

NUNIVAK ISLAND, ALASKA: A HISTORY OF CONTACT AND TRADE

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Abstract: Nunivak Island is believed to be one of the last places in North America to be directly impacted by the introduction of western material culture and technology. This late impact is due to the island's relative isolation and lack of desired trade resources. Recent anthropological investigations on Nunivak have resulted in the collection of extensive ethnohistoric and oral historic information for the early contact period. This information is used to construct an outline of the speed and direction of early contact and the history of trade between the Nuniwarmit of Nunivak Island and mainland Natives and Euro-Americans during the nineteenth and twentieth centuries. An analysis of changes in Nuniwarmit material culture, as seen in five early ethnological collections (ca. 1874-1927) and recent archaeological excavations, are then compared with the outline to add additional insight into the impacts resulting from early contact between area peoples.

Key Words: Nuniwarmit, Euro-American contact, ethnological collections, Bering Sea

INTRODUCTION

Nunivak Island (Figure 1), located approximately 37 kilometers off the southwest coast of Alaska, is the only major offshore island inhabited by Central-Yup'ik speaking people, the Nuniwarmit (Van Stone 1989). The Nuniwarmit have a distinct culture and speak their own sub-dialect of Yup'ik (Lantis 1984) known locally as Cup'ig¹ (Drozda 1994) and by linguists as Cux (Hammerich 1958; Woodbury 1984). It is the most distinct dialect within the Yup'ik family and serves to highlight the isolation and uniqueness of the Nuniwarmit people. Due to the island's geographic isolation, severity of climate, and lack of desired trade resources, the island attracted little attention from early Russian explorers and Euro-Americans, allowing the Nuniwarmit to maintain their "traditional" lifestyle until the mid-twentieth century. Changes to Native lifeways, documented during the mid-nineteenth century in the neighboring Yukon-Kuskokwim Delta (Michael 1967:106-108, 117; Oswalt 1972), did not reach Nunivak until the 1920s. By 1939, Lantis (1946:161, 1960:vi) felt that Nuniwarmit culture still remained at least 50 years behind that of mainland Natives in accepting western culture. Due to the island's relative isolation, changes in Nuniwarmit lifeways and material culture prior to this period are difficult to document.

Recent anthropological investigations on Nunivak Island (Griffin 1999) resulted in the identification of numerous sources of previously unpublished ethnohistoric documents in addition to the recording of oral historic information from contemporary Nuniwarmit elders. Information gleaned from these data are used here to provide an outline of the history of early contact and trade between the Nuniwarmit and mainland Native and Euro-American peoples during the nineteenth and twentieth centuries. To provide

more substantive data to this historical outline, an analysis of early Nuniwarmit ethnological collections and material cultural remains from recent archaeological excavations are placed within this historical context, documenting the speed and range of changes that resulted from increased contact with western technology and material culture.

Five ethnological collections from Nunivak Island are known to have been acquired between the years 1874 and 1927. These include material acquired by William H. Dall (1874), Edward W. Nelson (1878-1881), George B. Gordon (1905), William Van Valin (1917), and Henry B. Collins (1927). Materials from the Dall, Nelson and Collins' collections are housed at the National Natural History Museum, Smithsonian Institution, Washington, D.C., while the Gordon and Van Valin collections are curated at the University Museum, University of Pennsylvania in Philadelphia. These collections span an important period of history for Nunivak Island that included the extermination of island caribou (1880s), increased contact with Euro-Americans and the availability of western trade goods, the establishment of a permanent island trading post (1920), the introduction of reindeer (1920), and the first island school (1923). Each of these activities had a direct affect on Nuniwarmit material culture.

In addition, the results of recent archaeological excavations at *Ellikarmiut*², a village along Nunivak's northwest coastline and the site of the island's first school, provide comparative data useful in measuring changes in local material culture. *Ellikarmiut* consists of two distinct occupation areas separated by a small stream. One

¹ The Cup'ig spelling of all Native names follows the current orthography set out in the Cup'ig dictionary (Amos, M. and H. Amos 1999).

² *Ellikarmiut* is the Cup'ig name for the general village area located at Nash Harbor. It is comprised of two parcels of land divided by a small drainage, each locally referred to by a distinct name: *Qimugglugpagmiut* (translation-"village of residents of *Qimugglugpag*, big bad dog"), located to the west of the drainage, and *Ellikarmiut* (translation-"village residents of *Ellikar*, whetstone, sharpening stone"), located to the east (Drozda 1994). In this paper, unless otherwise specified, *Ellikarmiut* is used to refer to the entire village site area.



area, occupied for about 500 years, was abandoned in 1900 following an epidemic that killed many island residents. The surviving village population moved to the previously unoccupied parcel until the village's eventual abandonment by 1959. Differences in the type and frequency of historic artifacts recovered from excavations in both site parcels provide data useful in assessing the impact of contact and trade. The following discussion provides a summary of the history of contact and trade with the Nuniwarmiut during the nineteenth and early twentieth century, thus establishing a foundation for understanding the acquisition of each of the Nunivak collections discussed later.

HISTORY OF TRADE AND CONTACT

Early trading contacts

The degree of contact between the Nuniwarmiut and mainland Native peoples, prior to the "discovery" of Nunivak Island by the Russians in 1821, remains unclear. Hostilities between Yup'ik groups throughout the Yukon-Kuskokwim Delta (i.e. Bow and Arrow Wars) are thought to have been ongoing since at least the seventeenth century with the Nuniwarmiut often being named as a major player in the conflicts (Amos, W. and N. Amos 1989; Curtis 1930:54-55; Fienup-Riordan 1988:50-54; Kolerok and Kolerok 1991a; Lantis 1946:168-169). Native trade networks linking Nunivak to the mainland have probably been in place since the island was first inhabited (> 2600 years ago), although trade until the late 1800s is thought to have largely been limited to periodic contact with relatives and friends (Fienup-Riordan 1983:114; Lantis 1946:169-170).

Contact between the Nuniwarmiut and their mainland relatives (e.g., at Nelson Island and Hooper Bay) would have been limited to periodic trips between the months of May and October when Etolin Strait, the 37 kilometer wide body of water that separates Nunivak from the mainland, was ice free. This period also represented the ideal time for the arrival of mainland raiding parties. Nuniwarmiut oral history is rich with stories of Yukon warriors attacking Nunivak villages and reciprocal mainland raids (Kolerok and Kolerok 1991a, 1991b; Noatak 1986; Olrun 1991). Contact with mainland relatives is thought to have been infrequent (Lantis 1946:168-170). The end of the Bow and Arrow Wars is commonly thought to have resulted from threats of direct suppression by the Russians (Lantis 1946:173; Nelson 1877-1881:6) or new trading opportunities and the effects of population decimation due to introduced diseases (Burch 1988:232; Sonne 1980:29-30; Wolfe 1979:28; 49). Prior to the 1880s, Lantis (1946:170) believes that mainlanders rarely came to Nunivak and that most trade would have passed through Nuniwarmiut traders that periodically visited the mainland. While historic accounts include stories of the Nuniwarmiut's ill treatment of people whose kayaks inadvertently washed up on Nunivak's shoreline (Fienup-Riordan 1988:33, 378),

and the Nuniwarmiut's fear of reprisals from past raids against mainland peoples (Fienup-Riordan 1988; Lantis 1960:5), trade with the mainland must have continued throughout the nineteenth century, albeit in limited fashion. One 1897 account states that the killing of strangers on Nunivak is said to have only recently stopped but distrust of strangers remained strong (Fienup-Riordan 1988:378).

Long before the Russian period in Northwest Alaska, an extensive aboriginal trade system was in operation linking Siberia with Alaskan Eskimo and Indian populations (Foote 1965:102-105). Goods from the interior (e.g., caribou and land mammal skins) were transported to the coast where they could be exchanged for coastal oriented supplies (e.g., seal oil, walrus skin rope, bird and sealskins) and available exotic western goods. When the Russians first established a trading post at St. Michael in 1833, Natives were found to already possess metal pots, knives, lances, iron, and chewing tobacco (Michael 1967:100). It has been estimated that by the early 19th century, it took approximately two years for trade goods from St. Petersburg to reach the Yukon River area (Foote 1965:102-114). Some of these goods undoubtedly reached Nunivak Island through established trade networks.

The Russians first "discovered" Nunivak Island in 1821 (i.e. ship *Otkrytie*, July 11, 1821). Commander Vasilev went ashore along Nunivak's northwest coast and was told by the Nuniwarmiut that they had never seen Europeans and had seen other islanders (mainland Natives?) for the first time only the year before (Russian American Company 1820-1822:213; Van Stone 1973:15, 61; 1989:2). In 1822, when Khromchenko and Etolin visited several villages along Nunivak's south and east shoreline, the Nuniwarmiut were found to have already obtained glass beads, cloth, iron and copper bracelets, and an iron adze, through trade with the mainland Kuskowagamiut (Van Stone 1973:60). In one village, Khromchenko encountered several Native men and women from the mainland which suggests that trade relations between the island's east coast and mainland Natives had been in place long before Vasilev's earlier report (i.e. the previous year). With the later establishment of Russian trading posts in the region (i.e. Kuskokwim River - 1832, 1841; St Michael - 1833), access to introduced trade goods would have increased.

