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THULE CULTURE ADAPTATIONS ON THE SOUTH COAST
OF BAFFIN ISLAND, N. W. T.
Volume I

By

George Sabo III

A DISSERTATION

Submitted to
Michigan State University
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ABSTRACT

THULE CULTURE ADAPTATIONS ON THE SOUTH COAST OF BAFFIN ISLAND, N. W. T.

By

George Sabo III

This dissertation is based on excavations conducted during 1977 and 1978 at Okivilialuk, Talaguak, and Itinapik, along the south coast of Baffin Island, Northwest Territories, near the community of Lake Harbour. The sites date from approximately A.D. 1100 to the beginning of the present century. Archaeological, environmental, and ethnographic data are analyzed from an ecological perspective to investigate the effects of climatic change upon the development of Thule culture in the south Baffin region. Of particular interest to this study is the role of social organization in adaptation to changing environmental conditions.

Basic characteristics of the biophysical and cultural environments of the region are outlined, and a model of the Baffinland Eskimo ecosystem is presented. The effects of climatic change upon the distribution, abundance, and predictability of certain animal species are identified as major biophysical phenomena likely to have affected adaptation and cultural development in the region during the past millenium. Specifically, gradually deteriorating climatic conditions commencing after A.D. 1250 and culminating in the Little Ice Age of A.D. 1550-1850 are seen as bringing about: (1) an earlier onset of

winter landfast ice formation and later spring breakup, which increased the availability of ringed seal; (2) an increase in summer drift ice in the Hudson Strait, which hampered open water sea mammal hunting, especially of larger species such as bowhead whale; and (3) more extensive snow and ice cover in the interior of Baffin Island, which reduced the size of caribou herds. Two hypotheses are developed concerning Thule adaptive responses to these conditions: (1) that re-scheduling of resource procurement systems, adjustment of settlement patterns and demographic arrangements, and re-organization of domestic groups were important in relation to small-scale, cumulative environmental changes; and (2) that maintenance of a diversified economy incorporating elaborate food storage systems and extensive food sharing and exchange networks, and re-distribution of local populations throughout a region, were important in relation to large-scale, unpredictable perturbations.

Artifacts, faunal remains, and structural evidence recovered from ten components identified in eight excavated house structures are analyzed, and a three part cultural sequence is proposed, consisting of: (1) a Classical Thule Phase, beginning around A.D. 1100; (2) a Developed Thule Phase, continuing from A.D. 1250-1350 until contact; and (3) a Historic Phase, representing the more recent cultural and genetic descendants of local Thule populations, as seen in the archaeological record. The subsistence-settlement systems for each cultural phase are reconstructed, and analysis of subsistence-settlement system shifts during successive cultural phases confirms both hypotheses. These adaptive mechanisms, in turn, were based upon several fundamental characteristics of Thule social organization, including an extensive regional network of kinship ties, flexibility in the organization and

integration of domestic groups, and an anucleate organization of the regional population. As a result of this adaptive organization, ongoing processes of ecological diversification are identified in relation to the development of Thule culture along the south coast of Baffin Island. This is contrasted with processes of ecological specialization thought to characterize earlier Dorset culture adaptations in the region.

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CHAPTER ONE

INTRODUCTION

Human populations in marginal environments such as Arctic or Desert regions must cope with conditions of low biological productivity, limited subsistence opportunities, and severe and unpredictable environmental fluctuations which may strongly affect critical resources. The stresses of the conditions have been met by a variety of hunter-gatherer adaptations with a high degree of success allowing long-term persistence (e.g. White and Peterson 1969; McCartney 1977b; Yellen 1977a; Maxwell 1979). As in other comparably harsh regions, much remains to be learned about the nature of Arctic hunter-gatherer adaptations and especially the processes by which these adaptations persist and change through time.

This dissertation is based on excavations conducted during 1977 and 1978 at prehistoric Thule and historic Inuit sites along the south coast of Baffin Island, Northwest Territories, near the modern day community of Lake Harbour. The sites date from approximately A.D. 1100 to the beginning of the present century, and provide evidence of the development in this region of historic Baffinland Eskimo culture from the prehistoric Thule culture. Archaeological, environmental, and ethnographic data are incorporated in an analysis of the effects of climatic change upon Thule-Inuit cultural development in the region. Of particular interest to this study is the role of certain aspects

of social organization in response to the ecological effects of climatic change.

The relationship between climatic change and cultural development has in recent years come to play an increasingly major role in Arctic archaeology. For the most part, however, attempts by archaeologists to assess the impact of climatic change upon cultural development have tended toward a narrowly unicausal, deterministic stance, and only a few studies have focused on the specific mechanisms through which climatic changes affected human adaptations in the Arctic (e.g. Fitzhugh 1972, 1976). Moreover, very little progress has been made toward identifying the adaptive strategies of Thule (or other Arctic) populations in response to the ecological effects of climatic changes. This dissertation addresses these issues in an attempt to advance our knowledge of Thule adaptation in general, and in particular increase our understanding of the effects of climatic change upon the development of Thule culture in the south Baffin region. To accomplish this an ecological approach is employed which incorporates the following major objectives:

- (1) Development of a model of the Baffinland Eskimo ecosystem which identifies the multiple factors potentially affecting local populations (of which climatic change is one), along with the mechanisms through which these factors may influence human adaptations;

- (2) Reconstruction of climatic changes during the past one thousand years for the south Baffin region and their corresponding ecological effects;

- (3) Testing hypotheses about the adaptive responses of Thule Eskimos to environmental stresses induced by climatic changes; and

(4) Using the results of the hypothesis testing to provide an interpretive framework for comparing successive configurations of subsistence-settlement systems, and identifying processes underlying the development of Baffinland Eskimo culture from Thule culture in the region.

History of Previous Research

Investigations of the Thule Culture

The first and most extensive study of the Thule culture in the central Canadian Arctic was produced by Therkal Mathiassen, the result of his excavations during the Fifth Thule Expedition of 1921-24. Mathiassen described the Thule culture as a prehistoric, maritime-oriented Eskimo people distinguished by their whale hunting economy (Mathiassen 1927). Travelling by umiak, kayak, and dogsled, Thule Eskimos lived in semi-subterranean sod, stone, and whale bone houses in winter, and conical skin tents in summer. The extensive array of Thule artifacts found by Mathiassen permitted a remarkably thorough reconstruction of material culture and way of life.

Great antiquity was ascribed to the Thule culture because the winter house sites were situated on uplifted fossil beaches some distance from the shore. Since Mathiassen assumed that all Eskimos, past and present, lived directly on the coast, this evidence suggested to him that post-glacial isostatic rebound had continued for a long time subsequent to the abandonment of these sites. Comparison of artifact trait distributions throughout the Arctic led Mathiassen to the additional conclusion that the Thule culture had originated in the Alaskan area, where the closest cultural affinities seemed to occur:

We must therefore imagine that the Thule culture, with all its peculiar whaling culture, has originated somewhere in the western regions, in an Arctic area where whales were plentiful and wood abundant, and we are involuntarily led towards the coasts of Alaska and East Siberia north of Bering Strait, the regions to which we have time after time had to turn in order to find parallels to types from the Central Eskimo finds. There all the conditions have been present for the originating of such a culture, and from there it has spread eastward right to Greenland, seeking everywhere to adapt itself to the local geographical conditions. And it can hardly have been a culture wave alone, it must have been a migration. The similarities between east and west are in many directions so detailed that it is difficult to explain them without assuming an actual migration of people from one place to the other (Mathiassen 1927a: 184).

Mathiassen made an important issue of the difference between the highly developed technology of the Thule culture, and the simpler "inland oriented" traits characteristic of some of the more recent Central Eskimo such as the Caribou Eskimo of the Keewatin district. Mathiassen argued in particular that the nomadic way of life based on caribou hunting, use of caribou skin clothing, and extensive utilization of snow houses and skin tents distinguished these latter Central Eskimos from the bearers of the Thule culture. Mathiassen also believed that Thule Eskimos were superceded in the Central Arctic by inland adapted Eskimos who had migrated to the Arctic coast, and who subsequently gave rise to the more recent tribes (Mathiassen 1927b: 185). However, Mathiassen acknowledged that at least some amount of contact between the two populations had occurred, and moreover that the cultural transition had probably taken place at different times and at different rates in separate regions of the Central Arctic (Mathiassen 1927b: 191-92).

Kaj Birket-Smith also investigated the relationship between the Thule culture and recent Central Eskimos from the perspective of his

ethnographic research among the Caribou Eskimo, which like Mathiassen's work was carried out as part of the Fifth Thule Expedition (Birket-Smith 1929a & b). Birket-Smith proposed a rather complex developmental sequence that began with an ancient and widespread interior adapted Proto-Eskimo culture. In time, some groups migrated to the Arctic coast and there developed a maritime oriented Paleo-Eskimo culture. Contact between Paleo-Eskimos, Northwest Coast Indians, and Siberian populations in the Bering Strait region led in turn to an Eskimo cultural florescence which gave rise to the Thule culture. Thule Eskimos then migrated eastward, where in the central Canadian regions they were eventually replaced by a new advance of interior adapted people known as the Eschato-Eskimos. These people were, according to Birket-Smith, the ancestors of the modern Central Eskimo. Only in Greenland did Birket-Smith recognize a continuum of Thule culture development into recent times represented by the Polar or Smith Sound Eskimos.

For several decades, Birket-Smith's sequence was widely accepted (but see Mathiassen 1929, 1930a), and even today it is in part perpetuated in general texts on North American prehistory (e.g., Willey 1966; Jennings 1974).

Subsequent to Mathiassen's and Birket-Smith classic studies, investigations were carried out in the Bering Strait region by Collins (1937, 1940, 1951a), and in northern Alaska by Ford (1959), to provide further data bearing on the origins of the Thule culture. Collins and Ford both concluded that the Thule culture developed primarily out of the preceding north Alaskan Birnirk culture, which represented a similar maritime adaptation. In other regions of Alaska, the Bering

Sea islands, the Canadian High Arctic, Greenland, and Labrador, archaeological investigations focused on the delineation of regional Thule culture sequences (Bandi and Meldgaard 1962; Bentham and Jenness 1941; Bird 1945; Collins 1951b, 1952, 1955, 1956; Giddings 1952, 1964; Heltved 1944, 1954; Knuth 1952; Larsen 1934; Larsen and Meldgaard 1958; Larsen and Rainey 1948; Lethbridge 1939; MacNeish 1959; Mathiassen 1930b, 1931, 1933, 1934, 1958; Mathiassen and Heltved 1936; Maxwell 1960a). However, during this period only a handful of articles were published about Thule sites in the Central Arctic region (Collins 1950; Manning 1951; Taylor 1960).

Beginning in the early 1960s, Birket-Smith's hypothesis of a replacement of the Thule Eskimos by inland adapted Eschato-Eskimos was attacked by several writers, who favored an in situ explanation for the development of the Central Eskimo directly from the Thule culture (Taylor 1960, 1962; Harp 1961; Van Stone 1962). Also during this period questions were again raised concerning Thule culture origins as new data accumulated (Taylor 1963), and as the nature of Eskimo adaptations and factors affecting cultural development came into sharper focus (Maxwell 1960b; Taylor 1966).

The first major study of the Thule culture in the Central Arctic subsequent to Mathiassen's was Robert McGhee's Copper Eskimo Prehistory (McGhee 1972). McGhee's study was also one of the first to incorporate linguistic and ethnographic, as well as archaeological, evidence into the investigation of the relationships between Thule culture and more recent Central Eskimos.

McGhee excavated several sites in the Coronation Gulf region and on the basis of harpoon head styles and radiocarbon dates he

identified three periods of occupation: the Thule period, the Intermediate period, and the Historic period. By comparing the structures, artifacts, and certain aspects of subsistence and social organization associated with each of these periods, McGhee demonstrated a transition in the region from Thule to historic Copper Eskimo culture and reconstructed the events which brought about this development. These were: (1) a decline and eventual cessation of whaling; (2) a shift from small coastal settlements to large temporary winter settlements on the sea ice; and (3) a decline in the importance of caribou hunting during the Intermediate period, followed by a resurgence of caribou hunting during the Historic period (McGhee 1972: 118). McGhee attributed these events primarily to: (1) changes in the faunal resource base induced by climatic deterioration; (2) influences stemming from contact with neighboring Thule groups; and (3) the acculturative effects of contact with Europeans.

In the monograph as well as in a separate article (McGhee 1969/1970), McGhee developed an ecological model for the origin and development of the Thule culture, based on Bryson and Wendland's scheme of Late Glacial climatic episodes (Bryson and Wendland 1967). In this model, McGhee argues that the Thule culture developed from the Birnirk culture along the north coast of Alaska, in response to certain climatic changes. Birnirk subsistence, viewed as being oriented primarily toward the ice lead hunting, is compared to the subsistence pattern of historic North Alaskan Eskimos who were adapted to similar environmental conditions (Nelson 1959). During the Neo-Atlantic climatic episode (circa A.D. 900-1200), climatic amelioration is seen as producing conditions unfavorable to ice lead hunting, but at the same

time opening up the Arctic waters along the north coast of Alaska and further to the east, thus increasing the range of whales, walrus, and bearded seals. Specifically, a warming climatic trend brought about a reduction in the ice cover of the Beaufort Sea. Widening offshore leads permitted whales migrating along the coast to swim progressively farther out from shore, while an earlier spring breakup reduced the breeding season of ringed seals. These ecological changes necessitated a shift in Birnirk subsistence toward an increased reliance upon open water whale hunting, thus bringing about the transition from Birnirk to Thule culture (McGhee 1969/1970: 177). McGhee suggests that further development of open water hunting techniques by Thule Eskimos, as well as continuing deterioration of sea mammal productivity in northern Alaska, were primary factors associated with the migration of small groups of Thule Eskimos into the Canadian Arctic:

The initial expansion of Thule culture into the Canadian Arctic was fostered by the expansion of an ecological zone to which the ancestors of the Thule people had adapted technologically by development of the umiak-whaling complex (McGhee 1972: 122).

McGhee placed the diaspora of Thule Eskimos throughout the Canadian Arctic and Greenland during the Neo-Atlantic and Pacific episodes (ca. A.D. 1200-1500), at which time populations began to adapt to local ecological circumstances. Gradually deteriorating climatic conditions after A.D. 1200, culminating in the Little Ice Age of A.D. 1650-1850, brought about further adaptive shifts in subsistence and settlement patterns throughout the Central Arctic. McGhee concludes with the suggestion that during the Recent (post-1850) episode Central Eskimo cultural development was influenced more directly by contact with Europeans than by adaptation to prevailing

climatic conditions.

