tail	n	n	0	2	Pt Barrow, AK Nelson 1877-81	Historic	Umiak crew unfinished, approaching surf swim whale from tail	E48521
Chan 2013:596.1	2	5	8	Rostrum	n	n	0	1	Pt Barrow, AK	Historic	Five paddlers approaching surf swim whale from rostrum, no harp visible	60/6241; migrating fowl
Chan 2013:596.2	2	4	6	Rostrum	y		5	4	Pt Barrow, AK Nelson 1877-81	Historic	Four paddlers approach surf swim whale from rostrum, harp in contact w blowhole	E63802
Chan 2013:596.3	2	4	6	Tail	n	n	0	2	Pt Barrow, AK Nelson 1877-81	Historic	Four paddlers approach surf swim whale from tail, harp resting on prow	E63802

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Table 3.1 (Continued)

Source	Surfacing	Depicted	Inferred	Approach	Strike	Inferred	Strike	Harpooning	Collection site	Arch	Description	Catalogue information
	Stage	Crew	Crew	Direction	Point	Strike pt	Zone	Stage		Age		
Chan 2013:597	2	5	8	Tail	y		3	4	Pt Barrow, AK Joseph Standley -1916	Historic	Five paddlers approach surf swim whale, harp in contact	55598
Chan 2013:598.1	3	5	8	Tail	n	n	0	2	Nome, AK Herbert Coleman -1925	Historic	Five paddlers approach from tail, harp resting on prow, whale prob preparing to dive	Am1925.0508.3
Chan 2013:598.2	2	5	8	Tail	y		3	6	Nome, AK Herbert Coleman -1925	Historic	Five paddlers, two pairs of floats in water, poss harpoon projecting from whale back	Am1925.0508.3
Chan 2013:598.3	2	5	8	Rostrum	n	n	0	3	Nome, AK Victor Evans -1931	Historic	Five paddlers approach from rostrum, harp raised but horizontal, no strike	E360422
Chan 2013:599.1	2	3	4	Tail	y		2	4	Nome, AK Daniel Neuman 1910-20	Historic	Three paddlers approach from tail, harp in contact w whale; poss succeeds 2?	II-A-5
Chan 2013:599.2	2	3	4	Tail	n	n	0	3	Nome, AK Daniel Neuman 1910-20	Historic	Three paddlers approach from tail, harp raised horizontally; poss precedes 1?	II-A-5

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Table 3.1 (Continued)

<i>Source</i>	<i>Surfacing Stage</i>	<i>Depicted Crew</i>	<i>Inferred Crew</i>	<i>Approach Direction</i>	<i>Strike Point</i>	<i>Inferred Strike pt</i>	<i>Strike Zone</i>	<i>Harpooning Stage</i>	<i>Collection site</i>	<i>Arch Age</i>	<i>Description</i>	<i>Catalogue information</i>
Chan 2013:611.1	2/3	4	6	Tail	y		2	4	Cape Darby, AK Nelson 1877-81	Historic	At least four paddlers, image of stern truncated, harp appears to have struck whale	E45022; migrating fowl
Chan 2013:611.2	2/3	>2	>3	Tail	n	y	5	3	Cape Darby, AK Nelson 1877-81	Historic	Two paddlers visible but image of stern truncated, harp poised to strike near blowhole	E45022; migrating fowl
Chan 2013:641	2	5	8	Tail	y		2	4	Cape Nome/ Golovin, AK -1972	Historic	Five paddlers approach from tail, harp in contact	246479
Chan 2013:643.1	2	5	8	Rostrum	y		6	5	St. Michael, AK Turner -1887	Historic	Five paddlers, harp embedded near blowhole and slack harpoon line visible (floats about to be launched); whale truncated	E129277
Chan 2013:643.2	2	5	8	Rostrum	n	n	0	2	St. Michael?, AK Alfred Neumann -1898	Historic	Five paddlers approach from rostrum, harp resting on prow, tail visible	2-6838
Chan 2013:646	2	4	6	Tail	y		2	4	Kotzebue Sd, AK George Stoney 1883-86	Historic	Four paddlers approach from tail, harp in contact, tail visible	EL229

(Continued)

Table 3.1 (Continued)

<i>Source</i>	<i>Surfacing Stage</i>	<i>Depicted Crew</i>	<i>Inferred Crew</i>	<i>Approach Direction</i>	<i>Strike Point</i>	<i>Inferred Strike pt</i>	<i>Strike Zone</i>	<i>Harpooning Stage</i>	<i>Collection site</i>	<i>Arch Age</i>	<i>Description</i>	<i>Catalogue information</i>
Chan 2013:648	5	4	6	-	unclear	-	7	Norton Sd?, AK Victor Evans -1931	Historic	One of two boats with four paddlers@ towing dead whale by rostrum; float attached at tail and to towline near rostrum	E360410	
Chan 2013:648 2nd crew	"	4	6	"	"	"	"	"	Historic	Two of two boats with four paddlers@ towing dead whale by rostrum; float attached at tail and to towline near rostrum	"	
Chan 2013:649	5	4	6	-	unclear	-	7	Alaska, John Beck	Historic	Four paddlers towing dead whale w floats attached to line at rostrum(?) & at tail	Acc.23102-1215	

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