In addition to indirect access to Euro-American goods through Native trade networks, direct contact between the Nuniwarmiut and non-Natives is known to have periodically occurred throughout the nineteenth century through contact with whaling and trading vessels or ships that failed to navigate the island's largely uncharted waters (i.e. six shipwrecks are known to have occurred along Nunivak's reefs or shoals between 1863-1909) (Seattle Chamber of Commerce 1916; Tornfelt and Burwell 1992:99-100). Trading contacts throughout this period were generally of short duration, with limited contact with the island's population. Shipwrecks had the potential of resulting in prolonged contact between stranded crew members and island Natives (e.g., brig *Timandra* 1879-



1880), in addition to introducing a wealth of western items extracted from the wrecked vessels (e.g., metal door hinges, milled wood, dinnerware) (see Griffin 1999:186-193; U.S. BIA ANCSA 1995, I:12-13).

Changes resulting from early contacts with Euro-Americans are thought to have been slow to take effect (Lantis 1946, 1984:210-212; Oswalt 1963:153-160). Significant impacts to mainland traditional Eskimo beliefs, ceremonial feasts, music, or food preferences are not believed to have occurred until after the 1880s-1890s (Foote 1964:19; Oswalt 1990:66-68, 86-88, 90-91; Spencer 1959:358-382), and on Nunivak not until after 1940 (Lantis 1972:4, 1984:215). The language barrier between Natives and Euro-Americans is thought to have earlier precluded even basic communication, let alone the exchange of subtle and abstract thoughts. By 1880, however, contact between Euro-Americans and Natives throughout Alaska had drastically increased (due to the gold rush, increased maritime trade, and tourism).³ It is during this period that early American ethnographers began to visit the Yukon-Kuskokwim Delta and Nunivak Island recording the lifeways of southwest Alaskan Natives prior to the changes that were about to seriously impact their way of life. For Nunivak, the important early ethnographer during this period was William H. Dall (ca.1874) with Edward W. Nelson (ca.1878-1881) recording additional information he acquired from mainland traders.

Post 1880 contact

While the availability of western goods increased throughout the Yukon-Kuskokwim area due to the establishment of commercial

³ It was at this time that missionaries began to establish missions in Native villages, whalers established long-term mainland camps in northern Alaska, and gold-seekers flocked to the Seward Peninsula and Norton Sound. Not until early missionaries learned the language of the people they were living among were they able to really influence Native lifeways (Oswalt 1963:37-38).

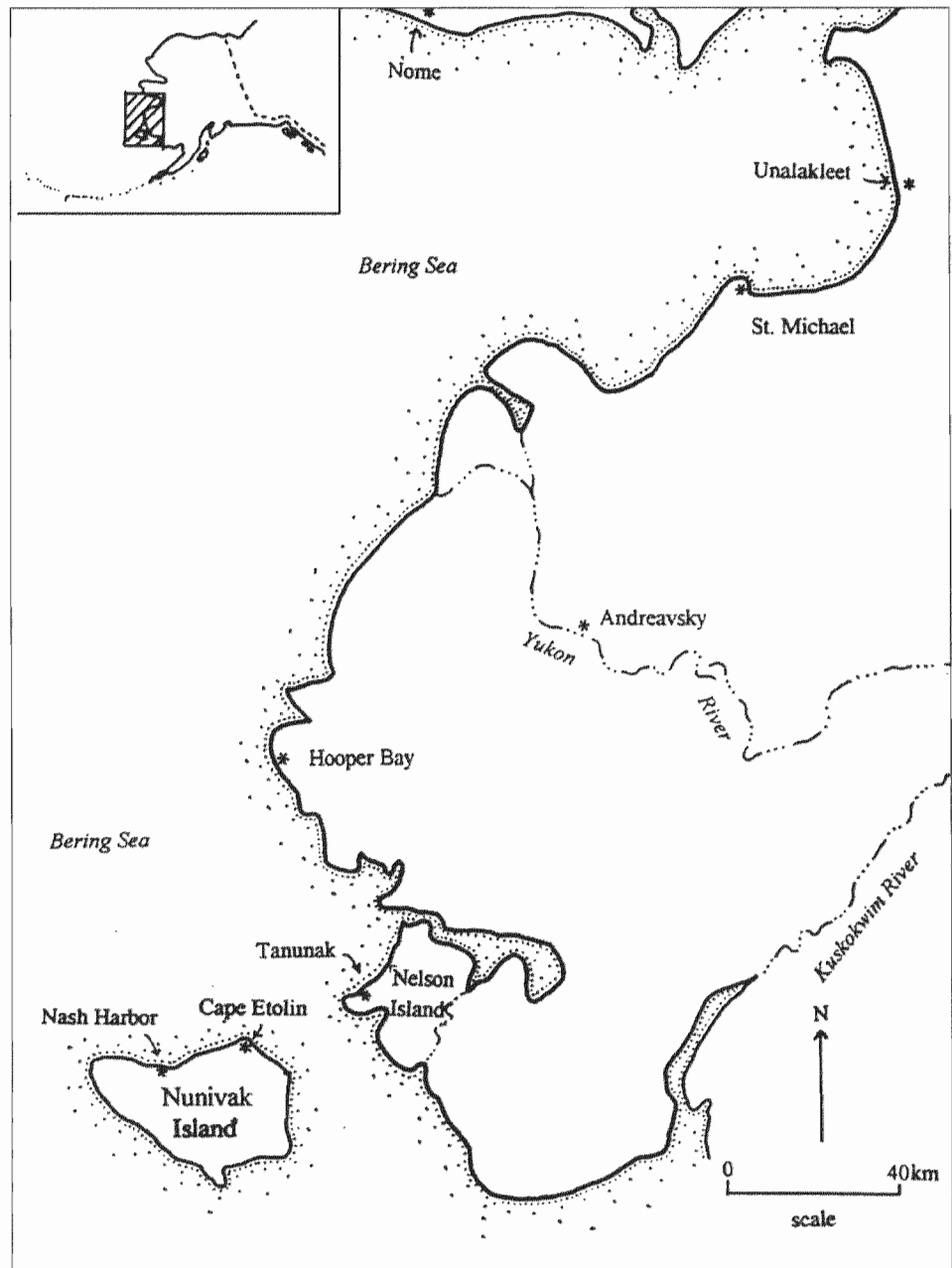


Figure 1: Map of Yukon-Kuskokwim Delta showing sites discussed.

trading posts, the Nuniwarmiut maintained their traditional mainland trading contacts and spent considerable time preparing items for trade that were desired by southwest Alaskan Native populations. Such desired items included seal oil, seal/walrus skin rope, and bird skins (Levering 1905; Smith, P. 1987). An example of a trading transaction during this period was recorded on Nunivak in 1891 by U.S. Census enumerator Ivan Petroff. Petroff was fortunate to be in the Nuniwarmiut village of 'Koot'⁴ (i.e. Nunivak's reported commercial center) when a Native trader from Nelson

⁴ In this case, "Koot" correlates with the village of Pengurpamiut, on Cape Etolin. Previous research has also correlated "Koot" with the village of Mekoryuk and other locations (see Coonrad 1957; Pratt 1997:25).

Island arrived (probably associated with the ACC trading company at St. Michael). Petroff recorded that the trader's cargo consisted of "10 bales of leaf tobacco of 50 pounds each, 8 sacks of flour of 50 pounds each, 3 pieces of faded calico print (of about 48 yards each), 100 half-pound cans of powder, 200 pounds of bar lead, 1 tin of matches, and 1 small box containing a few cheap knives, needles, thread, thimbles, and fine-toothed combs"⁵ (U.S. Census Office 1893:114-115). In exchange for the above goods the trader was given "280 tanned maklak (seal) hides, a dozen fox and land-otter skins (mink?), 39 pairs of walrus tusks (from 5 to 7 pounds to each tusk), about 100 gallons of oil in bladders, and several thousand fathoms of seal and walrus line" (U.S. Census Office 1893:115). This list provides a good index of the type of items generally available through established trade networks at that time. By 1900, Nuniwarmiut traders are known to have made trips to the St. Michael and Bethel trading posts with yearly regularity (Noatak 1989; Noatak and Kolerok 1987; Smith, P. 1988; Williams and Williams 1995), stopping off en route to visit relatives on Nelson Island. Gordon (1905a) found three Nunivak families spending considerable time at St. Michael in 1905 and Moravian records (Levering 1905) report that Nunivak families often could be seen trading along the Kuskokwim River.

The higher asking price of items purchased on Nunivak, compared with those available on the mainland, was well known to Nuniwarmiut traders, and provided an encouragement to periodically visit the mainland (Ivanoff, M. 1933). In turn, mainland traders realized the potential of the Nunivak market and periodically transported goods to the island to stock local traders' supply caches (Lantis 1960:5). Prior to the arrival of the first permanent trading facility on the island (i.e. Lomen Commercial Company, ca.1920), numerous supply "caches" were established on Nunivak (Figure 2) that were maintained by local traders from supplies purchased directly from mainland traders.⁶ Caches were often restocked only once a year, so intra-island trading patterns would have been the norm throughout the majority of the year for exchanging local goods and acquiring western items (see Griffin 1999:194-197; Pratt 1990:76-78). Nuniwarmiut elder Peter Smith (1986a:25) summarized the intra-island exchange system in this way:

This summer he needs guts for raincoat and he got a white fox, what they saved, last winter, what he got. And he come

to me and ask me "Can I exchange for that, guts for my raincoat, with my white fox?" And I said yes.... And when I got it, white fox, when the white men came by boat, sail boat, I take along the white fox down to the ship, and I came to the pilot and I say, "You have tobacco? Yeah, I got a white fox. Can you exchange my white fox with tobacco?" And he says "Yes." And I gave my white fox to captain and he give me tobacco, exchange for tobacco. Boy! I got lotsa tobacco. And then when I take it home everybody that needs it call me. Peter Smith, he got tobacco from the ship. And he says one leaf, one tobacco, he says one white fox.