A similar model of Thule culture development was offered by Allen P. McCartney, based on his excavations at Thule culture sites in northwest Hudson Bay (McCartney 1977). However, McCartney argues for a somewhat earlier cessation of whaling, around A.D. 1200 (McCartney 1977: 27). McCartney also suggests that after the Classic Thule period (circa A.D. 900-1200), semi-subterranean winter houses were abandoned as extant supplies of whale bone were used up. During the following Modified period (circa A.D. 1200-1600), garmat dwellings on land and snow houses on the sea ice become increasingly important. Strong stylistic continuities are recognized between Classic Thule and historic Inuit cultures, but McCartney points out the difficulty in demonstrating prehistoric-historic continuities since few artifacts are found at Modified period garmat sites (McCartney 1977: 29). McCartney suggests that during the Historic period, winter settlement patterns of the Central Eskimo were greatly influenced by contact with European whaling crews.

McGhee and McCartney both forwarded their interpretations at a time when much confusion prevailed regarding the time and circumstances of Thule culture origins. Subsequent work in northern Alaska by Dennis Stanford has necessitated yet another revision.

Stanford's (1976) analysis of materials from seventeen stratified occupation levels at the Walakpa site along the north coast of Alaska resulted in the recognition of a clear Birnirk-Thule cultural continuum represented by five phases dating from A.D. 500 to A.D. 1400. Throughout this sequence, a smooth, gradual transition from Early Birnirk through Late Thule is seen. Although the artifact assemblages

representing individual components are nearly identical, stylistic attributes of harpoon heads and antler arrowheads enabled Stanford to distinguish individual phases. These in addition to radiocarbon dates for some of the levels permitted Stanford to place the beginning of Thule culture around A.D. 900 (Stanford 1976: 90).

The subsistence data from Walakpa do not support the hypothesis that Birnirk economy was dependent upon whale hunting; rather, a heavy reliance on ringed seals is indicated, with caribou and a variety of other mammals and sea birds also being utilized. Stanford suggests that the combination of intensive hunting of seals along the north coast of Alaska, along with ameliorating climatic conditions detrimental to ringed seal productivity, necessitated a shift in subsistence orientation by the end of the Scandic climatic episode (circa A.D. 400-900). Coincident with stylistic changes in harpoon heads and arrowheads marking the transition between Birnirk and Early Thule, Stanford suggests that a shift occurs from sealing to whaling as the primary subsistence activity. This shift is augmented by the diffusion of whale hunting technology from Punuk culture Eskimos living in the Bering Strait region. Stanford suggests that as Thule hunters sought new sealing and whaling areas, their movements took them into the Canadian High Arctic and Greenland at a relatively rapid rate, as is indicated by the number of Thule sites in those regions dating around A.D. 1000 (Stanford 1976: 106). It is also possible that population pressure from expanding Punuk settlements contributed to the eastward Thule push (cf. Collins 1937; Schledermann 1979; Yamaura 1979).

While Stanford's interpretation of the transition from Birnirk to Thule differs substantially from that of McGhee and McCartney in

terms of the specific economic shift involved, the underlying ecological factors cited in these models are similar, implying a rapid migration of Thule Eskimos into an expanding ecological niche. This migration carried them first through the High Arctic and into Greenland, then somewhat later into the more southerly regions of the Central and Eastern Canadian Arctic, where adaptations to local ecological situations occurred (cf. Mary-Rousseliere 1979; Schledermann 1979).

Recent archaeological studies in Baffin Island and Labrador provide data which not only support these interpretations of Thule adaptive re-organization but also clarify some of the regional developments which occurred during the later phases. In the Cumberland Sound region of Baffin Island, Peter Schledermann (1975) identified two major periods of occupation dating from about A.D. 1350-1650 and A.D. 1750-1850. Substantial concentration of baleen were found in midden deposits associated with the earlier occupation. Schledermann correlated these finds with similar deposits in the lower levels at Naujan (Mathiassen 1927a), at the Ikkusik site in Labrador (Schledermann 1971), and at Comer's Midden in Greenland (Holtved 1954), suggesting that early Thule Eskimo populations entering the Central and Eastern Arctic placed a great deal of emphasis on whale hunting. Moreover, Schledermann argued that the end of this "baleen period" at Naujan coincided with, and may have been partially responsible for, the influx of Thule Eskimos into the Cumberland Sound and other areas of the Eastern Arctic (Schledermann 1975: 255).

This interpretation implies that Thule populations in the central Canadian Arctic had to choose between two alternative responses to climatic/ecological change: (1) they could remain in place and

adjust their subsistence adaptations; or (2) they could gradually drift east and south where the effects of Pacific and Neo-Boreal climatic cooling probably were less pronounced. Schledermann suggests that many groups selected this latter option in order to maintain their whale hunting economy in regions where conditions remained favorable (Schledermann 1975: 256). In ecologically stable areas such as Labrador, whaling continued until contact with Europeans brought about its ultimate demise (J. G. Taylor 1975).

Ecological stability was not characteristic of many regions settled by Thule Eskimos, however, and in time certain adaptive shifts were necessary. The end of the "baleen period" in Cumberland Sound appears to have been related to the onset of colder conditions during the Neo-Boreal climatic episode, which rendered whale hunting an increasingly unpredictable activity. In time, ringed seals came to replace whales as the primary economic resource in Cumberland Sound, as is reflected in the midden deposits dating to the A.D. 1750-1850 period (Schledermann 1975: 257-9).

Correlated with the onset of the Little Ice Age and the abandonment of whale hunting throughout the Central and Eastern Arctic is a shift in Thule winter house styles, in which the semi-subterranean whale bone houses are gradually replaced by qarmats, snow houses, and larger communal dwellings (Schledermann 1976a & b). Schledermann believes that communal living during the stressful Neo-Boreal episode served to stabilize a deteriorating economic situation by facilitating food sharing, and conserving fuel (seal oil) used for cooking and heating (Schledermann 1976b: 45). Snow house villages arising during this period are thought to reflect an increase in ringed seal hunting, which

necessitated winter settlement in large villages on the sea ice to maximize the potential for hunting at breathing holes (Schledermann 1976b: 43; cf. Damas 1969b).

Since Mathiassen's classic work of more than fifty years ago, it is clear that a great deal of additional knowledge about the Thule culture and its development has been achieved (cf. McCartney, ed. 1979). Beyond the comprehensive description Mathiassen proffered, important new insights have resulted from several of the more recent studies: we now have a reasonably good understanding of the origins of Thule culture, as well as a reconstruction of the general sequence of migration, local adaptation, and transformation into at least some of the regional cultural configurations known historically. During the past decade an ecological perspective has emerged within which some of the processes underlying Thule cultural development may now be identified. Explanations for these events and processes have focused on general relationships between climatic changes and the distribution of fauna in marine and terrestrial habitats, and on the acculturative effects of contact with Europeans. In summary, Thule culture developments currently may be viewed as a series of adaptive shifts within a single, ongoing cultural system as it expands across the Arctic and undergoes differentiation in the context of regional ecological systems.

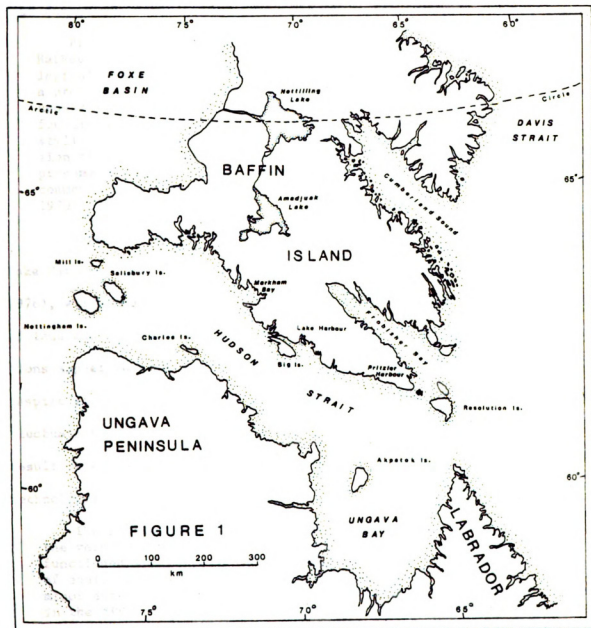
Although rather compelling evidence has been produced indicating that parallel developmental trends were brought about in separate regions by generally similar selective pressures impinging upon Thule populations throughout the Arctic, it is nonetheless evident that local influences did have significant adaptive consequences. However, ethnographic studies among the Central Eskimo have shown that regional

cultural differences are not always related to external environmental influences. Instead, historical or social factors may be associated (see e.g. Damas 1969b, 1975). Clearly, a more inclusive ecological perspective is needed to gain additional insight into the nature and variety of Thule culture developments in the Central Arctic. Cultural/environmental relationships need to be examined at the specific regional level, but these studies should also take into account relevant socio-cultural variables. Such analyses will facilitate identification of the specific mechanisms by which Thule adaptive relationships were structured, and lead to a better understanding of the processes through which these relationships persisted or changed.

Investigations in the Lake Harbour Region

Between 1960 and 1976, Dr. Moreau S. Maxwell led nine Michigan State University archaeological expeditions along the south coast of Baffin Island, Northwest Territories, Canada. Although large scale excavations carried out during these years were limited to sites located within a thirty kilometer radius of Lake Harbour, surveys and test excavations in 1974 and 1976 provided additional coverage along a 320 kilometer segment of the south coast from Pritzler Harbour on the east to Markham Bay on the West (Figure 1). All excavations conducted during this period were concentrated on several Pre-Dorset and Dorset culture sites representing a sequence of occupations extending from circa 2500 B.C. to A.D. 800 (Maxwell 1973 and personal communication). The results of these investigations have been published by Maxwell (1962, 1973, 1975, 1976, 1979, 1980), Dekin (1975, 1976a, 1976b), and Arundale (1971, 1976).

Figure 1
Map of Baffin Island



Based upon his analysis of artifact collections from more than thirty sites, Maxwell has argued that the Pre-Dorset-Dorset sequence in the Lake Harbour region represents a cultural continuum in which a high degree of technological conservatism is maintained:

Pre-Dorset-Dorset culture, . . . as viewed from Lake Harbour, emerges as an ultra-conservative entity. Technological change indicating shifts in the method of exploiting a previously used resource, or a way of utilizing a previously unused resource, does not appear to exist. In place of the functional alterations in the basic tool inventory is a stylistic, directional drift which reminds one of the precession of a gyroscopic compass. Change, where it exists, is presumably of only slight adaptive consequence since it most commonly occurs as an oscillation around a norm (Maxwell 1973: 339).

Maxwell suggests that Pre-Dorset and Dorset subsistence in the Lake Harbour region was based on a "focal" economy (cf. Cleland 1966, 1976), which emphasized the exploitation of a small but varied complex of land and sea mammals. Furthermore, Pre-Dorset and Dorset populations appear to have maintained their adaptations with minimal change despite ecological changes such as those brought about by climatic fluctuation. The maintenance of this equilibrium is viewed as the result of selective pressures maintaining a stable, yet well-suited technology:

The interpretation this evidence leads me to is that from the very beginning the average tool kit of the average man functioned sufficiently well to maintain an efficient position of equilibrium within his ecosystem. Over time there were minor attempts to modify the forms of certain tools, presumably in the direction of greater efficiency. But there does not seem to be any compulsion toward change, and in fact the very changelessness of the tool kit suggests ideational sanctions against major change. Such minor stylistic drift as does occur more often than not returns to the original starting point, reminding one of Kroeber's famous study of oscillating hemlines of ladies' dresses. In ecological terms, the cultural or extra-corporeal adjunctive aspects of man's adaptive equipment become a constant--comparable to the fangs and claws of the polar bear--so that he remained as a climax state in a

condition of dynamic equilibrium as the top carnivore in a virtually unchanging ecosystem (Maxwell 1973: 341-42).

In a study of Pre-Dorset culture based in part upon his excavations at the Closure site on Cape Tanfield, Albert Dekin applied ecological models in an attempt to explain (1) the eastward migration of Pre-Dorset Eskimos from Alaska into the Canadian Arctic; (2) the subsequent development of regional Pre-Dorset cultural traditions; and (3) the relationship between the development of Pre-Dorset culture and changing climatic conditions. In the latter analysis, Dekin argued that a deteriorating climatic trend commencing circa 3600-3500 B.P. brought about a reduction in the availability of critical faunal resources. This in turn fostered regional technological variegation through a reduction in social scale, in which contacts between local populations presumably decreased. However, Dekin was unable to infer a decline in the Pre-Dorset cultural system along southern Baffin Island resulting from adverse environmental conditions. Specifically, changes in Pre-Dorset population, behavioral specialization, and technological complexity and efficiency, could not be demonstrated.

Wendy Arundale focused her studies on the Nanook site, also situated on Cape Tanfield. This site was occupied by Dorset culture Eskimos from circa 2410 B.P. to 1827 B.P. (Arundale 1976). Also utilizing an ecological model, Arundale tried to determine why the site was occupied for nearly five hundred years without significant cultural change, and why it was then abandoned after such a long period of time (Arundale 1976: 7). Arundale began by showing that the effects of climatic changes on the distribution and availability of Arctic faunal resources were far more complex than portrayed in Dekin's model. She

then argued that, while climatic and ecological stability prevailed throughout much of the time during which the Nanook site had been occupied, shifts in the upper atmosphere standing waves (or Rossby waves) brought about a change in climate from colder and drier to warmer and wetter conditions around 1900 B.P. This in turn brought about a reduction in the availability of ringed seal and caribou, two primary resources of Dorset economy. Consequently, Arundale suggested that a shift in the regional settlement pattern took place, and the Nanook site was abandoned in favor of other nearby site locations from which these resources presumably could be more readily obtained.

It is necessary to recognize that Maxwell's view of adaptive stability was derived largely through analysis of Pre-Dorset and Dorset artifact assemblages. Conversely, Arundale's study recognizes change (or homeostatic process) in terms of altered population distributions--a response to climatic changes which affected critical faunal resources. The point that technology alone may not adequately reflect adaptive response to change in environmental state is important, and is a major premise upon which the present study is based.

Recently, Maxwell has extended his arguments regarding adaptive continuity in the south Baffin region to include the entire four thousand year sequence of occupations, incorporating into a general model the Thule and recent Inuit cultural systems in addition to the Pre-Dorset-Dorset sequence (Maxwell 1979). In this model, several features of settlement-subsistence organization are viewed as constants, exhibited by all populations inhabiting this region during the past as well as the present. These are:

(1) a population stable in numbers, although fluid in membership; (2) persistent spacing of permanent (i.e. winter) settlements with variation in summer camp location; (3) a ratio of population to carrying capacity of 1:3; (4) indigenous food resources which persist at moderate but stable limits, and have been distributed through the region in virtually unchanging pattern; and (5) an annual economic system of resource utilization in a generalized seasonal round which requires maximum movement from winter settlement of not more than 50 miles (Maxwell 1979: 78).

Maxwell notes that the Thule and Modern adaptive systems were probably quite similar, but that the Dorset system may have been more specialized and somewhat differently organized.

Studies of the modern Inuit community at Lake Harbour have been conducted by Graburn (1960), Kemp (1971, 1975, 1976, n.d.), Brooke (n.d.) and Lange (1972). These studies have addressed a variety of issues, including modern community social integration, land use patterns, and the energetics of an Inuit hunting band. Kemp's energy flow studies are of particular importance to archaeological investigations. The interrelations between specific cultural and environmental variables as revealed by these studies provide a basis for constructing models of Inuit subsistence-settlement systems from which hypotheses regarding past adaptive behavior may be derived.

Although the locations of major Thule and Historic period sites in the Lake Harbour region were recorded during the 1960-1976 period, no attempt was made to systematically investigate these sites. Consequently, a major gap existed in the record of what appeared to be a continuous sequence of occupations in the region by Eskimo populations over the past four thousand years. Excavations at Thule sites in adjacent regions of Baffin Island have yielded important data (Collins 1950; Schledermann 1975; Jacobs and Sabo 1978; Sabo 1979), and, as

discussed above, recent studies of Thule sites throughout the Arctic have rekindled interest in many aspects of Thule culture development. The investigation of Thule sites in the Lake Harbour region was therefore implemented to complete the cultural sequence and to provide substantive data for the continuing analysis of ecological relationships and adaptive patterns of prehistoric and recent Inuit populations in the southern Baffin region.

Research Objectives

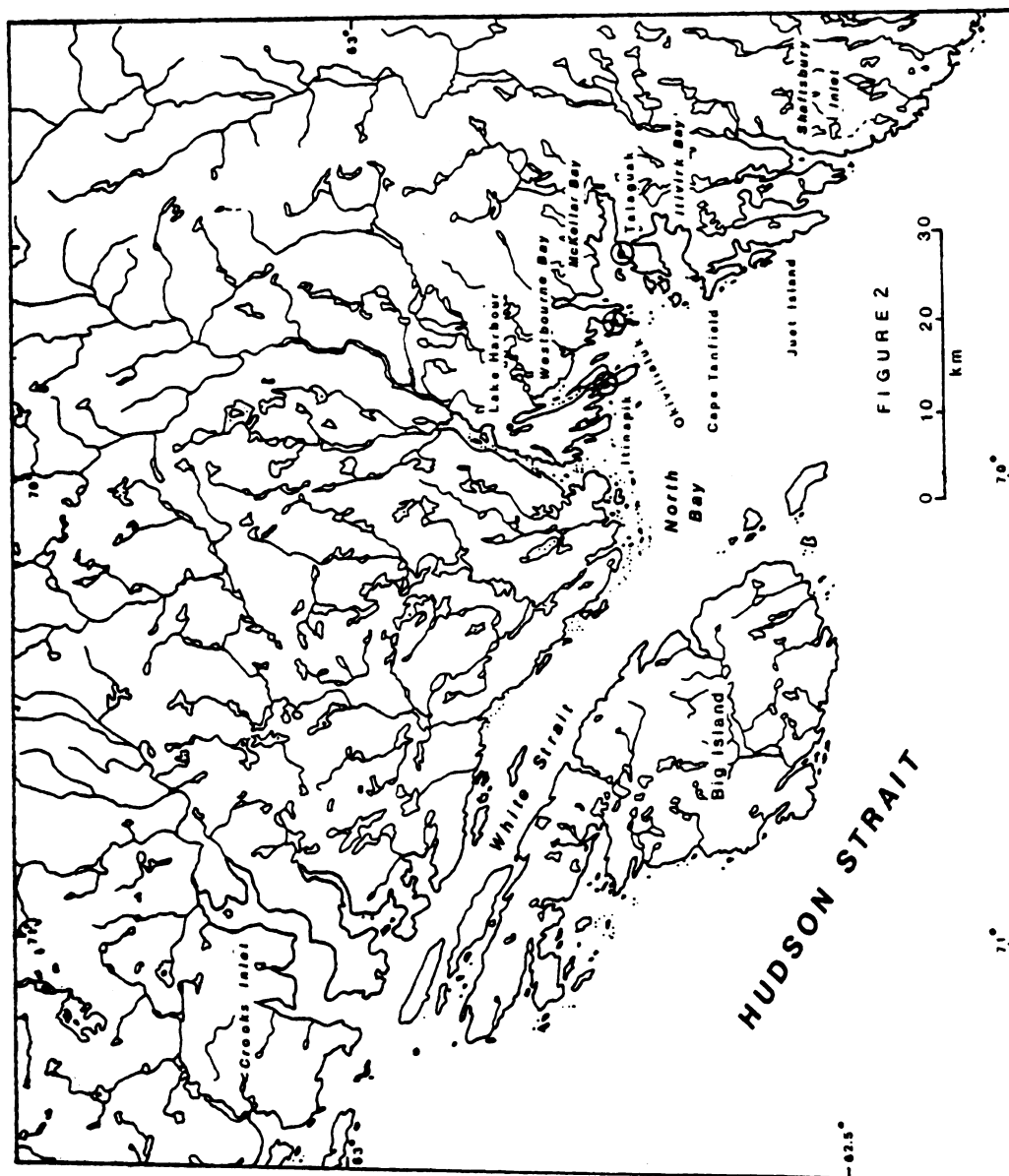
Three primary research objectives were chosen for this study. First, a chronology of Thule culture occupations in the Lake Harbour region needed to be established, since prior to this research little was known about Thule culture history in the area. Second, reconstruction of the successive configurations of Thule-Inuit subsistence-settlement systems was necessary in order to identify any changes or developments which might have occurred. Finally, analysis of Thule adaptations was required to interpret specific aspects of stability and change and identify underlying ecological processes, especially as these relate to the effects of climatic change. This latter analysis is based upon an ethnographic model of the Baffinland Eskimo ecosystem, from which hypotheses concerning Thule adaptive organization are drawn.

Data Categories

Archaeological Data

Archaeological investigations at Okivilialuk (KeDq-7), Talaguak (KeDq-2), and Itinapik (KeDr-13) in the vicinity of Lake Harbour (Figure 2) during the summer of 1977 and 1978 provided the basic data for this dissertation. Our selection of these sites was

Figure 2
Map of the Lake Harbour Region



based upon pragmatic considerations: available funds, personnel, and time were insufficient for an extensive survey and excavation program, so we chose to concentrate on known sites located fairly close to Lake Harbour.

The 1977 excavations at Okivilialuk and Talaguak were exploratory, our intent being to determine the extent and nature of cultural deposits at these sites, so that a more specific research design could then be developed. Among the questions we attempted to answer during the 1977 field season were the following: (1) When did Thule Eskimos first migrate into the region? (2) What, if any, successive cultural periods were represented? (3) Could individual occupational components be discerned? (4) Did these components contain sufficient artifactual, faunal, and other remains to permit the establishment of a cultural sequence as well as the reconstruction and analysis of successive subsistence-settlement systems?

Excavations in Houses 8 and 9 at Okivilialuk (Figure 3) and in Houses 2, 5, and 7 at Talaguak (Figure 4) were successful in providing answers to these questions. Consequently, a more extensive research design was developed for subsequent fieldwork in the region (see Chapter Two). During the summer of 1978, additional excavations were carried out in Houses 7, 9, and 11 at Talaguak and in House 1 at Itinapik (Figure 5). A two week period in 1979 completed the excavation of House 9 at Talaguak (Maxwell n.d.).

Several classes of archaeological data were obtained as a result of these excavations. Those contributing directly to this study are: (1) artifactual data, permitting both stylistic and functional analysis of assemblages; (2) faunal data, reflecting the kinds and