Given an active trade network and knowledge of desired resources, the increase in availability of western trade goods and trading opportunities would have provided an economic incentive for Natives to construct items intended for resale. According to Nuniwarmiut elders, however, items normally purchased during the early twentieth century by Nuniwarmiut traders included traditional items such as smoked fish, squirrel skins, punk (bracket fungus), paint pigments, and alder bark for dyeing skins (Williams and Williams 1995), with western items limited to rifle primers, lead and gunpowder, tobacco and snuff, sugar, flour, tea, cloth, and glass trade beads. Items offered in exchange for these goods included walrus and seal skin rope, walrus flippers, dried seal meat, dried cod, seal oil, and the skins of seal, sea lion, walrus, fox, mink, and birds. Craft production for tourists is said to have been slow to develop on Nunivak compared to elsewhere in Alaska with no real effort spent prior to the arrival of the Lomen Commercial Company in 1920 (Curtis 1930:38; Lantis 1946:169-170). Examples of Nuniwarmiut ethnological collections from this period include that of George B. Gordon (ca.1905) and William Van Valin (ca.1917).

Establishment of a permanent island trading post

The first permanent trading post was established on Nunivak Island in 1920 by the Lomen Commercial Company of Nome, Alaska, who introduced a private herd of reindeer to the island at the same time. Nunivak was seen as an ideal pasturage for reindeer (Lomen and Lomen n.d.:14) in spite of the U.S. Governments rejection of the idea to create a reindeer reserve for the Natives three years before (Schofield 1931). The private herd's introduction was done without consideration of the Nuniwarmiut (see Griffin 1999:238-243; Pratt 1994:340-342). Aside from reindeer husbandry, the Lomens understood that in order to prosper on the island they had to develop a side industry — trade. To assist in this they sent Paul Ivanoff, a Native of part Russian, part Iñupiaq descent from Unalakleet, to manage their reindeer herd and operate a year-round trading station. Paul and his wife May, established their home at Cape Etolin where he built the first island trading post buying local ivory and furs from the Nuniwarmiut in exchange for basic European

⁵ In contrast to the recorded tally, in an article by Petroff for a San Francisco weekly (Petroff 1892:229), he describes the yearly supply of goods brought by the Tununak trader as including: "3 bales of leaf-tobacco of fifty pounds each, two half-sacks of damaged flour, four pieces of cotton prints and one of ticking, a soapbox full of matches, needles and thread, twenty pounds of powder, perhaps fifteen of bar lead, and about three thousand percussion caps. In addition there was a little package of tea and a few pounds of pilot bread and sugar for use of the tuniachpuk (village trader)." See Pratt (1997) for details regarding the historical accuracy of Petroff's 1891 census enumeration.

⁶ An exception to this would be a store established at *Tacirarmiut*, along the northwest coast of Nunivak, in 1879 by two shipwrecked sailors from the brig *Timandra*. Items offered for sale were derived solely from salvage from the wreck. The store stayed in operation until the following spring when the sailors managed to build a boat and leave the island (Griffin 1999:200; Kolerok 1995; U.S. BIA ANCSA 1995 (3):19, 22-23).



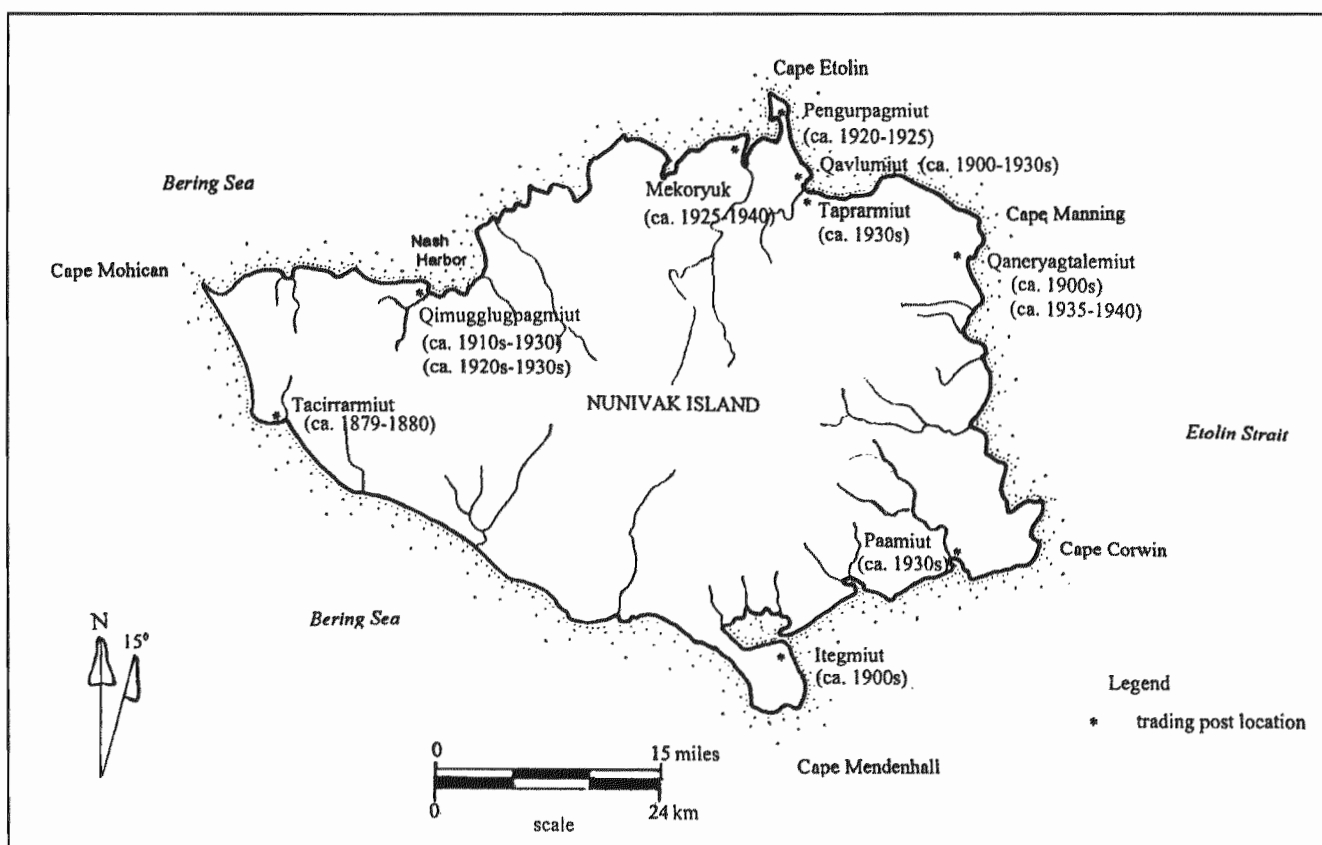


Figure 2: Historic trading post/caches on Nunivak Island.

staples. The Lomen store initially offered islanders American-style clothes and fabric; animal traps; firearms including cartridges, powder and shot; and foodstuffs including flour, butter, tobacco, tea, and sugar (Kolerok 1995). To encourage the success of their trading venture and to provide items to encourage Nuniwarmiut success in bartering, the Lomens helped establish a commercial basketry industry on the island and imported walrus tusks from the north for local Natives to carve. The resultant carvings, cribbage boards, baskets, and trinkets (e.g., ivory cigarette holders, billikens, chains, fish-shaped toothpicks) found favor with the booming Alaskan tourist market and were purchased by the Lomens for resale. The Lomen Commercial Company instituted a barter method of exchange on the island where the Nuniwarmiut could exchange their crafts and furs for reindeer meat and western supplies (Lomen 1931:41). Due to the Lomen trading monopoly, however, the exchange rate was often three to ten times higher than that available on the mainland (Trowbridge 1932).

Paul Ivanoff's personal journals reveal details on local trade transactions during the 1920s (Ivanoff, P. n.d.) (refer to Lantis [1946:170] for trade exchange value in 1939). While Ivanoff states that exchange rates should always be considered only a guideline and subject to change given the current situation of both parties, Table 1 provides Ivanoff's general rate of exchange. A review of this exchange rate reveals several interesting details. Green glass

beads⁷ were highly valued by the Nuniwarmiut to be worth an entire bearded sealskin. Such a rate suggests that sealskins were quite easily obtained or that bead availability was extremely limited. Most items offered to the Lomens in trade were local products such as furs and oil, with the requested western products limited to glass beads, tobacco, cloth, tea, and flour. Sealskins and oil make up the most common exchange items and are included in most exchange rates. This emphasis highlights the importance of seals to the Nuniwarmiut and the demand for seal products in mainland markets.