Figure 3
Map of Okivillialuk

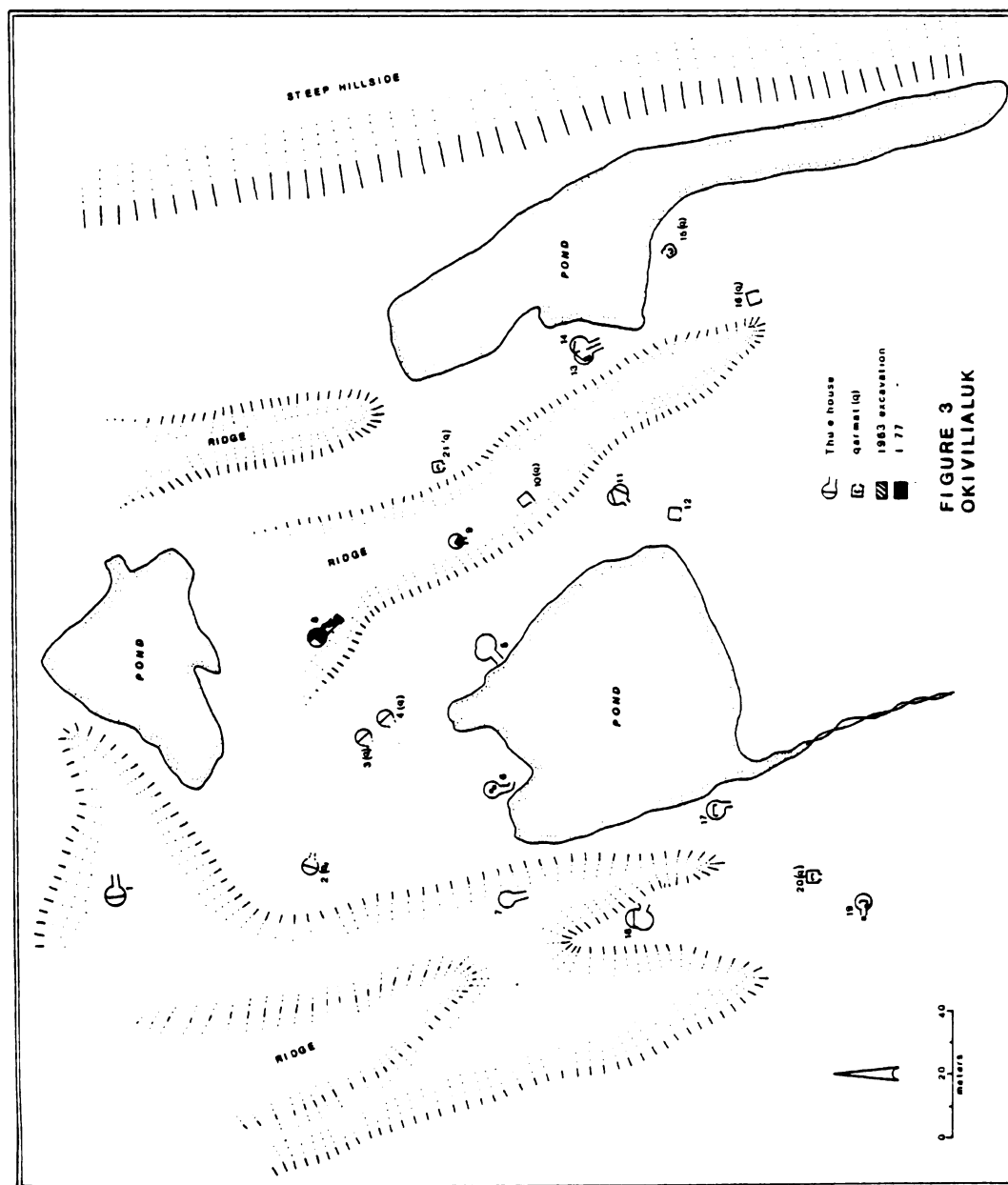


Figure 4
Map of Talaguak

FIGURE 4
TALAGUAK

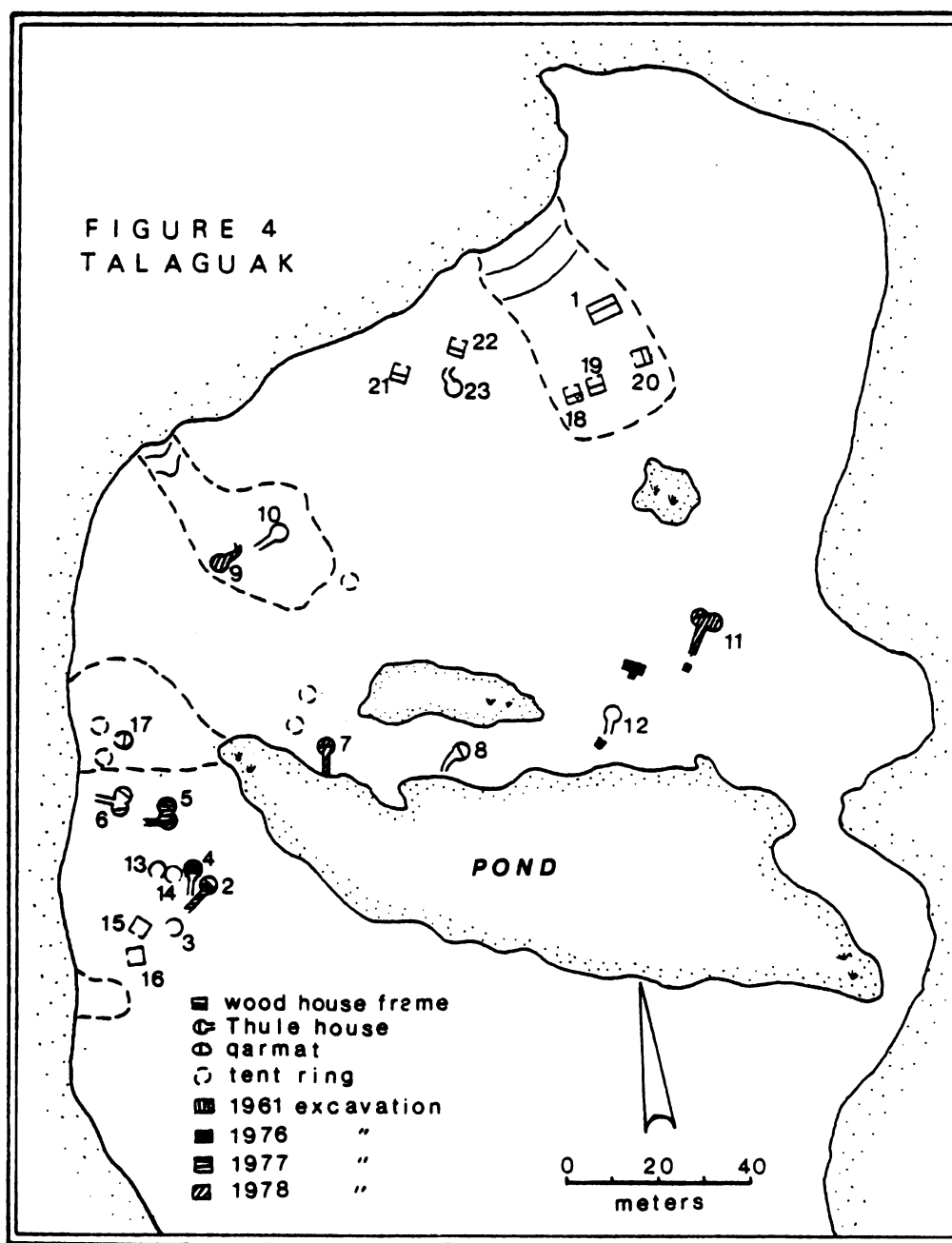
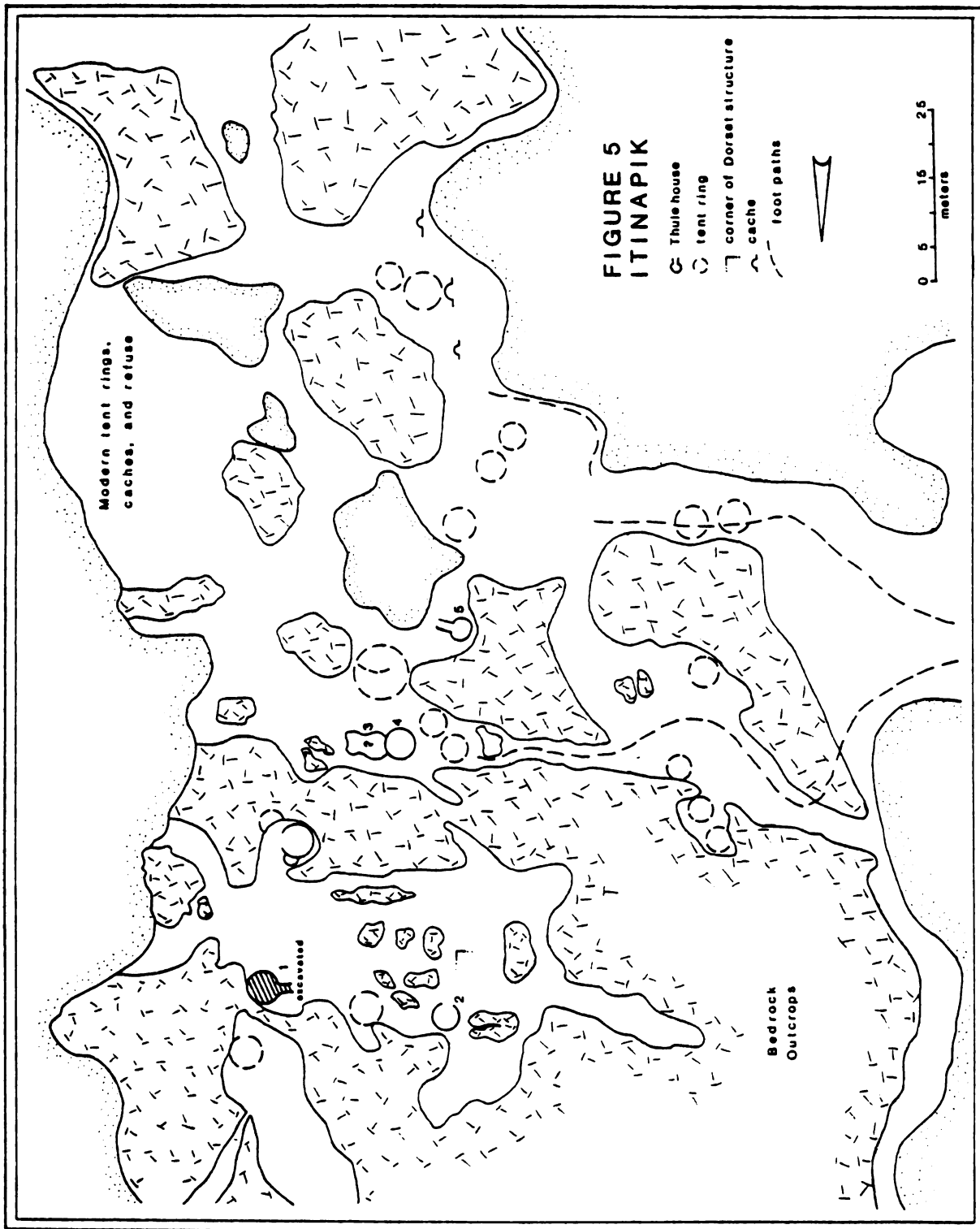


Figure 5
Map of Itinapik



proportional quantities of animal resources used by Thule populations; and (3) settlement data, as represented by the types of structures and the depth and composition of associated midden deposits. Each of these classes of data were gathered with reference to individual occupational components represented in the excavated Thule houses. We are aware that in almost all instances several successive occupational episodes may have contributed to the cultural deposits associated with these houses. However, in all but two houses, the depth and homogeneity of the midden as well as the stylistic similarity of associated artifacts indicate that within the component a single period of occupation is represented. Exceptions to this were found in House 8 at Okivillialuk and in House 2 at Talaguak. In both of these houses two clearly stratified components were identified: a lower component dating to the earliest period of Thule occupation, and an upper component dating to the Historic period.

Complete descriptions of the archaeological excavations are provided in Appendix A of this dissertation. Artifact descriptions are found in Appendix B.

Environmental Data

Several classes of environmental data were obtained during the course of the 1977 and 1978 field seasons. Observations on the general environmental setting of Thule sites along the south Baffin coast were made, and we also attempted to gather information on ecological factors which affected Inuit subsistence and settlement activities in the region. This included information on seasonal characteristics of major environmental zones (i.e. marine, tundra, and riverine/lacustrine); the habitats and species comprising these zones; and the many environmental

variables which affect both habitats and species. Our purpose in this endeavor was to acquire locally specific data with which to supplement the regional literature. Especially important to this end were the studies of the microenvironmental characteristics of the Talaguak site conducted by Dr. John D. Jacobs during the 1977 field season (Sabo and Jacobs 1980).

Ethnographic Data

A third major category of data contributing to this study is ethnographic information on the subsistence and settlement behavior of recent Baffinland Eskimos. In particular, information was collected on major resource procurement activities and their technological requirements; seasonal patterns of settlement and demographic arrangement; and aspects of social organization closely associated with the annual socioeconomic cycle. Although most of this information was obtained from the ethnographic literature, notes on my own observations in the field during the summers of 1974-1978 were used along with the studies of Brooke (n.d.) and Kemp (n.d.) in reference to many cultural characteristics not well reported in the literature.

The primary purpose of bringing together environmental and ethnographic data in this study is to develop a model of the Baffinland Eskimo ecosystem. This model provides a valuable basis for the organization, analysis, and interpretation of the archaeological data. However, in order to effectively integrate relevant environmental and ethnographic facts, it is necessary to establish an appropriate theoretical and analytic framework. In the following chapter, the theoretical perspective and methodological orientation of this dissertation are presented.

CHAPTER TWO

THEORY, METHOD, AND RESEARCH DESIGN

We can attempt to learn about the cultural past in many ways. An ecological approach is one way, and while it may not always provide the most appropriate perspective it certainly can direct us toward many valuable insights into the nature of past human behavior. One area in which an ecological perspective in archaeology is particularly relevant, as suggested by Trigger (1970), is the investigation of "the manner in which specific economic, social, and demographic variables interact with one another in specified environmental settings over long periods of time."

Ecological studies in anthropology have had a long and varied intellectual history (see e.g. Helm 1962; Zubrow 1972; Grossman 1977; Hardesty 1977). Consequently, from time to time the theoretical orientations represented by these studies have changed. Even at present, a consensus does not exist regarding what specifically constitutes an "ecological approach" (Flannery 1972; Anderson 1974; Bennett 1977). The ecological perspective followed in this study is derived primarily from views expressed by Vayda (1964), Buckley (1967, 1968), Vayda and Rappaport (1967), Vayda and McCay (1975), and Ford (1977), all of whom stress a holistic and systemic approach to the understanding and explanation of the relationships between human populations and their environments.

The Ecological Perspective

Ecology focuses on the interrelationships between populations of living organisms and the abiotic and biotic elements present within the territories occupied by those populations. A basic assumption is that there is a constant and necessary interplay between living organisms and their environments, and because of this one cannot be fully understood apart from the other. For analytic purposes ecologists define the ecosystem as an aggregation of associated living organisms within a given environment, together with the interrelationships between them (cf. Odum 1971; Watt 1971). An important feature of the ecosystem approach is the recognition that specific variables are connected by complex networks through which energy, matter, and information are exchanged. Energy and matter sustain organisms, while information provides the basis for system regulation and control. Regulation, control, and equilibril or disequilibril processes are made possible by the dynamic nature of ecosystems, where a change in the value or state of one variable will bring about a corresponding change in at least one other variable (Hall and Fagan 1956).

The ecological approach permits us to study human populations using concepts broadly applicable to all biological populations. Culture is viewed as the distinctive behavioral means by which humans structure and maintain interrelationships with other components of their ecosystems (Vayda and Rappaport 1967: 493; Rappaport 1969: 185). Analysis focuses on the interaction of specific cultural and environmental variables which together comprise the ecosystem, where such interaction itself is viewed as an essential factor underlying the viability of the system (Buckley 1968: 491).

All living things must obtain energy and usually other resources from their surroundings, and solve additional problems of survival imposed by their environments. Minimally, these problems include protection from injury and other hazards, and the maintenance of an adequate level of reproduction to ensure the survival of offspring (Slobodkin 1968; Vayda and McCay 1975). Adaptation is therefore an important concept in ecology because it is the process whereby these survival problems are solved, through selective retention among a set of alternatives of these behavioral modes best suited to the maintenance of beneficial relationships between organisms and their environments (Hardesty 1977: 21). Adaptation may be viewed as a cybernetic system in which responses to potentially harmful states are initiated by corrective programs (adaptive strategies) operating on the basis of information flowing through the system: "These corrective programs may return the deviating component to a safer state, make compensating changes elsewhere in the system, or initiate changes in organization" (Rappaport 1971b: 24).

Holling (1973) has suggested that the self-regulation of ecosystems may actually involve two separate processes: "equilibrium processes" which keep the system from fluctuating too much, and "resilience processes" which prevent the system from self-destructing and ensure its persistence. In environments subject to frequent and severe perturbation (such as the Arctic), resilient systems may be more characteristic. Among resilient systems adaptation may therefore result in continuity, or homeostasis, where systemic integrity is maintained, but some reorganization of the system occurs. In other words, in order to maintain itself in a fluctuating environment, the system may

internally reorganize and transform itself.

Thus, the complex, adaptive system as a continuing entity is not to be confused with the structure which that system may manifest at any time. Making this distinction allows us to state a fundamental property of open, adaptive systems: Persistence or continuity of an adaptive system may require, as a necessary condition, change in its structure (emphasis in the original), the degree of change being a complex function of the internal state of the system, the state of its relevant environment, and the nature of the interchange between the two (Buckley 1968: 493).

The maintenance of ecological homeostasis may therefore involve a variety of regulatory mechanisms which resist change, as well as other processes through which change is brought about. Maruyama (1963) has distinguished "first cybernetic" processes as negative feedback, deviation-counteracting mechanisms, from "second cybernetic" processes which operate on the basis of positive feedback (deviation amplification) and lead to the re-organization of the system and establishment of equilibrium at different levels. Cybernetic maintenance of homeostasis in ecological systems is based not only on the feedback connections between individual components of the system, but also on the integral arrangement of these components. The latter often involve highly complex networks of hierarchically-arranged mechanisms and controls adapting to each other as well as to the particular state of the environment (Kalmus 1966). Regulation and homeostatic process may therefore operate at various levels within ecosystems, from lower order and specific to higher order and abstract, and may also involve complex interactions across these various levels (Rappaport 1971a, 1971b; Flannery 1972).

Methodological Considerations

Analytic Units and Operational Considerations

The basic analytic units appropriate for ecological analyses in anthropology are the human population and the ecosystem of which that population is a part. This differs considerably from the focus on "culture" which characterized much of the earlier works of cultural ecologists (e.g. Steward 1955). Rappaport has suggested that a further distinction be made between the "local population" (analogous to the typical hunter-gatherer band, for example) and the "regional population" of which the local group and several others like it are a part (Rappaport 1969: 184). The ecosystem and its constituent parts may be delimited with respect to the situation under study. For the analysis of a particular local group, the territory occupied and utilized on a regular basis by that group may be regarded as its ecosystem.

However, some environmental variables (e.g. gravity) may not be relevant to the analysis of specific ecosystems. Therefore, it is useful to distinguish the "effective environment" (Allee et al. 1949: 1) comprised of those variables which impinge either directly or indirectly upon the ecosystem being studied. For example, Flannery has noted that hunter-gatherers seldom adapt to major environmental zones, or even particular habitats within those zones, but to "small series of plant and animal genera whose ranges cross-cut several zones" (Flannery 1968: 67). Moreover, Yellen has argued that the predictability of these resources to human hunters, and not just their abundance or variability, may be a key factor in understanding procurement strategies and adaptations (Yellen 1977: 265). It may also be necessary to distinguish between the empirical aspects of the environment and the "cognized"

environment as defined and reacted to by the human population under study (Rappaport 1969: 186). The cognized environment may include factors that are not directly measurable, but which nonetheless play an important part in forming adaptive strategies.

In practice, the interrelationships between human populations and their effective environments are usually analyzed as a system of material exchanges which may be measured quantitatively or portrayed in qualitative terms. Analysis should therefore take into account both the material relationships of human groups as well as the mechanisms by which those relationships are regulated (Rappaport 1969: 187).

Even with the operational restrictions cited above, total ecosystems are normally far too complex to completely measure and analyze. This problem is greatly magnified when analysis of ecosystems in which prehistoric human populations participated is attempted. The construction of models which outline the interactions of those components most critical to the problem under investigation is therefore desirable. Such models not only reduce the complexity of the ecosystem to a manageable level, but also provide a source for the derivation of hypotheses based on processes thought to underly the organization of the ecosystem (Moran 1979: 9).

Archaeological Considerations

Archaeologists seldom are able to examine human populations as primary analytic units. However, if we accept that the material remains and residues produced by past populations are systemically related to other aspects of their culture (e.g. Gould 1978), then these remains can be studied to reveal at least some aspects of prehistoric human ecology.

The concept of the subsistence-settlement system "comprised of the various kinds, quantities, and spatial configurations of material items that represent the skeleton of an extinct system for exploiting, processing, and storing food and other resources" (Streuver 1968a: 285) has significant utility toward this end. Many of the underlying assumptions of this concept are founded upon the tenets of ecology and systems theory as outlined in the preceding discussion (cf. Streuver 1968a, 1968b; Trigger 1970).

One of the primary assumptions of the subsistence-settlement system approach is that the biophysical environment occupied by a human population is structured, and thus as an adaptive system culture articulates with these environments through a complex series of patterned relationships (Streuver 1968b: 135). Although Streuver does not attempt to incorporate aspects of the sociocultural environment into his model, it is nonetheless evident that these interactions are also of critical importance to a thorough understanding of ecological relationships. Furthermore, it is necessary to recognize a distinction between the pattern represented by the archaeological data, and the system comprised of cultural rules and behaviors underlying the organization and integration of specific cultural and environmental variables.

The reconstruction of a chronologically ordered sequence of subsistence-settlement systems provides a useful framework for the investigation of prehistoric cultural developments within a particular region. Examination of cultural-environmental relationships for each temporally distinct cultural phase, and determination of the mechanisms by which these relationships were regulated, provides a means for identifying the cultural processes underlying specific aspects of

stability or change.

The reconstruction of prehistoric subsistence-settlement systems involves identifying the variety of techniques used by the population to obtain food energy and other resources from the environment (the subsistence pattern), as well as the manner in which the local population was spatially distributed to obtain these resources (the settlement pattern). This approach necessitates first that artifacts must be analyzed not only in terms of their stylistic attributes but also in terms of their functional characteristics. One particularly useful method for analyzing artifact function in the context of subsistence activities is provided by Flannery's "procurement system" model (Flannery 1968). McCartney (1977: 77) lists as primary elements of procurement systems the following:

- (1) a habitat where sought-after organisms or materials occur;
- (2) the organisms or material proper; (3) the implements or tools used to extract the organisms or materials from the habitat (technology); (4) the dynamic extraction process; (5) the prerequisite knowledge and skill guiding the extraction process and application of technology (techniques); (6) the human procurers who singly or in groups represent the larger kin or residential units such as families or villages; (7) the food or raw-material products that emerge as usable input into subsistence, or the component parts of an extracted organism after additional processing (e.g. butchering); and (8) the time during which the preparation, extraction, and processing occur, or duration and seasonality.

In addition, it is necessary to view archaeological sites not merely as repositories of material remains representative by themselves of entire settlement patterns, but as specific types of settlements, a series of which might comprise the local annual settlement pattern. In any particular region, several settlement types may occur, each found in different numbers and distributed in relation to different sets of environmental variables (Streuver 1968a: 287).

Two points regarding the reconstruction of Thule culture subsistence-settlement systems must be made. First, functional interpretation of artifact types is greatly facilitated by the fact that there is relatively little difference between the material culture of Thule Eskimos and that of historic Inuit. The latter has been described extensively in the 19th and early 20th century ethnographic literature (e.g. Murdoch 1892; Boas 1888, 1901/1907; Porsild 1915; Mathiassen 1928; Birket-Smith 1945). Hence, the functional artifact categories established in the earlier works of Mathiassen (1927) and Holtved (1945) continue to be used to the present day with considerable success.

The relationship between seasonal procurement systems and specific settlement types is however somewhat more problematic. Based upon our current understanding, Thule Eskimos occupied primarily three types of sites during the course of a year. The first was the seasonal base camp along the coast, at which the large, semi-subterranean houses were built. In these we find abundant artifacts, faunal remains, and other items. The second type of settlement was the skin tent camp represented by clusters of stone tent rings. These were generally small, transitory settlements, and their locations probably shifted from year to year, so that a given site was seldom re-occupied. As a result, very few artifacts, bones, or other materials are found on these sites today. The third type of settlement was the snow house village. We know of these settlements primarily through the snow knives, snow probe parts, and other items associated with snow house construction which are found at the base camp sites. With the exception of those instances where snow house villages were established along shore, these structures contribute nothing directly to the archaeological

record. Therefore, since only the base camp sites provide us with any appreciable evidence of Thule subsistence, it is from the perspective of these sites alone that we must base our interpretations of the larger subsistence-settlement system. First, based upon seasonally specific faunal remains found on these sites, it is apparent that they were occupied by at least some members of the local group for much if not all of the year. Contacts between these latter groups and others following the typical annual cycle thus result in the deposition at base camp sites of some faunal reflecting procurement activities actually carried out at other sites. Second, practically all of the artifacts used throughout the year were at times stored, forgotten, discarded, or otherwise left at these sites. Consequently, the entire range of resource procurement systems comprising the annual subsistence cycle usually can be reconstructed using data from these sites. Using ethnographic analogy, it is also possible to infer prehistoric procurement system-settlement pattern relationships.

To summarize, the focus of this study is upon the ecosystems in which prehistoric Thule Eskimos lived. The articulation between specific cultural and environmental variables is analyzed within the context of subsistence-settlement systems, and their development through time is traced. Particular attention is focused on the effect of past climatic changes on the distribution, abundance, and predictability of critical subsistence resources. Finally, this dissertation attempts to identify and interpret the adaptive strategies of Thule Eskimos in response to these climatic changes in the south Baffin region, and determine the ecological processes underlying the ongoing development of this cultural system.

Research Design

The following paragraphs summarize the research design developed for this study of Thule culture ecology and adaptation along the south coast of Baffin Island. The remaining chapters follow this outline.

Environmental Analysis

The first phase of the research involves description of the biophysical environment and ecology of southern Baffin Island. This description is divided into two parts: the first is concerned with major characteristics and patterns of the physical environment, while the second part focuses on critical features of major biotic zones (marine, tundra, and riverine/lacustrine), the habitats and species which comprise these zones, and their interrelationships. Emphasis is placed upon identifying significant patterns of temporal and seasonal variation which may affect human subsistence activities, as well as the environmental factors which produce this variation.

Ethnographic Analysis

The second phase of the research involves reconstruction of major features of aboriginal Baffinland Eskimo subsistence and settlement patterns. This includes subsistence technology and resource Procurement activities, settlement types and seasonal settlement Patterns, demographic arrangements, and aspects of social organization closely associated with the annual cycle. The major interrelationships between these cultural variables are identified, and the primary adaptive strategies involved in the maintenance and re-organization of these relationships are defined.

Ecosystem Model

The data and interpretations provided in the first two research phases are synthesized into a model of the aboriginal Baffinland Eskimo ecosystem. The model outlines the functional interrelationships among primary cultural and environmental variables comprising the aboriginal subsistence-settlement system. The components of this model are resource procurement systems, settlement location and configuration, and demographic arrangement (cf. Jochim 1976). This model identifies

- (1) the various environmental factors which may affect the ecosystem;
- (2) the mechanisms through which these factors affect the ecosystem; and
- (3) cultural strategies associated with adaptive response. The model thus provides a summary of the effective environment of Baffinland Eskimos, and serves as a source for deriving hypotheses concerning the development of the Thule cultural system.

Paleoenvironmental Analysis

Evidence pertaining to the paleoenvironmental change over the past one thousand years in the eastern Arctic is reviewed in relation to the ecology of the south coast of Baffin Island. Emphasis is placed on reconstructing the effects of climatic change on the distribution, abundance, and predictability of critical faunal resources, as well as on the ability of Thule populations to obtain them. Drawing on the ecosystem model (noted above), two major hypotheses are stated concerning the kinds of adaptive responses that would be expected of Thule populations. Specific archaeological implications are then discussed.

Culture History

At this point the first two research objectives of this dissertation are addressed. In the first part of the analysis, archaeological components are ordered in chronological sequence based upon comparison of artifact types and styles (especially harpoon heads) with similar specimens from absolutely dated contexts. These components are then combined into three cultural phases--Classical Thule, Developed Thule, and Historic Inuit--to provide a comparative framework for identifying and evaluating patterns of stability and change.

Specific characteristics of subsistence-settlement systems are then reconstructed for each cultural phase. This reconstruction is based upon analysis of artifactual, faunal, and settlement data recovered from the archaeological components assigned to each cultural phase. Major aspects of Thule culture development are summarized for each phase.

Ecological Analysis

In this final phase of the research, the successive configurations of Thule subsistence-settlement systems are analyzed in relation to the effects of climatic/ecological change as reconstructed by the Paleoenvironmental analysis. Particular aspects of cultural stability and change are identified and evaluated in relation to the changing Thule ecosystem. Adaptive responses are identified, and the mechanisms and processes underlying the maintenance of favorable cultural-environmental relationships in times of ecological stress are discussed. Concluding this section is a brief comparison between the Thule adaptive system and the earlier Dorset adaptive system.

CHAPTER THREE

THE ENVIRONMENTAL SETTING

The Physical Environment

Geography

Baffin Island is the southeasternmost, and largest, island of the Canadian Arctic Archipelago, with an area of about 494,700 square kilometers. It is separated from Greenland to the east by Davis Strait; from the Canadian Arctic mainland on the west by Foxe Basin, Fury and Hecla Strait, and the Gulf of Boothia; and from Somerset Island and Devon Island to the north and northwest by Prince Regent Inlet and Lancaster Sound. The island's topography is varied, ranging from the rugged, mountainous east coast with its ice caps and deep fiords, to the flat lowlands of the western coast that merge into Foxe Basin. A most remarkable feature is the proximity of these extremes: a distance of less than one hundred sixty meters separates the lofty summits of Cumberland Peninsula, soaring to heights of 2,130 meters above sea level, from the extensive mudflats of the Koukdjuak Plain.

The archaeological investigations described in this study were carried out in the vicinity of Lake Harbour, a small settlement on the Hudson Strait coast of the Meta Incognita Peninsula of southern Baffin Island (Figure 1). This peninsula is separated from the Hall Peninsula to the north by the long and narrow Frobisher Bay. Together these peninsulas comprise the Southern Upland (Dunbar and Greenaway 1956:

98-99) or Baffin Uplands (Bird 1958: 148) physiographic province of Baffin Island.

Geology and Physiography

Baffin Island comprises the eastern edge of the Canadian Shield, and consists mostly of Precambrian granites and gneisses. The Meta Incognita Peninsula is a tilted block of Archean age sloping to the southwest from a high fault scarp overlooking the southwestern shore of Frobisher Bay (Bird 1967: 63). The ancient surface of this peninsula is dissected by rivers draining the upland plateau in deeply incised valleys.

The south coast of Baffin Island is a partially submerged, rocky strandflat which may have been formed in pre-glacial times by wave action eroding the coastal edge of the upland surface (Bird 1967: 285). This erosion resulted in a low, hilly coastal belt that rises abruptly to the upland surface some 5-10 kilometers inland. The shoreward edge of this strandflat has been drowned, resulting in a highly complex coastline with numerous offshore islands and reefs. Many of the coastal inlets are drowned river valleys. In places where the coastal terrain is higher, the better developed river valleys have been transformed into long, deep fiord-like inlets. Crooks Inlet, Pleasant Inlet, and Shaftsbury Inlet are prominent examples in the vicinity of Lake Harbour.

Glacial History

Evidence of past glacial activity along the south coast of Baffin Island is restricted to the most recent, Wisconsin advance. The Clyde Phase of the Wisconsin is the earliest glaciation which can be identified from surviving features (Ives and Andrews 1963: 36). During

this phase, ice in excess of 900 meters in thickness presumably covered all of the interior of Baffin Island, flowing in a northwesterly direction from a center of dispersal over Foxe Basin. Glacial striae along the Foxe Peninsula and the Hudson Strait coast of Baffin Island west of Amadjuak in Markham Bay indicate local movement in a southeasterly direction; however, east of this point the exposed rock surfaces are more deeply weathered, suggesting no recent active glaciation (Bird 1958: 327); Mercer 1956: 564, Figure 4).

The next glaciation is the Cockburn Phase of the Wisconsin, represented by an extensive end moraine system of at least 8,000 years age (Falconer et al. 1964: 148-49). However, Cockburn Phase and moraines located eighteen kilometers northwest of the village of Frobisher Bay indicate that the entire Meta Incognita Peninsula was free of ice prior to this date.

Post-Glacial Events

Deglaciation occurred somewhat later in Baffin Island than in adjacent regions of the Canadian Arctic, complicating reconstruction of the effects of widespread post-glacial marine transgression which have been documented elsewhere (e.g. Løken 1962). Ives has determined that Cockburn ice retreated from the northeastern Foxe Basin region between 6,700 and 5,000 years ago (Ives 1964: 63). Strandlines in the Foxe Basin range from 96-105 meters above sea level (Ives 1964: 64), and along Foxe Peninsula and in Markham Bay they stand at 122-180 meters (Bird 1967: 131), indicating the level of post-glacial submergence in these areas. Fewer data are available for the Lake Harbour region, and they are problematic. Reports of marine deposits up to 180 meters above sea level near Lake Harbour have been made (Polunin 1948), but Bird was

unable to locate raised beaches or any other definite evidence of emergence from Lake Harbour to Barrier Inlet during his survey of the area (Bird 1958: 344). The implication is that there has been minimal transgression and uplift in the region, which is consistent with the idea of an early date of deglaciation along the south coast, where much isostatic recovery may have occurred while the sea remained eustatically lower than at present.

Corroborating evidence for this interpretation may be derived from archaeological remains in the Lake Harbour region. The Closure site, radiocarbon dated at about 2,500 B.C., stands twelve meters above the present high tide line, indicating an isostatic uplift of no more than twelve meters during the past 4,000 years (Maxwell 1973: 10).