In spite of the increased availability of western trade items and the dominant role of furs (both sea and land mammal) in the local exchange system, trapping on Nunivak failed to ever seriously threaten island fox populations. Local trappers restricted their trap lines to two or three traps. "When they had secured a sufficient number of foxes and mink with which to purchase what they need they do not feel inclined to trap more" (Miller 1929:1). This practice was in stark contrast to that practiced on the mainland where hundreds of traps were maintained on lines 60 to 100 miles in length (Miller 1929:1).

⁷ Preference for particular colored trade beads are known to have varied from village to village depending on local fashion. Zagoskin (Zieleny n.d.:67) records that red beads were the rage along the Yukon in 1839, with preference switching to black beads the following year.



Trade Item	Asking Price
4 saltwater green beads (for nose)	1 leftak (bearded seal)
1 ukruk (adult bearded seal)	2 leftak, 4 white foxes, 2 red foxes, 1 bundle parka squirrel, 1 poke seal oil, or 1 set bird parka skins
1 red fox skin	1 leftak or 1/2-l.bs hank tobacco
1 white fox skin	2-yards cloth denim
1 mink skin	2 sealskins
1 seal	1 white fox or 1/20lb. leaf tobacco
1 leftak	2 seals, 5-cups tea, 50-lbs. flour and 1-cup tea, 1 fawn skin, or 1 young baby seal
1 large wooden box (40" x 26")	2 pokes of seal oil, 2 ukruk or 4 leftak
1 small wooden box	2 leftak or 1 ukruk
1 spotted stone labret from mainland	1 ukruk
1 smaller size stone for labret	1 leftak

Table 1: Exchange rate for Nunivak products, ca. 1920s

After the establishment of the Lomen Commercial Company store, the Lomens began purchasing many types of local trade items for resale (i.e. seal skins, seal oil, bird skins), thus attempting to control the existing local market. This undoubtedly resulted in a reduction in mainland trading ventures by Nuniwarmiut traders (Lantis 1946:170), however, some island traders continued to visit St. Michael into the 1930s and the Kuskokwim area into the 1940s. The trading monopoly held by the Lomen Commercial Company maintained prices at such a high rate that trading off island still proved profitable to an enterprising island trader. The Henry B. Collins ethnological collection (ca. 1927) provides a range of items available on Nunivak Island during the 1920s.

After 1920, craft production for later resale became popular among many of the Nuniwarmiut thus providing a source of income to purchase nonessential items. A dependence on western trade goods or technology, however, does not appear to have developed on Nunivak until after the arrival of the island's first missionary in 1937. This lack of dependence is in spite of the supply of items offered by the Lomen Commercial Company store. A 1937 inventory of merchandise available at the Cape Etolin trading post (Lomen Commercial Company 1937) includes: western food items (e.g., canned fruit, coffee, tea, oats, sandwich spreads), metal tools (e.g., knives, chisels, wrenches, files, and a grinder), clothes (e.g., buttons, gloves, flannel, neckties, union suits, Mackinaws), soap, china, enamelware, ammunition, and entertainment items (e.g., harmonica, phonograph). It is unclear, however, how much of this material was purchased by the Nuniwarmiut versus how much was

intended for the island's reindeer operations and the trader's family. Contemporary Native elders recall only basic foodstuffs, cloth, and glass beads being available outside of Mekoryuk village (Lucier 1997; Smith, P. 1987; Williams and Williams 1995).

The degree of influence Paul Ivanoff had on changing Nuniwarmiut lifeways has been little studied. Paul was the son of a lay missionary, had attended Chemawa Indian School in Oregon, been a former teacher with the Bureau of Education, and was incredibly handy with his hands (Bunch 1998). Many outsiders considered Paul the spokesman for the Nuniwarmiut (Curtis 1927:29; Lomen 1929:2). He was influential in the arrival of the island's first missionary (ca. 1937), and the movement of the island's school to

Mekoryuk (ca. 1940). While Paul was said to have made no serious effort to change the Nuniwarmiut's traditional lifestyle (Bunch 1998), he encouraged the development of an island craft industry (Curtis 1930; Lomen 1954:179; Lantis 1950:70; Ray 1961:121-122), brought with him many modern conveniences (see Figure 3) and helped to introduce a wage based economy with periodic employment opportunities.

The island's first missionary, Jacob Kenick, from the Swedish Evangelical Covenant Church, arrived on Nunivak in 1937. His stated mission was to bring the "heathen" out of barbarism and into the light of civilization. The "old ways" were said to be no longer acceptable and villagers were asked to embrace western technology (Burg 1941). While Lantis (1946:161) stated that in 1939 the Nuniwarmiut were 50 years behind mainland Natives in accepting western technology, by 1960, in most aspects of their culture, they had caught up with mainland villages long under outside influence (Lantis 1960:vi).

NUNIWARMIUT ETHNOLOGICAL COLLECTIONS

In association with a Pre-doctoral Fellowship grant by the Smithsonian Institution's Arctic Studies Program, the author examined Nuniwarmiut cultural material within five early ethnological collections (totaling approximately 2,000 objects). All cultural objects were measured, described, and photographed in order to determine the number and type of objects within each



collection (e.g., hunting and fishing implements, items of personal adornment), and the degree of incorporation of western material culture (e.g., inclusion of glass trade beads or copper). Original field notes and accession records for each collection were also examined to provide a context for their selection and purchase. The following discussion provides a review of the collected material culture in light of the degree of contact and trade between the Nuniwarmiut and Euro-American/mainland peoples during the early contact period.

Theoretical limitations in the use of ethnological material

All societies in contact with each other eventually exchange materials, items, and ideas. Foreign materials are substituted for increased efficiency or to replace hard to obtain Native objects (Graburn 1976:10; Quimby and Spoehr 1951:146-147). New forms of objects are introduced for resale. Early ethnological collections offer one source of data to help document the speed and degree of acceptance of foreign objects and ideas. The difficulty in attempting to measure these changes, however, is compounded by several problems inherent in the collections themselves. Such problems include the following: 1) the appearance of an object within an ethnological collection does not necessarily provide the date of its introduction, for it could have predated the collection period by many years; 2) the difficulty in determining how representative ethnological collections are when compared to the total range of available items in use at the time the collection was made (e.g., differential access of collectors to segments of material culture; gender bias); 3) the possibility that particular items were purposely not purchased so that the collection would reflect an image of a "traditional" people unaffected by outside contact (i.e. avoidance of items incorporating western material culture); and 4) the percentage of items in a collection that may have been purposely made or modified for resale. The types of items entering local trade networks reflect both the economic needs of the seller and the interests of the buyer. Both factors must be considered when attempting to draw conclusions from limited sources of data, such as ethnological collections. Collecting activities aimed at representing a culture are always selective and strategic. Early anthropological collections typically focused on acquiring items that appeared "traditional" (Clifford 1988:231).

The first three of the above problems focus on determining the degree of representativeness of early collections. Early attempts to analyze Native American collections were often criticized due to the incorporation of western materials in Native items, which emphasized western influence (Phillips and Steiner 1999). Collections were said to have been "spoiled by European importations" (Stolpe 1927:93). As early as 1881, collectors in some parts of Alaska were finding it difficult to purchase ethnological items that did not incorporate such material because "nearly all of them made are ornamented with (trade) beads and

the shell (*Dentalium d.*)" (Fisher 1881 in Graburn et al. 1996:7). Such historic references emphasize a conscious selective process in place during the late nineteenth century which would have resulted in the purposeful omission of particular cultural items that incorporated non-Native materials (e.g., glass beads, cloth). The inclusion of such items would not have supported the image of "premodern" Native Americans that museums were encouraging during the late nineteenth century (Clifford 1988:231; Graburn 1989; Phillips 1998). The exclusion of introduced Euro-American items, such as firearms and animal traps in most period collections, illustrates such a selective process. The choice to not purchase such items may have also been influenced by an exorbitant asking price. Exotic and unusual items were highly valued by Native peoples and their incorporation on traditional items would have increased their value in the eyes of the seller. Collectors generally looked for bargains and sought to purchase as many items as possible given their limited funds. The exclusion of some available non-traditional items in all early Alaska ethnological collections may be considered a given. While such absence limits the inferences that can be drawn from an analysis of such collections in seeking information on culture contact, the incorporation of data from other sources (e.g., archaeological excavations, oral interviews, ethnohistoric documents) provides an alternative method of assessing the representativeness of collected material.