In terms of the present study, the preceding discussions of geology and glacial history clearly indicate that long before the Thule culture was present on southern Baffin Island, the region had achieved its present physiographic configuration. This is important in two ways. First, the distinctive habitats comprising major biotic zones (i.e. marine, terrestrial, riverine/lacustrine), one thousand years ago were essentially the same as they are today. Second, the biological and ecological interrelationships characteristic of these habitats, slow to evolve in Arctic regions (Dunbar 1968), were also probably the same as at present. Therefore, ecological interactions observable in the modern Arctic setting are valid analogs for those which obtained during the Thule era.

Oceanography

The Hudson Strait, which connects the Atlantic Ocean on the east with Hudson Bay and Foxe Channel on the west, is approximately 850

kilometers long. From North Bay on Baffin Island to Diana Bay on the Ungava Peninsula, it is about 195 kilometers wide.

While never completely frozen over, the Hudson Strait is usually navigable only between July or August and October (Canadian Hydrographic Service 1968). For the rest of the year, fast ice extends from the north shore one to six miles out, and pack ice develops beyond this. Even during the open water season, scattered ice usually occurs in the form of drift ice floes and icebergs. Some of this ice is brought into the Strait by currents flowing from Davis Strait on the east and Foxe Channel on the west. Pans of locally developed winter ice may also remain throughout the summer. (Further discussion of the annual cycle of sea ice formation and breakup is presented below in the section on the marine biotic zone).

Modern day hunting and traveling activities along the north shore of Hudson Strait tend to be confined to inshore waters fairly close to land, and this was undoubtedly the case in the past as well. As previously described, the south coast of Baffin Island is complex, indented with many bays and inlets, some extending quite deeply inland. There are innumerable islands and reefs offshore. Except for those areas in which reefs abound, the inshore waters are quite deep, as are most bays and inlets.

The Hudson Strait current flows in from Davis Strait and trends in a northwesterly direction along the south coast of Baffin Island at a speed of about six knots. However, during a kayak trip along this coast in 1974, we found that the inshore current is complicated by strong tidal rips and counter currents produced when the main current swings around offshore islands and flows along their inner coastlines

in the opposite direction. This produces locally dangerous conditions for travel during the open water season, and permanent open water areas or polynias in winter.

The Hudson Strait current branches at Big Island. One arm curves to the south, passing Charles Island, flowing east along the north shore of the Ungava Peninsula, and thus out of the Strait. The other branch of the current continues westward to Cape Dorset, where it then flows along the north side of Mill Island and into the Foxe Channel. A large floe edge occurs to the east of Big Island each winter where the current swings to the south. Examination of recent satellite photos for several winters indicates that the position of this floe edge varies greatly from year to year (John Jacobs, personal communication).

The tidal characteristics along the south coast are also significant with regard to hunting and travelling activities. Tidal undulation enters Hudson Strait from the northeast. Its range along the south coast is second only to that in Ungava Bay. Undulation diminishes markedly as it approaches the open waters of the Hudson Bay and Foxe Basin. At Lake Harbour, the average tide is in excess of 8.5 meters, and the highest tides are above 10 meters. This tidal magnitude is matched by only a few other shorelines in the world, such as the Bay of Fundy; but nowhere is the yearly variation in range any greater. An important consequence for human adaptation is that the configuration of coastal habitats changes markedly on a twice-daily basis, producing a regularly fluctuating ecotone wherein a variety of resources may be obtained. For example, falling tides may be used to advantage in beaching whales and other large sea mammals. Walrus can be driven into shallow bays and inlets at high tide and shot, to be butchered

subsequently as the tide goes out and their carcasses are exposed on the intertidal flats. However, certain dangers accompany tidal changes: especially violently rushing water and exposed reefs during summer, and extensive rough ice along shore during winter.

Modern Climatic Conditions

Compared to temperate and tropical systems, the temporal and spatial variety of climatic conditions in the Arctic is great. The Arctic climate must therefore be understood in terms of complex interactions between numerous controls operating on a variety of levels. Primarily, these include (1) the balance of energy between incoming solar radiation and various sources of energy loss such as terrestrial radiation, surface cooling and reflective characteristics of ice and snow, etc.; (2) large-scale atmospheric circulation patterns; (3) the frequency of various regional circulation patterns and pressure surfaces (summarized as synoptic types); (4) the effects of large-scale as well as local land and water surfaces; and (5) sub-synoptic meteorological factors (Barry and Hare 1974: 18-33). These controls all interact in varying ways during different times of the year to produce local short-term conditions, as well as long-term and regional patterns and changes. Those aspects most directly significant to humans living in Arctic regions are temperature, precipitation, and wind (although other aspects may have important indirect effects; cf. Walker 1962: 2-8; Barry et al. 1977).

On southern Baffin Island, regional synoptic events, modified by local topographic characteristics and by the marine influence of Hudson Strait, are considered to be important in determining daily and seasonal weather patterns, as well as long-term trends (Barry and Hare

1974: 47; Barry, Bradley and Jacobs 1975: 88). These give rise to the relatively mild winters with substantial snowfall and cold, damp, foggy summers that characterize the region. Specific seasonal climatic conditions are summarized below (from Bird 1958; Barry and Hare 1974; Bradley 1973; Bradley, Barry and Jacobs 1975; Canadian Hydrographic Service 1968).

Winter

Winter begins around the end of October or early November, and extends through April. Circulation patterns generally flow from the north, bringing cold air into the region. However, winter depressions originating in the Labrador-Ungava region sometimes move through the southern Baffin area, bringing warmer and moister conditions. Also, fluctuating synoptic events may bring about marked changes over short periods of time.

The mean winter temperature for the Lake Harbour region is about -12.3°C (Bradley 1973: 231). This figure is higher than those for adjacent regions of Baffin Island, and is the result of the moderating influence of Hudson Strait waters. However, daily temperature variations, as well as yearly mean temperatures, may fluctuate widely. Lows down to -45°C occur, as do winter thaws when temperatures rise above freezing.

Rain may occur during winter if there is a sufficient influx of warm moist air from the south. However, the bulk of winter precipitation is in the form of snow, which is characteristically heavy along the south coast of Baffin Island. Snowfall begins in late September, and is heaviest in October and November. There is a marked decrease of snowfall from December to March, but a second snowy season occurs in

April and May. Continuous snow cover normally extends from early to mid October until mid or late May.

Steam fog is another characteristic winter condition along the south coast, produced by cold air passing shoreward over open water. This may occur on an average of one day per month.

From December to April, winds reach their strongest force over southern Baffin Island, and may attain speeds in excess of 50 knots. These winds prevail from the southwest and northwest quadrants.

Spring

What may be referred to as the spring season occurs during the months of May and June. The onset of spring along the south coast is delayed by the cooling effect of the Hudson Strait waters. It is generally not until late May that the daily temperature maximum rises above 0°C, commencing the melting of snow and ice. There is considerable year to year variation in the onset of this event. Rains begin in mid May and, during the spring, fog and stratus clouds are common due to the effects of open coastal waters.

Summer

The south coast of Baffin Island usually experiences cloudy, cold, and foggy summers. Mean summer temperatures are just under 7°C at Lake Harbour. This figure is higher than readings at other Baffin Island stations, and may reflect the fact that Lake Harbour is situated at the head of a long, narrow inlet and is protected locally by surrounding hills. Along the Hudson Strait coast, where people formerly resided in greater numbers, the temperature is usually a few degrees lower. Summer temperatures may often fall below freezing.

Precipitation during summer months accounts for 50-60 percent of the yearly total. Precipitation is most frequent and heaviest from mid May to mid July, often falling for extended periods as light rain or drizzle. Fog and stratus clouds are common. Snow may occur at any time, but is generally infrequent, especially in July. Summer winds are less intense than those of winter, but gales of hurricane force may occur. Prevailing wind directions are variable, and depend upon local conditions.

Autumn

During the months of September and October there is a rapid reversal of circulation patterns, from summer to winter conditions. The onset of constant freezing temperatures generally occurs around the end of September. Autumn is a time of appreciable precipitation and, as noted above, the greatest amount of snowfall occurs during this season. Storms are also frequent.

Recent Climatic Change

In the preceding discussion of modern climatic conditions, it was noted that variations of considerable magnitude could occur with respect to daily as well as yearly climatic conditions. These short term variations may affect subsistence activities in a number of ways through direct influences of wind, temperature, and precipitation on human hunters or the species they are pursuing. Of equal importance are variations of greater duration resulting from long term shifts in climatic patterns. These latter climatic changes most significantly affect hunter-gatherer adaptations by changing the seasonal configuration of habitats, or by altering the distribution, abundance, or predictability

of critical animal species with respect to procurement techniques and technology.

Climatologists have determined that Baffin Island is quite sensitive, in ecological terms, to relatively small changes of climate (e.g. Andrews et al. 1972; Bradley and Miller 1972). Bradley's analysis of temperature and precipitation records for Baffin Island during the past half century (Bradley 1973) indicates that during the past decade, average summer temperatures decreased below those of the previous 30-40 years, while winter temperatures increased and were accompanied by greater amounts of snowfall. These temperature and precipitation changes were considerably different from those occurring elsewhere in the eastern Arctic, where decreasing summer temperatures were associated with decreasing winter temperatures. The effects of these changes on habitats may be significant. For example, a reduction in the extent of open water conditions during cold summers may restrict the availability of migratory sea mammals (e.g. Jacobs 1975). Similarly, significant changes in snowfall patterns may affect the distribution of caribou during winter (Pruitt 1959). Vibe (1967) has studied the effects of long term climatic change on a variety of species inhabiting the Davis Strait coast of Greenland.

Major Biotic Zones

In terms of evolutionary development, Arctic ecosystems are relatively young compared to temperate and tropical ecosystems, having emerged only since the end of the Pleistocene epoch (Dunbar 1968, 1973; Saunders 1969). Consequently, Arctic ecosystems are simple in structure: species diversity is low, ecological niches are few and large, habitat variety is limited, and energy pathways connecting organisms at various

trophic levels are few. Moreover, these ecosystems are subject to strong control by physical aspects of the environment, such as climate, which may effect rapid and profound change.

The Arctic region receives considerably less direct solar energy throughout the year than temperate or tropical environments, and therefore life processes in general proceed at a lower level (Dunbar 1973: 36). Primary production is low as a result of the short growing season, and this in turn limits secondary production to a correspondingly low level (Hoffman 1974: 552). The major external factors that are essential to primary productivity are: (1) minimal temperature requirements; (2) light; and (3) an adequate supply of inorganic nutrients (Dunbar 1968: 38). In Arctic regions, these factors are all severely limited. In the following sections of this chapter the specific ecological characteristics of the Arctic, and particularly the North Bay region of southern Baffin Island, are discussed for three major biotic systems: the tundra, the marine, and the riverine/lacustrine.

The Tundra System

The terrestrial portions of the study area support a tundra environment. Tundra is defined not only by characteristic plant communities, but by other factors as well: there is a low annual energy budget; average seasonal temperatures are low, with great annual temperature oscillation; total annual precipitation is low; and permafrost inhibits soil development and nutrient formation. These factors are responsible for other characteristic features of tundra systems, including low primary productivity (one-twentieth of that for tropical forests), relatively few animal species, and simple trophic structures. Among animal species indigenous to the tundra, there is a great degree

of niche overlap, although structural complexity increases in areas of maximum topographic diversity (Hoffman 1974: 507-526). While in many respects tundra systems are comparable to Arctic marine systems, seasonal oscillations in the former are more severe (Dunbar 1968: 51).

The coastal lowlands and adjacent hilly areas along the south coast of Baffin Island support a variety of tundra grasses in addition to lichens, mosses, herbs and shrubs. Arctic willow (Salix spp.) is the dominant tree, seldom growing more than two feet in height. The vegetation in this area, growing on relatively well developed Arctic soils, comprises a climax stage of community development (Shelford 1963). The higher uplands of the interior support only a sparse cover of vegetation; there, mosses and lichens are more common. The distribution of plant cover throughout the tundra is important in determining the distribution of terrestrial fauna. For example, while caribou use the sparsely vegetated uplands as a calving ground in late spring, they soon abandon these areas in favor of the more lushly vegetated lowlands (Elliott 1972).

Arctic plants grow on poorly drained tundra soils that are low in nutrient content. This is as important a factor inhibiting primary production as the low levels of incoming solar energy. The most crucial variables related to primary production are controlled by microenvironmental factors: wind and insolation as modified by topography are key factors in the growth of tundra plants (Bliss 1970). The three to four month growing season along the south coast of Baffin Island begins and ends with drastic environmental changes during the short spring and autumn seasons.

The structural simplicity of Arctic ecosystems has led some

ecologists to characterize them as fragile (Bliss 1970; Bliss et al. 1973), following the notion that complex systems, in which there is a greater amount of energy flow and a multiplicity of alternate pathways, are inherently more stable (cf. Odum 1969, 1971; Margalef 1968). While this argument has been questioned by some ecologists (e.g. Goodman 1975), it is true that in the Arctic if a major species were eliminated, there would be few, if any, alternative species that could fill the vacated niche (Bliss et al. 1973: 361). However, Banfield (1975) has pointed out that the broad ecological niches occupied by Arctic species permit greater resistance to perturbations, and by virtue of their adaptations to Arctic environments, these species are relatively quick to recover from local disturbances. Overall, considerable stability in annual productivity results. But despite this overall stability, at the local level major oscillations in animal populations may occur from year to year. This is a factor of considerable significance to hunter-gatherer adaptations in the Arctic.

Terrestrial animal species must adapt to several major characteristics of tundra habitats. These include (1) cold temperature extremes; (2) snow cover during much of the year which buries most plant foods; (3) insects; and (4) the short growing season which limits primary production (Hoffman 1974: 484-506). Among the important behavioral characteristics resulting from adaptation to the above factors are: (1) a marked sensitivity to the hardness, density and thickness of snow, which results in considerable winter movement; (2) avoidance behavior with respect to insects (although this is not as important among Baffin Island herds); (3) short breeding seasons; and (4) annual migratory behavior. "The ultimate factor in producing these adaptations seems to

be one of use of limited energy resources in such a temporal pattern that the production and survival of the young is maximized" (Hoffman 1974: 506). This is a fairly characteristic adaptation among animal species living in rigorously seasonal, climatically unstable environments.

Densities of tundra animals may undergo drastic fluctuation. Among many smaller tundra species these fluctuations occur cyclically, and have an effect upon higher trophic predators. This is apparently true, for instance, with regard to the interrelationships between the lemming and two of its coacting predators, the Arctic fox and the snowy owl (Shelford 1963: 195). Density fluctuations may vary in time and space owing to unpredictable environmental variations, and the occurrence and duration of particular specie fluctuations often is independent of other species.

In summary, the tundra system is subject to extreme annual oscillation, which may exert strong control over the biotic components of the system. Although Arctic species are well-adapted to these conditions, fluctuations in the density and distribution of species do occur, and these fluctuations may or may not be synchronous for several species in a given area at any given time. To the extent that animal populations can be severely reduced within a particular region, the tundra system may indeed be regarded as fragile in terms of hunter-gatherer subsistence requirements.

Caribou, Rangifer tarandus groenlandicus

By far the most economically important tundra species on Baffin Island is the barren ground caribou (Banfield 1962; Elliott 1972). Soper notes that caribou were common on Baffin Island before the 1920s,

but were unevenly distributed over the island in relation to the availability of vegetation for browse (Soper 1928).

Adult male caribou average 102-108 kilograms in weight, while females are somewhat smaller, weighing between 68-78 kilograms (Kelsall 1968: 291; Banfield 1974: 305).

During winter, Baffin Island caribou herds inhabit primarily windswept hilly areas, where there is minimal snow cover (Soper 1928: 63). Food is obtained where the ground is exposed, or where the snow may easily be pawed through. Caribou are especially sensitive to the depth, hardness, and density of the snow; these are factors which may affect the availability of tundra plants during much of the year (Pruitt 1959). Deep snow may also hinder movement and escape from predators. The primary winter foods are lichens, although willow, grasses and sedges are also important (Kelsall 1968: 67-79; Banfield 1974: 385-86). Caribou are extensive rather than intensive foragers, roaming widely as they feed. This behavioral pattern along with their migratory characteristics are adaptations to the sparse vegetation of the tundra ecosystem (Bliss 1973). However, once caribou reach their winter ranges on Baffin Island, they tend not to travel very far (Soper 1928: 65).

Spring migrations begin in mid May, when caribou seek out specific, preferred areas in the interior of Baffin Island. Important factors determining the onset of the spring migration are the availability of food and ease of travel, both influenced by changes in snow cover (Elliott 1972: 41-43). Migration routes appear to be traditional. Calving takes place in June, in high, rugged areas chosen to avoid predators (Elliott 1972: 42). Pregnant cows and calves from the previous year stay together, but bulls split off from the herd and in summer are

usually solitary or wander in small groups of two or three (Soper 1928: 70). Throughout the summer the herds are widely dispersed, sex and age groups intermingle, and movement is erratic. Soper reported that caribou tend to stay inland during summer, preferring the Nettiling Lake and Amadjuak Lake areas (Soper 1928: 64), but Elliott observed considerable movement to the west coast of Baffin Island, with a residual population of bulls and barren cows remaining in the interior (Elliott 1972: 77-80).

In autumn, caribou congregate into large herds and migrate to the sea coast, although their movements during this season are haphazard (Soper 1928: 64). The rut season begins in early October and lasts until the end of November (Harper 1955: 101). During this time, the flesh of the male is considered unpalatable. By December, the herds have returned to their winter range.

Although males and females become sexually mature about a year and a half after birth, they usually do not begin to breed until much later: about four or five years old for the males and four years old for the females. By that age, only about half of the females become pregnant; thereafter, cows may bear offspring yearly. Elliott determined that only about five percent of the cows in the sample he observed were barren, indicating a high rate of fertility on Baffin Island (Elliott 1972: 69). Calf mortality may be quite high, with as many as 50-70 percent perishing during their first year. Cold and wet weather in summer are especially significant in bringing about a high number of deaths, as are severe winter conditions during the first year.

Wolves are a major predator of caribou. Although some studies have shown that wolf kills are largely confined to unhealthy fawns and

older or injured adults (Miller 1975), Elliott suggests that wolves may be a major factor controlling caribou population size on Baffin Island (Elliott 1972: 88-89).

Some aspects of caribou ecology may be significant with respect to the effects of paleoclimatic change. Gavin has suggested that prevailing weather conditions are correlated with the onset of caribou migrations in spring (Gavin 1975). Changing climatic patterns may therefore affect the migratory behavior during this season. Climatic change bringing about significant deterioration of summer conditions, as noted above, could bring about a reduction in the herd size. Pruitt notes that if herd sizes dwindle beyond a certain point, migratory patterns break down and small groups, wandering in a dispersed pattern, become characteristic (Pruitt 1960). All of these changes would, in turn, necessitate adjustments of hunter-gatherer exploitative patterns.

Arctic Wolf, *Canis lupus*

Although wolves occur on Baffin Island, they are not particularly abundant and are not likely to have been in the past (Soper 1928: 37). Wolves are an important predator of caribou, and also prey on foxes, hare, lemmings, birds, and to a lesser extent seals. The yearly distribution of wolves tends to follow that of caribou.

Arctic Fox, *Alopex lagopus*

Foxes are very well adapted to the Arctic environment, and periodically they are quite abundant on Baffin Island (Soper 1928: 33). Foxes prey on lemmings throughout much of the year, and to a lesser extent they also eat ptarmigan and hare. In spring, foxes may kill newborn seals. When food becomes scarce, they frequently become

scavengers, following polar bears in anticipation of a few leftover morsels.

Fox populations are subject to fluctuation in relation to lemming cycles, since they are unable to support their young when this food resource is low. Foxes breed in litters of 6-8 on the average (Breummer 1972: 104), but many of the young are eaten if other food supplies are unavailable; hence, fox populations have a four year cycle similar to that of lemmings. These population cycles were significant at least during the historic period, when fox trapping was an important economic activity in many areas of the Arctic.

Arctic Hare, *Lepus arcticus arcticus*

Hare are fairly prevalent on Baffin Island, especially along the seacoast in sheltered, southfacing valleys where vegetation flourishes (Soper 1928: 59-61). Hare tend to be dispersed in winter but frequently congregate in herds during summer. Their diet is herbivorous, consisting primarily of willow. Some ecologists have suggested that the distribution of willow patches is a primary determinant of the distribution of hare (e.g. Bliss et al. 1973). The size and weight of hare may vary quite widely. Several captured by Soper averaged three kilograms (1928: 62). In the North Bay vicinity, unusually large specimens have been sighted by archaeological field parties.

Ptarmigan, *Lagopus* sp.

The willow ptarmigan is the single year-round tundra dwelling bird that is of any significance to Inuit subsistence. Ptarmigan feed on a variety of plant species, preferring willow buds (Shelford 1963: 193). Hence, their distribution may be similar to that of hare.

The Marine System

The marine system is of considerable importance to the economy of Baffinland Eskimos. Along the south coast, most subsistence activities are carried out within a few miles of the shore. The following discussion will pertain largely to that zone.

The distribution of winter land-fast ice and Hudson Strait pack ice, along with formation and break-up processes, is perhaps the single most critical aspect of the marine system with respect to Inuit subsistence. Winter sea ice, which lasts for eight to ten months of the year, affects the distribution of marine species as well as access to them. Along the south coast, complicated patterns of nearshore currents and tides, coupled with complex coastal configurations, tend to delay autumn sea ice formation and to keep ice moving during winter. Also due to these factors, some localized areas remain ice-free throughout the year.

Ice conditions are extremely variable from year to year. In general, inshore fast ice begins to develop in small bays along the coast in October, and by December has formed a belt of coastal landfast ice that remains throughout the winter. Not until December is this ice thick enough for safe travel. The width of the fast ice belt varies from year to year and from place to place, although usually it is from one to six miles. Pack ice develops in the Hudson Strait in an east to west pattern. By early December, the North Bay waters beyond the floe edge begin to fill with pack ice, and from January until May there is about 80-90 percent cover. Wide, semi-permanent leads open up in the fast ice at various places; often, these extend out from points of land along the coast. In addition, the Hudson Strait current swings around Big Island with sufficient speed to prevent freezing and ice

formation. This results in a major floe edge extending from Big Island to Juet Island. The actual position and extent of this floe edge vary from year to year, however. Tidal currents keep several areas ice free the year round. An important open water area during winter exists in McKellar Bay, where tidal currents rush violently through the Pudlatic Islands; consequently, this is a favorite seal hunting area. There is also a polynia at the west end of the White Strait between Big Island and the Baffin Island shore. In severe winters when ice cover is too thick for ringed seal breathing holes, this polynia is the only local source of marine species (William B. Kemp, personal communication). Otherwise, the entire North Bay area is covered during winter by a broad expanse of relatively flat land-fast ice which supports a large seal population.

Spring breakup is a slow process, commencing with the expansion of inshore leads in June. By the end of the month, much fast ice has broken off and joined the pack ice in the Strait. Movement of this ice out of the North Bay region is to the east; this continues through June and July so that by the end of July there is usually 90 percent open water. August and September are ice free months except for occasional icebergs and remaining pieces of pan ice. However, occasional strong and persistent southeast winds may force rough pan ice against the shore during summer months, precluding any maritime hunting in North Bay or adjoining islands.

Recently, Crane (1978) has analyzed the patterns of seasonal variability in sea ice formation and breakup in the Davis Strait-Labrador area. Crane found that general patterns of ice advance and retreat in this region varied independently, and were correlated with

the prevalence of specific types of synoptic circulation patterns. Early sea ice formation was associated with increased northerly and westerly airflows resulting in lower temperatures and increased influx of pan ice into the region. Years experiencing later sea ice advance were characterized by reduced influxes of old ice. Early retreat was correlated with synoptic types bringing about increased southerly airflows in summer, while late retreat was associated with periods during which few days had these airflows. In addition to the synoptic correlations, the displacement of the 700 millibar trough over the Eastern Canadian Arctic was found to be associated with yearly sea ice patterns. It is expected that similar correlations probably obtain for the south coast of Baffin Island.

As previously noted, the offshore waters along the south coast are relatively deep, except in areas where reefs and rocky islets are numerous. There are several places, however, where sizeable tidal flats are exposed at low tide. These are important areas today for gathering clams.

The Arctic marine system is characterized by two properties that affect the life processes of marine species. These are: (1) comparatively low primary productivity, and (2) a comparatively high degree of stability, or lack of severe oscillation resulting from small scale climatic effects. Low primary productivity results from the normal year round vertical stability of the water; this prevents the upwelling of nutrients from bottom layers to the upper layers where phytoplankton occur (Dunbar 1968: 41). However, the relative stability of the marine ecosystem, especially when compared to the tundra ecosystem, results in a much greater stability in the populations of indigenous species (Hett

and O'Neill 1974).

Based upon the mixing of Atlantic and Arctic waters in the Hudson Strait area, Dunbar has classified the marine ecosystem adjacent to the south coast of Baffin Island as a subarctic system (Dunbar 1968, 1970). Several characteristics of subarctic marine waters include: (1) higher temperatures; (2) less year-round ice cover; (3) less vertical stability in summer and winter resulting in more extensive nutrient mixing and thus higher primary production; (4) a greater variety of indigenous flora and fauna, and thus greater ecosystem complexity and stability; (5) reduced seasonal variability in standing crop as well as in other environmental features; (6) greater sensitivity to change in the marine climate brought about by changes in heat absorption in tropical and subtropical waters (Dunbar 1968: 43-49).

As a result of these characteristics, and in contrast to the tundra system, the marine system along southern Baffin Island is far less likely to experience oscillation as a result of climatic perturbations. To the extent that marine resource distributions are stable and predictable, the marine system offers a far more secure resource base than does the tundra system. This is especially true in times of increased climatic stress.

Ringed Seal, *Phoca hispida*

The ringed seal is the most widely distributed of the Arctic pinnipeds, found along coastlines throughout the circumpolar area wherever there is suitable fast ice for breeding (King 1964; Mansfield 1967). Along the south coast of Baffin Island ringed seals are fairly abundant; McLaren has estimated a total of about 100,000 (McLaren 1962: 177). Although ringed seals feed in both shallow and deep water

habitats, they are typically concentrated within ten miles of the coast (McLaren 1962: 178). On Baffin Island, ringed seals are also known to inhabit Nettiiling Lake.

Ringed seals are the smallest sea mammal hunted by the Inuit. Males average 137 centimeters in length and approximately 68 kilograms in weight, while females are slightly smaller. The average size of these seals is related to the annual stability of fast ice; therefore, seals from more northerly latitudes tend to be larger than those from southern Arctic regions where the sea ice breaks up earlier in the year (McLaren 1962; Smith 1973). According to Kemp, the average weight of all ringed seals taken in the Lake Harbour area is 36 kilograms (Kemp 1972: 110).

Male ringed seals mature at about seven years old, while females reach maturity anywhere from four to seven years old. On the average, the number of males slightly exceeds that of females, although the male/female ratio fluctuates with regard to specific age class (Smith 1973: Table 7).

The seasonal distribution of seals according to age class is significant in terms of traditional Inuit hunting patterns. During the winter, adult seals plus a few young remain under the fast ice floes deep in bays and inlets, where they maintain numerous breathing holes. Most juveniles, however, are found in the open water at the edge of the fast ice (McLaren 1962: 171; Smith 1973: 19-21). Smith has suggested that juveniles are actually excluded by the adults from the fast ice areas where breeding occurs (Smith 1973: 21). In spring, seals haul out onto the ice near their breathing holes or along the floe edge to bask in the warm sunshine and moult. McLaren has observed that the greatest

density of basking seals occurs on fast ice within one mile of shore and surrounded by further ice; fewer numbers of seals were observed on ice within one mile of land but exposed to open water, and on ice more than one mile from shore (McLaren 1962: 123). Smith has similarly observed a differential distribution of basking seals on ice within fiords, on ice along the coast, and on ice in offshore areas along the Davis Strait (Smith 1973: 29-30). During summer, seals appear to be more or less randomly distributed in coastal waters, where they tend to avoid drifting pack ice.

Female ringed seals begin to bear young between the ages of six to eight years; among females in the ten years or older age class, almost 100 percent are fecund (McLaren 1962: 170). Few are expected to reach post-reproductive age, although the proportion of pregnancies probably decreases with age. The mating season occurs in spring, shortly after the birth of pups, and often while the females are still suckling the young. Due to delayed implantation, the embryo develops very slowly at first; only after several weeks will normal rates of growth begin to occur. This process results in a one year reproductive cycle, which enables the female to bear young each year. Usually only one pup is born at a time.

Birth takes place in dens in the sea ice. These dens may be natural hollows formed by rafting ice, or the female may dig one in deep snow covering the ice. Breathing holes lead from these dens to the water below the ice. Pups usually are born in April, and a female nurses her pup until breakup. Therefore, the longer the ice remains stable into the spring, the longer the pup will be able to suckle and the larger it will grow. Since complex, irregular coastlines retain

fast ice longer into the spring, these areas are selected by large numbers of pregnant females. McLaren suggests that surplus females may be forced to occupy the less favorable areas of fast ice (McLaren 1962: 173).