The fourth problem focuses on what percentage of collected items, specifically made for trade, constitute part of an ethnological collection. As contact between isolated "traditional" peoples and commercial forces (traders, tourists, and collectors) increase, replicas of traditional art forms are created and a souvenir industry is fostered (Graburn 1987; Smith, V. 1989). Evidence of lack of wear, nonfunctional construction, or use of substitute, introduced materials must be considered when determining if objects within collections include replicas made for sale (Graburn 1976:10-12; Rousselot 1996:39). Earlier studies of Native material culture have been criticized due to the lack of recognition of the inclusion of commercially produced replicas in most late nineteenth and early twentieth century collections (e.g., Berlo and Phillips 1998; Graburn et al. 1996:10-12; Lee 1999; Phillips 1995, 1998:49-71). One recent study (Berlo and Phillips 1998:154) has suggested that during the late nineteenth century, Eskimo carvers made many of the 'ethnological specimens' now in our museums, specifically for sale. This opinion stands in contrast to observations of the Edward Nelson collection (ca. 1877-1881), which contains nearly ten thousand specimens, and is thought to contain only a very few items that had been made explicitly for European trade rather than Native use (Fitzhugh 1983:29). Unlike most early collectors, Nelson spent a considerable time detailing observations on Native culture throughout the Yukon-Kuskokwim Delta and was very aware of what items were regularly in use (Nelson 1899). His familiarity with local culture and personal collection strategy earned him the name of "the man who buys good-for-nothing things" (Collins





Figure 3: Mary Ivanoff and family with cycle-sled, ca. 1925. Source: Irving Bird; courtesy of Joann Amall Boston

1982:29; Hooper 1884:37; Nelson 1899:373). To what degree does the incorporation of replica commercial arts affect our image of Native material culture? What percentage of such items are included within Nuniwarmiut ethnological collections? To answer either of these questions it is important that the context of the acquisition of each ethnological collection be understood, including the aim, purpose and biases of each collector, and the distance of the collector from the makers and users of the purchased items (Krech and Hail 1999:1-4).

ACQUISITION OF NUNIWARMIUT ETHNOLOGICAL COLLECTIONS

The above synopsis of contact and trade between the Nuniwarmiut and Euro-American/mainland traders provides a background necessary to understand the interchange occurring at the time of purchase of each of the five examined Nuniwarmiut ethnological collections.⁸ The following discussion provides data on the acquisition of each of the collections so that the intent of the buyer, and perhaps the sellers, can be understood.

William H. Dall Collection- 1874

The first collection of ethnological objects from Nunivak Island known to have been purchased was that of William Healy Dall. Dall, aboard the United States Coastal Service (U.S.C.S.) Schooner *Yukon*, conducted a geological survey of the northeastern portion of the island during the summer of 1874. When Dall (1870, 1874a, 1874b, 1877) dropped anchor east of Cape Etolin, approximately 30 natives from a nearby winter village (perhaps *Pengurpamiut*, near the tip of Cape Etolin) approached the vessel in eight to ten

bidarkas. With them Dall conducted a brisk trade for arrows, lances and cultural items. Spending four days here, Dall continued his trade with local natives while taking nautical observations on the island's terrain and commenting on the variety of wildlife present. In addition, he and his party went ashore and collected "a variety of good things" from the beaches (Dall 1874b).

It appears to this author that from the very first, island natives may have gotten a poor impression of visiting scientists. In addition to the ethnological items Dall purchased and a small collection of seashells obtained on the beach, Dall and his men broke into ancient graves and obtained eleven human skulls. Dall comments that his men accidentally broke into a Nuniwarmiut cache and cut open their seal oil bags thinking that the cache was a grave (Dall 1874b). Departing on August 2nd, Dall took with him an ethnological collection of 407 objects, largely comprised of hunting and fishing implements (e.g., seal lances, fishing bows, bird or fish spears, harpoons, atlats) with an assortment of personal items (e.g., snuff boxes, needles, and labrets). Seventeen percent of his collection (i.e. 70 objects) has since been lost or traded to other museums and was not available for examination. All object types collected by Dall, however, were described in his journals and inventory lists, and have been considered in this discussion.

Edward W. Nelson Collection - 1877-1881

The next record of ethnological items collected from Nunivak is found in the records of Edward W. Nelson. Nelson never visited Nunivak himself but employed an Alaskan Commercial Company (ACC) trader, Charlie Peterson, an American living in Andreavsky, to obtain trade items for him (Nelson 1877-1881, II). To acquire Nuniwarmiut material, Peterson made several trips to Nunivak Island, in addition to purchasing material from a Russian ACC fur trader living on Nelson Island (Nelson 1877-1881, IV). In all, Nelson purchased 277 ethnological specimens from Nunivak Island. While

⁸ Ethnological collections are defined as all cultural items acquired by the five early ethnographers. These collections do not include any human remains or natural history specimens (e.g., shell, rodents) returned for study.



a complete inventory of items acquired by Nelson are listed in his field notes, approximately 11% of these items were later lost or exchanged to other museums and were not able to be examined.

Given that Nelson had little direct contact with the Nuniwarmiut (i.e. his journals mention meeting only one Nuniwarmiut while visiting Nelson Island [Nelson 1877-1881, IV]), he records very little ethnographic information about Nunivak aside from the ethnological items that he purchased. Nelson does record, however, that by 1880, the island's caribou population had been severely decimated by mainland hunters and he estimated that the island's caribou would be exterminated by 1881⁹ (Nelson 1877-1881, V). Nuniwarmiut elders recall being told that families from the Kuskokwim area, Goodnews Bay, north of Teller, Unalakleet, St. Michael, Yukon River, Hooper Bay, and Nelson Island spent five years on Nunivak prior to the caribou's extinction (Smith, P. 1986b). Contact with these mainland peoples would have resulted in both increased trading opportunities and knowledge of mainland markets, prices, and availability of exotic goods.¹⁰

George B. Gordon Collection - 1905

The next known Nuniwarmiut ethnological collection is that purchased by George Gordon, the curator from the University of Pennsylvania Free Museum of Science and Art. Gordon is generally acknowledged to have spent about two weeks on Nunivak Island during the summer of 1905, where he worked on gathering a vocabulary of the Cup'ig language, recorded numerous string-figure variations, and purchased a large number of ethnological items for his museum's collections (Gordon 1905b, 1906; Kaplan and Barsness 1986:25-27). In reviewing Gordon's field journals and summer purchasing records, however, there is serious reason to doubt he ever actually reached Nunivak Island. Gordon (1905b) states that his summer was spent "on the Yukon, the Tanana and the Kuskokwim Rivers, and on the Bering Sea from the mouth of the Kuskokwim to Cape Prince of Wales." In all, he is said to have visited eighteen tribes, collected over 3,000 ethnological specimens and acquired over 300 photographs. One hundred and seventy of these ethnological specimens were from Nunivak.

A review of Gordon's field notebook for 1905 (Gordon 1905a) has revealed some inconsistencies in his reported itinerary. By following Gordon's progress throughout his Alaskan trip it appears that he not only failed to reach Nunivak Island, but also may not

have reached the mouth of the Kuskokwim River or perhaps even Cape Prince of Wales. Gordon traveled down the Yukon River aboard the steamship *Cudaby* arriving at St. Michael on August 12th. Here he found two "Indian" camps, "one consisting of 3 families from Nunivak Island" and the other, I believe to be from the lower Kuskokwim River (Gordon 1905a:6). Gordon spent the next 11 days in St. Michael visiting daily with the Nunivak families. The wife of one of the traders, Keoniouk, served as his principal informant and shared with him many Cup'ig words and string-figure constructions. The University of Pennsylvania Museum records that Gordon purchased 170 items from Nunivak. Over 80% of these items can easily be accounted for from Gordon's St. Michael's purchasing catalog.

On August 23rd, Gordon departed for Nome where there is no record of his leaving prior to his departure to Portland, Oregon. During the interim period, Gordon's (1905c) catalog of expenses (i.e. hotel bills) and craft purchases suggests that the majority of ethnological items purchased were from Nome area collectors (who he paid using bank drafts) or from Natives visiting Nome during his stay. No expenses were billed for additional transportation nor does there appear to be enough time left between the payment of his cataloged bills to have reached any destination far from the Nome area.

Since the 1880s, museums had been scrambling to obtain objects from Alaska and the Northwest Coast (Cole 1985). Gordon believed that in Alaska, Native culture was quickly disappearing due to the effects of introduced Euro-American diseases and the introduction of western material culture. In describing his 1905 trip, Gordon (1905b:1) states:

Nothing impressed me more during this trip that (*sic*) the rapidity with which the materials of which ethnology is made are disappearing from the North American continent. Three years from now the Ethnologist will find Alaska a barren field and at the present rate of decrease in the native population it is doubtful whether any communities of any considerable size will be found to exist in five years from now.

Gordon's ethnological collection remains quite valuable as an example of cultural items available at the time of his trip (ca. 1905). The details of its purchase, however, are important in order to understand the composition of his collection and the value we should place on his observations. With Gordon never visiting Nunivak Island, ethnographic information that he recorded must be carefully considered. For example, Gordon remarks that the custom of wearing labrets had died out "in the region lying between the mouths of the Yukon and the Kuskokwim and on Nunivak Island" where he had failed to observe a single instance of their use (Gordon 1906:82). Photographs and records made by Henry B. Collins (ca. 1927) and Edward Curtis (1930:12), visiting Nunivak 22 years later, recorded that the practice was still very common among the island's

⁹ Palmer (Palmer and Rouse 1938), quoted in Bos (1967:80) credits Nelson with estimating the caribou population on Nunivak at 25,000 head before they were exterminated by over-hunting by mainland Eskimo peoples and overgrazing of island lichens.

¹⁰ While evidence exists that these hunters were not welcome to Nunivak, some relationship between the Nuniwarmiut and the visiting mainlanders developed during their residence of several years. This relationship is supported by mainland census data (U.S. Bureau of Census 1900) that records birth records of six children on Nunivak of Bering Straits heritage and two marriages between Nuniwarmiut and mainland natives during this period.



women and some men. In addition, by acquiring all of his cultural artifacts at St. Michael, the regional trading station, the likelihood of Gordon's collection containing items intended for resale must be considered.

William Van Valin Collection - 1917

Van Valin, a member of the Wanamaker Expedition and an employee of the University of Pennsylvania Free Museum, visited St. Michael in 1917 where he is said to have purchased 103 ethnological "curios" from Nunivak. Whether these "curios" were largely purchased from visiting Nuniwarmiut traders, as were Gordon's earlier purchases for the museum, or from the St. Michael trading post remains unknown, but the discovery of prices marked on some of the items suggests the later. Many of the purchased items undoubtedly were constructed with the intention to resell (i.e. many appear unused; decorative items with cloth borders and glass beads). In reviewing Van Valin's (1917a, 1917b) field notes and artifact catalogs, there is reason to believe that some of the items attributed to Nunivak may have been miscatalogued by the museum and that a portion of the collection originates from Nunavak, a site near Barrow approximately 1207 kilometers to the north, where Van Valin was stationed for several years.

Henry B. Collins Collection - 1927

Henry B. Collins and Dale T. Stewart, from the Smithsonian Institution, spent several weeks on Nunivak in 1927 collecting human skeletal remains, grave goods, taking physical measurements of the Nuniwarmiut population, and purchasing ethnological items (Collins 1927a, 1927b). They obtained 1,219 objects from Nunivak, which constitutes the largest collection of curated Nuniwarmiut items that were examined during the present study. Aside from purchasing items from local residents, many of their acquired items were obtained from historic graves so the antiquity of many of the objects is unknown and their preservation poor (i.e. poor preservation of organic materials due to exposure to environment). While it is only possible in a few cases, to associate specific funerary objects to the appropriate human remains (Speaker et al. 1996:18), they focused their collecting activities on late nineteenth and early twentieth century graves; the only graves where bone preservation would have been sufficient for taking anatomical measurements. In fact, Curtis (1927:34) remarked that many of the "skeletons" collected by Collins and Stewart were from recently deceased individuals whose bodies were still in the process of decomposing. Human remains from at least 177 individuals (percent male/female individuals fairly equal) were removed from graves by Collins and Stewart with the remains and associated funerary objects sent to the Smithsonian Institution for curation (Speaker et al. 1996:13-14, 18-38). The Smithsonian Institution has catalogued these items as belonging to the H.B. Collins collection.

OBSERVED CHANGES IN NUNIWARMIUT MATERIAL CULTURE

In analyzing Nuniwarmiut ethnological materials acquired between the years 1874 and 1927, several changes in Nuniwarmiut material culture over time were identified. Most of the early collectors of Nunivak material culture had the same interest in mind — to collect cultural objects before "traditional" Native life disappeared due to interaction with Euro-Americans. The only exception to this was Henry Collins who obtained much of his collection from Nuniwarmiut graves. Table 2 presents the percentages of artifacts of various classes identified in each of the examined collections. Artifacts have been classified within each collection according to inferred function and their degree of incorporation in the Nuniwarmiut lifeway: e.g., items related to fishing and hunting equipment have been designated hunting tools; wedges and scrapers are placed under utilitarian tools; items worn or carried by an individual [e.g., labrets, earrings] are classified as personal adornment. Functional categories have been assigned based on the individual collector's field notes, information shared by contemporary Nuniwarmiut elders, and a review of other southwestern Alaska collections (e.g., Dall 1874b; Hoffman 1895; Nelson 1899; Turner 1886). In response to the Nuniwarmiut's request to repatriate all human remains removed from Nunivak that were curated at the Smithsonian Institution, the Smithsonian's Arctic Studies Program assisted three Nuniwarmiut elders with interpreters to journey to Washington D.C. in 1996 to examine the Collins, Nelson and Dall collections (Ken Pratt, personal communication 2001; Loring 1996). In 1998, photographs of the Gordon and Van Valin collections were shared with Nuniwarmiut elders in Mekoryuk, the only extant village on Nunivak, in order to obtain information on the Cup'ig name, function and construction of many of the curated items.

Early collections are dominated by hunting and fishing implements. This emphasis may be due to the intent of the collectors, the predominance and importance of such tools to the Nuniwarmiut contacted by early collectors, or limitations on items offered for trade. Upon Ivan Petroff's arrival on Nunivak Island in 1891 to conduct the U.S. Census, he found that items offered him in exchange for his western goods included:

carved walrus ivory, such as spear and arrowheads, various fittings for the canoes, small tubes that they use for snuffing up their powdered tobacco, snuff boxes, toggles, labrets, and ear pendants. In addition to these small articles they offered the tanned hides of hair seal, long lines of seal hide used for packing and towing, and any number of spears and arrows and hunting gear (Petroff 1892:219).

This list encompasses most items contained in early island ethnological collections. A question that must be asked, however,



COLLECTION	Hunting Tools	Household Goods	Children's Items	Utilitarian Tools	Personal	Unknown
William Dall Collection (1874) n = 407	60%	10%	0%	8%	16%	6%
Edward Nelson Collection (1877 - 1881) n = 277	54%	9%	5%	8%	21%	3%
George Gordon Collection (1905) n = 170	20%	13%	0%	14%	53%	0%
William Van Valin Collection (1917) n = 103	27%	11%	9%	3%	50%	0%
Henry Collins Collection (1927) n = 1,219	45%	8%	3%	23%	6%	15%
LEGEND: Hunting Tools = hunting and fishing related items Household Goods = bowls, utensils, . . . Personal = labrets, earrings, snuff tubes Utilitarian Tools = wedges, scrapers Children's Items = dolls, toys						

Table 2: Artifact classes represented in Nunivak Island ethnological collections

is how representative is the composition of each of these collections? Do they contain a comprehensive selection of “traditional” items available from daily use or are they limited to those items known to be desirable by early traders and collectors? Do items in the collections accurately represent the degree of incorporation of western trade items at the time of purchase? Since each of the collectors discussed here were men, did they have access to the range of women’s goods available? Were items acquired predominately from male traders? Ethnohistoric records state that women traders on Nunivak were not unknown (Kiokun 1997; Katie Tootkaylok, personal communication, September 25, 1995), and some women were known to have accompanied their husbands on trading ventures where they participated in at least limited trading opportunities (Levering 1905).

Gordon and Van Valin had little choice in access to available trade items. Since their collections were acquired at regional trading posts far from Nunivak Island, they could only make purchases from items brought to St. Michael for trade or personal use. Gordon’s extensive work with Keoniouk would have afforded him greater access to women’s personal items than that thought to be available to Van Valin. The choice of items purchased by Dall and Nelson may have suffered a similar bias. Dall chose his purchases from those offered by Natives who boarded his ship to trade. Trading contacts with visiting ships had long been in practice and Nuniwarmiut traders were certainly aware of the range of items likely to fetch the best exchange. Nelson acquired his Nunivak collection via mainland traders whose emphasis was directed toward obtaining items for resale. While on the mainland, Nelson was often referred to as “the man who buys good-for-nothing things” (Collins 1982:29), it is difficult to know to what degree mainland traders incorporated this philosophy when purchasing Nuniwarmiut items. Of the five collectors discussed here, only Collins is known

to have personally visited a Nuniwarmiut village. Some varieties of cultural items, not normally offered for sale or trade, may be lacking in all of the early Nunivak Island ethnological collections. For example, in 1891, Petroff (U.S. Census Office 1893:112) remarked that while recording the Native population for the island, he noticed that the Nuniwarmiut had “heaps of finely carved masks and other paraphernalia (associated with masked dances and performances) which can be found deposited at the outskirts” of villages. The first example of masks or dance regalia found in any of the Nuniwarmiut ethnological collections is that purchased by Collins in 1927.

In order to focus on available “traditional” items, early collectors may have purposely avoided purchasing western goods; but the high personal value given western goods by Native groups (see Collins 1982) suggests examples would be present in Native graves examined by Collins. Such items would have, of course, been subject to differential rates of preservation based on material type. Artifacts acquired from a grave context were usually limited to items directly associated with the deceased that had been provided for their otherworld journey (Lantis 1946:228). Non-Native historic materials Collins recovered from historic graves consisted primarily of metal harpoon points and knife blades, iron tools, two Russian pipe bowls, and numerous items of personal adornment (e.g., trade beads, metal bracelets and buttons).

None of the ethnological collections or recently recovered archaeological remains contain examples of non-Native ceramics, a luxury item that was highly valued among mainland Natives (Jackson 1988, 1990a, 1990b). According to Nuniwarmiut elders, early trade negotiations focused on acquiring products essential to the maintenance of the subsistence round. Selected non-Native items highlighted subsistence activities (e.g., firearms, traps) and personal consumption (e.g., tea, tobacco). While tea was evidently



in great demand on Nunivak by the beginning of the twentieth century (Smith, P. 1988; Williams 1991), a desire for European ceramics does not appear to have developed. No examples of ceramics were recovered in the funerary objects collected by Collins. Ceramics do not appear to have become a popular trade item on Nunivak until after 1930 when their appearance is noted in many late historic graves (personal observation from 1986 BIA ANCSA surveys of island sites) and the Lomen Commercial Company's trading post inventory (Lomen Commercial Company 1937).

VARIABILITY IN COLLECTIONS

Differences in material type and percentages of western material goods (calculated by presence vs. absence) incorporated among the collections' objects reveal two expected changes through time; 1) the decrease in items made from caribou, and 2) an increase in the percentage of western materials. Table 3 outlines observed differences and offers possible explanations for the changes.

The decrease in caribou by-products in the Gordon and Van Valin collections is easily explained due to the earlier extinction of the island's caribou herd. The respective increase in products made from fish skin and bird feet (see Figures 4 and 5) may represent a corresponding replacement for the loss of caribou hides, or a bias in the earlier Nelson collection due to its unrepresentativeness of available Native artifacts from Nunivak

Island as a whole (i.e. bird related items may have been confined to west coast villages near island rookeries which may not have been heavily involved in mainland trade). Nelson collected similar fish skin and bird feet products from the Yukon-Kuskokwim Delta during his earlier tenure (1877-1881) and I believe that it is reasonable to assume that his agents would have collected them from Nunivak, if readily available. Prior to Nelson's arrival to the region, caribou had been overhunted on the mainland forcing people to look elsewhere for alternative material sources. An alternative explanation for the later appearance of fish skin products from Nunivak may be due to their context. Items purchased by Gordon and Van Valin were primarily brought to St. Michael to be sold, and bird feet and fish skin products may have become popular items for resale by the early twentieth century.

An analysis of items within Gordon's collection raises two additional points. According to Gordon's journal, his collection appears to have been largely purchased from three Nuniwarmiut families. This would account for the larger percentage of personal items, such as labrets, earrings, and snuff tubes, and for the predominance of a single family's personal property mark (e.g., five purchased arrows had same double band design). Some of the items purchased by Gordon, however, do not appear to be functional in their present state. In spite of the published admonitions that "Gordon was quite specific when discussing collecting strategies" and "he wanted only particular types of objects, and only those of high quality" (Kaplan and Barsness 1986:27), several of the collected objects appear to consist of

Table 3: Composition of Nunivak Island ethnological collections

Collector	# of Items	Material type(s)	% of Western goods	Possible Explanations
Dall (1874)	407	Many tools from antler & caribou skin clothes.	20%: metal tips for harpoons, 3 knives; glass beads.	Large caribou herd on island; metal derived from salvage from 1863 shipwreck or through trade.
Nelson (1880)	277	Many antler tools; no clothing.	15%: metal tips for harpoons, fish hooks, knife; glass beads.	Objects purchased second hand; caribou herd actively hunted during period; shipwreck near island in 1879.
Gordon (1905)	170	Antler constitutes 2% of tools; many fish skin & bird feet items; grass baskets.	15%: glass beads; yam and cloth decorations; metal knife blades, brass shell casings.	Objects purchased at St. Michael; antler tools curated; possible reliance on other materials due to extinction of caribou.
Van Valin (1917)	103	Few antler foreshafts; rabbit and wolverine fur from mainland; bags of fish skin, bird feet and seal flippers.	50%: cloth and glass beads for decoration.	Objects purchased at St. Michael; antler curated; mainland furs suggest increased interaction between areas; reliance on alternative species for products.
Collins (1927)	1,219	antler makes up 6% of items (knife handles, wedges); very little clothing in collection; fish skin nonexistent	20%: metal used for harpoon tips, knives, pipe bowls, and decorations; glass beads.	Reindeer introduced in 1920; collection largely from grave context resulting in poor preservation of cloth and skin products.





Figure 4: Salmon skin bag purchased by Gordon in 1905. Bag #NA193, University Museum, University of Pennsylvania.

items that have been hastily strung together and render the object nonfunctional. For example, two wooden hunting hats from Gordon's collection have had 'ivory gaff hooks' laced to their bill as decorations. Their addition results in the hat falling forward, making it impossible for the hunter to see where he was going (Williams and Williams 1998) (see Figure 6).

The lack of fish and bird skin products in the Collins' collection is likely due to how and where he acquired his collection (i.e. poor preservation in grave context). The increased percentage of antler in this collection, compared to those of Gordon and Van Valin, is also easy to explain. Reindeer were introduced on Nunivak in 1920 but neither hunting nor butchering of the animals was permitted until 1928. Bones, hides and meat from reindeer that had died of natural causes had to be purchased from the Lomen Commercial Company at a price that few Nuniwarmiut residents could afford (Nash 1933:99; Weston 1932:1). Reindeer hides are

not expected to have had any significant impact on Nuniwarmiut material culture until after 1928. A new source of antlers, however, would have been available from those lost on the tundra each year by the island's fledgling reindeer herd.

The earliest examples of ethnological items intentionally made for resale were found in the Gordon and Van Valin collections (see Figures 5 and 7). The increase in the appearance and incorporation of western trade items between 1905 and 1917 (i.e. 15% - 50%) supports a marked increase in contact between Nunivak and mainland peoples in addition to contact with trading vessels. If one considers the entire list of objects that is currently credited to Van Valin by museum staff (total=103), approximately 50% of the purchased items include western materials (i.e. beads, colorful cloth borders) that appear intended for sale. Cloth borders are present on the majority of bags and pouches, which dominate the collection (Figure 7). This may reflect the makers' intent to meet consumers' desires.

Aside from documenting changes in the composition of Nunivak ethnological collections influenced by increased contact with non-island residents, new insights on traditional Nuniwarmiut lifeways were discovered during the author's analysis. For example, Lantis (1946:172) earlier stated that Nuniwarmiut hunters did not wear animal skins or don antlers as a disguise when hunting for caribou on the island. A close examination of an incised wedge from Nunivak collected for Nelson in the late 1870s suggests a hunter approaching a caribou using just such a disguise (Figure 8). Knowledge of this hunting technique may have been forgotten after the caribou's extinction on the island, or it may not have

been shared with Lantis at the time of her research. Evidence of newly identified Nuniwarmiut tool use or construction includes the presence of a fishing gorge (a technique not earlier reported for Nunivak Island nor recovered archaeologically), and the existence of coiled grass baskets (see Figure 9) — a style of basketry said to have been introduced on the island 15 years after several such baskets were acquired by Gordon (Curtis 1930:38; Gibson 1974:31; Lantis 1950:70; Lomen 1954:179; Ray 1961, 1977:36).

Artifacts exhibiting evidence of change in museum collections can generally be classified into two basic groups: 1) Native types of artifacts modified by contact (e.g., replacement of steel for slate points, glass beads for stone, fiber rope for animal skin); and 2) new types of artifacts introduced through contact (e.g., gun, outboard motor, cartridge priming tools). During the earliest stages of culture contact, cultural changes typically involve





Figure 5: Six goose foot bags purchased by Van Valin in 1917. Bag #NA10377, University Museum, University of Pennsylvania.

material replacement within preexisting Native artifact classes — the first type mentioned above (Quimby and Spoehr 1951:146-147). Tool form remains stable, in that form is often directly related to tool function. Examples of such incorporation are seen in both the Dall and Nelson collections with the introduction of western materials appearing to be material replacements within traditional tool classifications. New types of artifacts introduced through contact do not appear in museum collections until fairly late, but this absence is thought to be partially due to a purposeful bias to exclude items of western manufacture. Undoubtedly, introduced artifact types such as guns and metal traps entered the island economy prior to the purchase of any of the examined collections; but ethnologists purchasing items in the late nineteenth and early twentieth centuries showed little interest in collecting such goods, and the degree of their incorporation in Native lifeways is difficult to assess. Their absence from early twentieth century graves (i.e. Collins' collection) suggests that the availability of such items remained limited and their personal value high.

ANALYSIS OF ELLIKARMIUT ARCHAEOLOGICAL EXCAVATIONS

Another way to gauge the range of items available in the local economy is through an analysis of a site's archaeological remains, which would not have been subject to the same biases as purchased items. A series of subsurface test units were excavated in both parcels of *Ellikarmiut* (49-XNI-003) to obtain information on the antiquity of village occupation and its role in the Nuniwarmiut's settlement system through time (Griffin 1999). Of the 12 excavated test units (1m x 1m, 1m x 2m) and 23 probes (50cm x 50cm), non-Native material was recovered from 10 of the test units and two probes. Six of these test units and one probe were excavated within the eastern parcel, abandoned prior to 1900 (i.e. *Ellikarmiut*), while four units and one probe were within the western parcel, occupied from 1900 to 1959 (i.e. *Qimugglugpagmiut*). Non-Native material were recovered from all but one test unit in the eastern parcel highlighting the late occupation of this portion of the site and the reuse of houses over



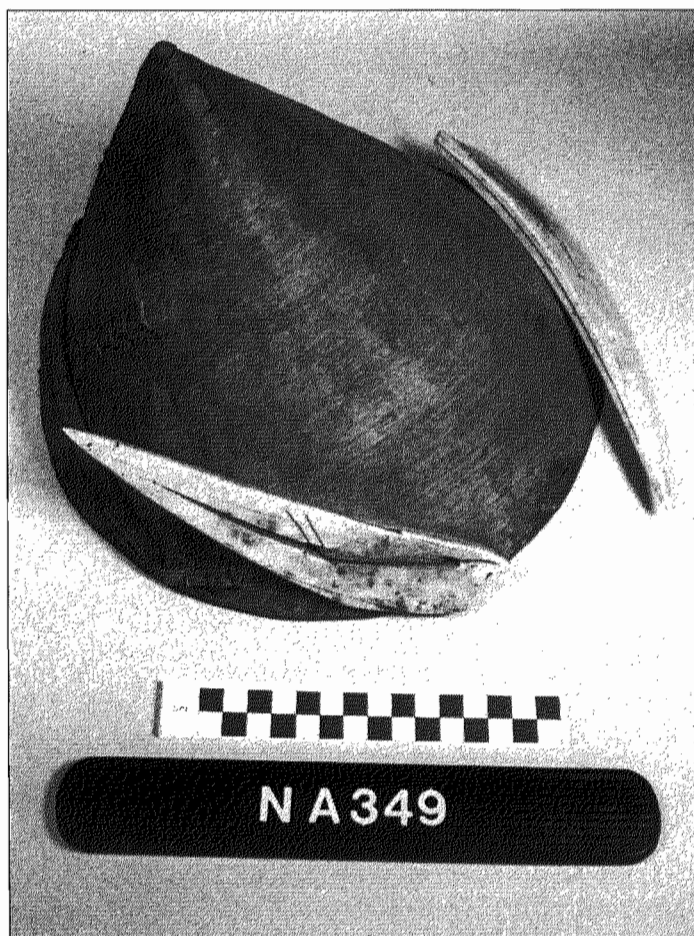


Figure 6: Nuniwarmiut hunting hat with attached ivory gaff hooks. Hunting hat #NA349, University Museum, University of Pennsylvania.

an extended period of time (i.e. >500 years). Non-Native materials were recovered from all test units within the western parcel of the site. Excavation units were purposively placed within abandoned house depressions in order to obtain information on the history of site use, and as such, may have produced a biased sample. Undoubtedly, previous use areas exist at the site that could not be predetermined by surface evaluation and were therefore not tested.

Euro-American material recovered from the pre-1900 parcel consisted of wound and drawn glass trade beads, bone and antler knives fitted for metal blades, highly oxidized metal objects (iron and copper), a musket ball, buttons, and miscellaneous green glass fragments. The appearance of these materials is thought to have derived from trade items or shipwreck salvage. The post-1900 occupation area yielded an abundance of colored glass seed beads, metal nails and highly oxidized metal objects, recent shot shell casings, and miscellaneous object fragments (e.g., glass bottles, rifle casings, plastic, tar paper, and a single white ceramic plain ware shard) (Griffin 1999:223-234). The composition of the *Ellikarmiut* excavated material reflects that found in the

ethnological collections. Pre-1900 objects are few, limited to materials replacing earlier Native tool parts (e.g., glass trade beads for stone beads, metal knife blades for slate blades) and a few introduced items (e.g., firearms); whereas post-1900 items exhibit greater variability in type and increased frequency (Griffin 1999:208-216, 224-234).

CONCLUSIONS: CHANGES IN NUNIWARMIUT TECHNOLOGY

The analysis of ethnohistoric documents, ethnological collections, and archaeological remains all support earlier theories of limited changes in Nuniwarmiut technology and material culture prior to 1930. While a conscious bias by early collectors may have helped to present an image of “pre-modern” Eskimo people, early trade transactions appear to have included few western goods. The limited availability and high price of western items through regional trade networks undoubtedly had a major effect on the speed of technological change that occurred on Nunivak. The Nuniwarmiut’s natural conservatism may have also been a factor. Lantis (1946:169-170) states that the Nuniwarmiut were very self-sufficient and able to acquire most of the items they needed for survival locally. Commerce with off-island traders largely provided them with a greater variety of natural resources (e.g., animal skins, bird eggs, and natural paint) and a few exotic commodities. Furs (e.g., fox, mink) were early identified as a potential source of income for Nuniwarmiut traders but even with the later increase in availability of western items, they declined to increase their dependence on local trapping (Kiokun 1995; Miller 1929; Noatak, H. 1995; Wesley 1995). While accepting a few introduced western items, traditional Nuniwarmiut technology remained strong.

Historic records (Russian American Company 1820-1822; Van Stone 1973:63) reveal that metal (e.g., copper, brass) had reached Nunivak Island through Native trade networks prior to the Russians “discovery” of the island (ca. 1821). Copper and iron were considered the most valued trade items by the Russian American Company (Black 1984:30) and constitute the largest percentage of introduced items within the early Nuniwarmiut ethnological collections and recovered archaeological remains. The increase in western materials during the early twentieth century highlights the usefulness of metal in knife and tool production, glass beads for personal adornment and the adoption of western cloth for clothing and items made specifically for trade. The increase in metal and glass trade beads over time mirrors the results of the Nash Harbor excavations, with the percentage of both greatly increasing after 1900 (Griffin 1999:232-234).

In acculturative settings, the acceptance of technological innovation generally depends on several factors including: the need





Figure 7: Five seal skin pouches purchased by Van Valin in 1917. Pouches #NA10381, University Museum, University of Pennsylvania.

for the innovation, the relationship between the innovation and traditional practices, the cost of the innovation relative to future benefit, and the perceived effects on other aspects of life dependent on the innovation (Bamforth 1993; Oswalt 1972; Satterthwait 1972). If the cost of relying on a new innovation was too high, change would be slow. With this in mind we see western tools and materials replacing traditional Nuniwarmiut tools in labor intensive activities earlier than in other activities.

The majority of tool forms recovered from excavations in Nash Harbor's Thule components (ca. AD 1000 - AD 1820) continued to be used well into the twentieth century (Griffin 1999:112-139; Van Stone 1989:24-25) and are represented in all five of the ethnological collections. The major exception to this is pottery, which appears to have largely disappeared on Nunivak prior to 1900. The continued use of carved wooden bowls and the availability and acceptance of metal containers, whether provided from trade or shipwrecks, appears to have replaced the need to construct clay vessels, a labor intensive process that often resulted in poor quality items that were fragile. The importance of stone tools persisted throughout the first half of the twentieth century, as reflected by the high percentage of such tools found in all ethnological collections, *Ellikarmiut's*

archaeological record, and contemporary elders' wealth of knowledge regarding their creation and use (Griffin 1999:131-136, 149-153). This continuation of use is perhaps due to the limited availability or high price of metal in local trade networks.

When dealing with the pressures of European intervention, the relative "success" of Native peoples at maintaining traditional values or lifeways depends largely on their ability to avoid dependence on any outside social or economic system. Depopulation among regional Native groups and the loss of control of regional trade networks in Alaska began a general trend toward dependency among peoples relying on trade for a way of life (Foote 1964:18-19). But the effects of such disruptions were minimized on Nunivak Island due to the Nuniwarmiut's high standard of self-sufficiency. It is not until after the first missionary's arrival on Nunivak in 1937 and his denunciation of Nuniwarmiut lifeways as evil that a dependency on western culture took hold (Burg 1941; Griffin 1999:275-282). The foregoing analysis of ethnohistoric documents, oral testimony, and Nuniwarmiut material culture offers unique insights to Nuniwarmiut lifeways during the nineteenth and early twentieth centuries. Similarly, the examination of original field notes and collection strategies of early ethnologists provides important perspectives on the significance of early ethnological collections.



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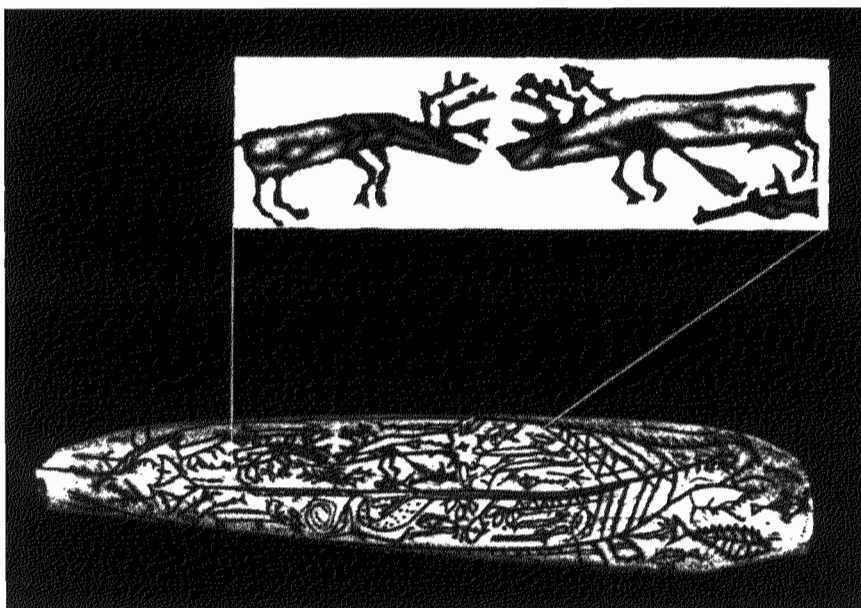


Figure 8: Artifact collected by Nelson suggesting use of caribou disguise. Artifact #43737, Smithsonian Institution (size: 19.2 x 3.87 cm).

Figure 9: Coiled Nuniwarmiut baskets purchased by Gordon in 1905. Baskets #NA 760 and 762, University Museum, University of Pennsylvania.



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