The patterns of ringed seal distribution vis a vis fast ice areas described by McLaren imply a high degree of sedentism. However, Smith has suggested that extensive migrations do occur, especially among younger seals (Smith 1973).

Ringed seals eat a variety of planktonic, nektonic, and benthonic organisms, preferring the small, shrimp-like epibenthic crustaceans Parathemisto and Mysis, as well as polar cod, Boreogadus. In deeper offshore waters, various planktonic species are fed upon. Since food is taken from many points on the food web and from at least two trophic levels, food availability is not a limiting factor of ringed seal populations and their distribution.

Feeding activity declines in spring, during the basking and moulting season, which results in a drop in weight as the layer of blubber decreases. This, in combination with decreased salinity of sea water from melting ice, results in a greater proportion of kills lost to sinking during spring.

Ringed seals have no natural competitors and few predators. Walrus are thought to occasionally kill seals, but polar bears are the major natural enemy. Ringed seals are the primary dietary prey of polar bears. Most often, juvenile seals are killed by polar bears, probably because they are less wary than adults (Stirling and McEwan 1975). In spring, polar bears stalk the offshore ice in search of birth dens and hauling out places, where juveniles are found in greater

abundance. However, the greatest concentration of birth dens occur in the inner hay areas, so polar bear predation in fact does not seriously threaten the reproductive viability of the ringed seal population.

Arctic foxes are another predator, especially during spring when they frequently scavenge polar bear kills. Since polar bears usually eat only the blubber of a killed seal (Stirling 1974a, Stirling and McEwan 1975), much of the carcass is left as carrion for sub-adult bears and foxes. Gulls may also occasionally kill newborn seal pups if they are exposed, but this is rare.

Diseases among ringed seals appear to be uncommon. The greatest natural cause of mortality for immature ringed seals stems from unstable, shifting pack ice in winter, which may trap or crush seals at the floe edge. Tooth wear among older seals prevents them from maintaining breathing holes under the fast ice in winter. Otherwise, the longevity of seals is relatively great; occasionally they surpass 40 years of age.

Bearded Seal, *Erignathus barbatus*

The bearded or square flipper seal is less abundant along the south coast of Baffin Island than the ringed seal, but it is highly prized for its meat and skin, which is used for a variety of purposes. Bearded seals most commonly inhabit shallow water areas which are free of land fast ice during winter. However, bearded seals are known to occasionally maintain breathing holes in the fast ice, and recent studies have indicated that this characteristic is perhaps more common than previously thought (Mansfield 1975: 135). Bearded seals are also sometimes found at the floe edge during winter. In spring, they are usually found in the moving pack ice, where they breed.

The large size of bearded seals doubtless contributes importantly

to their desirability as food resources. Males average 190 centimeters in length, and weigh 340 kilograms or more. Females are only somewhat smaller.

The diet of bearded seals consists largely of burrowing or sedentary bottom invertebrates such as whelks, mussels and clams. Bearded seals do not feed in deep water. Thus, while other foods are eaten in limited quantity, bearded seal populations are determined by the availability of ice free feeding banks in winter (Mansfield 1967). As with ringed seals, a decrease in feeding during spring results in a decrease in blubber and a corresponding loss of buoyancy. Also like ringed seals, bearded seals have no major natural competitors, but do suffer the same rigors as ringed seals.

Females bear young around the first of May. The male rutting season lasts until June, but they are most potent during mid May. Since the delayed embryo implantation mechanism does not occur in bearded seals, if a female has just pupped she will not be ready to mate again. Therefore, among bearded seals there is a two year breeding cycle.

The smaller populations of bearded seals along southern Baffin Island, together with their slower reproduction rate, means that they could not sustain the same intensity of hunting pressure that the ringed seal can. McLaren estimates that the bearded seal population along the south coast can sustain a five percent annual kill, whereas the ringed seal populations have been unaffected by seven percent annual kills in recent years (McLaren 1962: 177).

Harbour Seal, *Phoca vitulina*

The harbour seal, although indigenous, is infrequently encountered along the south coast of Baffin Island. It also prefers

open water, and in addition has a liking for fresh water; hence, it is often found in estuaries, rivers and lakes.

Both males and females are slightly larger than the ringed seal, averaging 152 centimeters in length and 91 kilograms in weight (Mansfield 1967: 4).

During winter, harbour seals remain in areas where tide rips, polynias, swift currents, and river outflows keep the sea free of ice; they are never found amongst fast ice. Adults are usually sedentary, but juveniles may range far from their birthplaces.

Females have an annual reproductive cycle. Pupping occurs in late June to early July at hauling out places. These are usually sandbanks, mudflats, reefs, or rocky places. Pups are precocious swimmers, as they must leave their birthplace with the next high tide. However, they do remain with their mothers for several weeks, and suckle at subsequent hauling out places.

Harbour seals eat a variety of foods, preferring fish but accepting whatever is most readily available. Harbour seals are subject to the same predators as ringed and bearded seals, although in a slightly different habitat.

Harp Seal, *Pagophilus groenlandicus*

The harp seal is a migratory species that swims from its breeding grounds in the Labrador-Newfoundland area to the south coast of Baffin Island during the summer months (Mansfield 1967). However, harp seals tend to swim far out from the south Baffin coast, and for this reason they are infrequently hunted in this region.

Adults of both sexes average 163 centimeters in length and weigh about 136 kilograms. During the spring and summer, they feed on

small, shrimp-like planktonic crustaceans, and the adults also frequently eat fish. By late September to early November they leave the Hudson Strait area, returning to their more southerly breeding grounds. Pupping season lasts from late February to mid March. Pupping occurs on the sea ice where the young are suckled for three to four weeks prior to migration, which usually begins in early May. Females mate toward the end of the suckling period, and thus have an annual breeding cycle.

Walrus, *Odobenus rosmarus*

The walrus is the largest pinniped of the Eastern Canadian Arctic. Like the bearded seal, it prefers open water, shallow bank areas; but unlike seals it is highly gregarious. Walrus occur along the south coast of Baffin Island principally in the Middle Savage Islands/Pritzler Harbour area, but occasionally they migrate further west and are sometimes sighted in the North Bay area.

Males grow to a large size, averaging 305 centimeters in length and weighing about 907 kilograms. Females are smaller, averaging about 259 centimeters in length and 567 kilograms (Mansfield 1967).

For much of the year, walrus are associated with pack ice, where they haul out to rest and to breed. During open water season they congregate in large numbers at traditional hauling out places on the land. Usually these are rocky islets or promontories with access to deep water. In winter, they keep to leads in the fast ice, or in areas where currents keep the water open. Breathing holes may be opened up in newly formed ice, and walrus frequently break holes through thin ice forming off the floe edge in winter. Groups of walrus are usually sexually segregated, females remaining with the young and immature.

Males mature at about six years of age, females at about four years. Females do not usually breed until several years later, however. Birthing takes place in April or May. Calves are suckled for about two years, during which time they grow very rapidly. Males are in rut from December to March. The reproductive cycle is biennial, but missed pregnancies, especially in older females, result in births every three to four years for most females.

Walrus feed mainly on clams dug up with their tusks, in addition to other bottom-living species such as whelks, crabs, sea cucumbers, and sculpins. They also occasionally kill and eat ringed seal.

Because of their large size and gregarious nature, walrus are very rarely attacked by other animals such as polar bear. These same characteristics, however, make them especially easy prey for skilled human predators.

Beluga Whale, *Delphinapterus leucas*

The beluga, or white whale, is actually a medium-sized porpoise which inhabits Arctic seas (Sergeant 1962). There is a year-round, resident population in Hudson Bay, and small groups migrate along the south coast of Baffin Island during the summer and fall. Beluga most commonly travel in schools.

Adult males are about 460 centimeters in length, and females somewhat smaller. The average weight is about 454 kilograms (Nelson 1969: 305).

Beluga travel in shallower water along coasts during the open water season, but in winter often take to deeper water, where they tend to keep to open areas off floe edges or in wide leads.

Beluga feed on open sea as well as bottom living fish and a

variety of invertebrates. During summer beluga sometimes travel up larger rivers to feed on fish.

The mating season occurs in March and April, and calving usually occurs in May and June. Females give birth to a single calf at a time, and the rate of pregnancy is biennial.

Bowhead Whale, *Balaena mysticetus*

The bowhead or Greenland whale is a large baleen whale indigenous to Arctic waters (Mansfield 1971). This is a gregarious, migratory species which travels north in the spring from Atlantic waters, and south again in early winter, occupying an open water habitat.

The bowhead is a fairly large whale, attaining fifteen meters length. These whales average one ton per linear foot in weight. They consume plankton in huge quantities, feeding as they swim slowly along near the surface of the ocean.

Calves are born in April, and stay close to their mothers, suckling for about a year.

Polar Bear, *Thalarctos maritimus*

The polar bear is best considered a marine predator: much if not most of its time is spent on the ice or in the water in search of its primary prey, the ringed seal. Polar bears are present but less frequent along the south coast of Baffin Island than in some eastern Arctic locales. However, they may be seen at any time of the year.

Although polar bears seem to move about randomly during the year, females do select specific areas in early winter where they dig out dens (Breumner 1972: 78). Cubs are born in November or December, and in March the mother and her cub will leave the den and begin

wandering in search of seals or other prey. Male polar bears usually do not hibernate, but continue to wander throughout the winter.

Seals form the major part of the polar bear's diet, especially in spring and early summer when they are easiest to hunt. During other seasons, however, polar bears will switch to other foods as they become available. These include small land mammals, birds, and eggs. During late summer, polar bears may be forced to subsist on an entirely vegetarian diet consisting of grass, sedges, berries or other plants. When food is particularly difficult to find, polar bears will estivate, digging pits to doze in so as to expend a minimal amount of energy until food once again becomes plentiful (Breumner 1972: 85).

Females usually give birth to a single cub at their first pregnancy, but thereafter usually two. Mothers are fiercely protective of their cubs. When they reach adulthood, polar bears weigh as much as 454 kilograms.

Waterfowl

During the summer months a variety of birds inhabit the south coast of Baffin Island. Most of these are migratory species which are present usually from June until September. Among the marine-dwelling species are the Canada goose (Branta canadensis), snow goose (Chen caerulescens), old squaw (Clangula histrionicus), common elder (Somateria mollissima), king elder (Somateria spectabilis), harlequin (Histrionicus histrionicus), red breasted merganser (Mergus serrator), gulls (Larus sp.), thick billed murre (Uria lomvia), black guillemot (Cephus grylle), common loon (Gavia immer), Arctic loon (Gavia artica), and the red throated loon (Gavia stellata).

The breeding season of these species occurs while they are

present on Baffin Island. The eggs of ducks, geese, and gulls are especially important food resources during these months (Kemp 1972: 110).

The Riverine/Lacustrine System

Although the riverine/lacustrine system is of least economic importance to the Inuit along the south coast of Baffin Island, seasonal fishing does provide an important part of the yearly food supply. As is the case in tundra and marine systems, lakes are low in primary production, due largely to their geologically young age. However, many of the larger lakes support sizeable fish populations, both indigenous and anadromous. Rivers serve as migratory pathways from the lakes to the seas for the anadromous Arctic char. During summer months, migratory waterfowl (ducks, geese) nest along the shores of rivers and lakes, as well as at various places along the Hudson Strait coast.

Seasonal ice characteristics are the primary physical features affecting the economic potential of riverine/lacustrine habitats. Freeze-up occurs in autumn, and ice remains solid throughout the winter. Streams and rivers normally break up after the end of May, and maximum water volume is carried from the end of June through July. The breakup of ice in lakes is more variable, and is primarily controlled by the spring air temperature, depth of ice, and extent of the snow cover. Some lakes remain frozen year round.

Arctic Char, *Salvelinus alpinus*

Arctic char are anadromous, sea run fish that breed in the fresh water of coastal lakes connected to the sea. Arctic char normally spend only about one or two months of the year at sea, when

most feeding is done. The first migration to the sea usually occurs during the fifth to seventh year (Grainger 1953: 326). Migration begins in late June, when the fish swim out to sea beneath the still-breaking river ice. Return to the fresh water is from late July until September. This seems to be influenced by tidal conditions, with most upstream movement taking place during high tide. The first mass upstream migration coincides with the neap tide (Grainger 1953: 368).

Arctic char grow very slowly, taking up to twelve years to reach 45 cm in length. About this time the females are sexually mature. Females do not spawn every year, but only during alternate years. Comparatively few eggs are produced per spawning. Mortality of newly spawned char is high, especially from cannibalism. For these reasons, it is relatively easy to fish out a stream, and when this occurs recovery will be very slow.

Birds

Geese, ducks, and loons inhabit freshwater lakes as well as the marine coastal area. As mentioned previously, these birds as well as their eggs (particularly duck and goose eggs) are important food resources during the summer months.

The distribution of food resources indicated in this chapter is such along the south coast of Baffin Island that any sea water/fast ice trip might produce at least one individual of the above species in a probability cline based on its relative frequency and distribution. However, within a hundred mile radius of the Thule sites discussed in this study, modern Inuit hunters report the following nodes of concentration (William B. Kemp, Lorraine Brooke, and M. S. Maxwell, personal communications from Lake Harbour Inuit hunters): Ringed seal anywhere

but more frequent in and near North Bay and Markham Bay; harbour seal only between northern Middle Savage Islands and Baffin coast; harp seal anywhere, but infrequent; walrus from the southeastern Baffin tip to Barrier Inlet and western Markham Bay; caribou from southeastern Meta Incognita peninsula during winter, Soper Valley and valley north of McKellar Bay in spring, and Markham Bay and Crooks Inlet in summer and early fall; polar bear in rough ice/floe edge from Pritzler Harbour to southeastern Baffin tip and off Juet and Big Islands in early spring; beluga in Itivirk and McKellar Bays in late fall; char in Shaftsbury Inlet, Bruce Harbour, Crooks Inlet, and Markham Bay in late summer; ducks, geese and eggs at the west end of Big Island, and at Middle Savage Islands in early summer. Wolves (no longer hunted) at Markham Bay appear concurrently with the arrival of caribou herd drifting east-west. Foxes (also no longer hunted) are found at Big Island and in the vicinity of any winter site. It is apparent that during the past twenty years this information is used in maximizing strategies only with regard to fish, duck eggs, and caribou (M. S. Maxwell, personal communication).

CHAPTER FOUR

THE CULTURAL SETTING

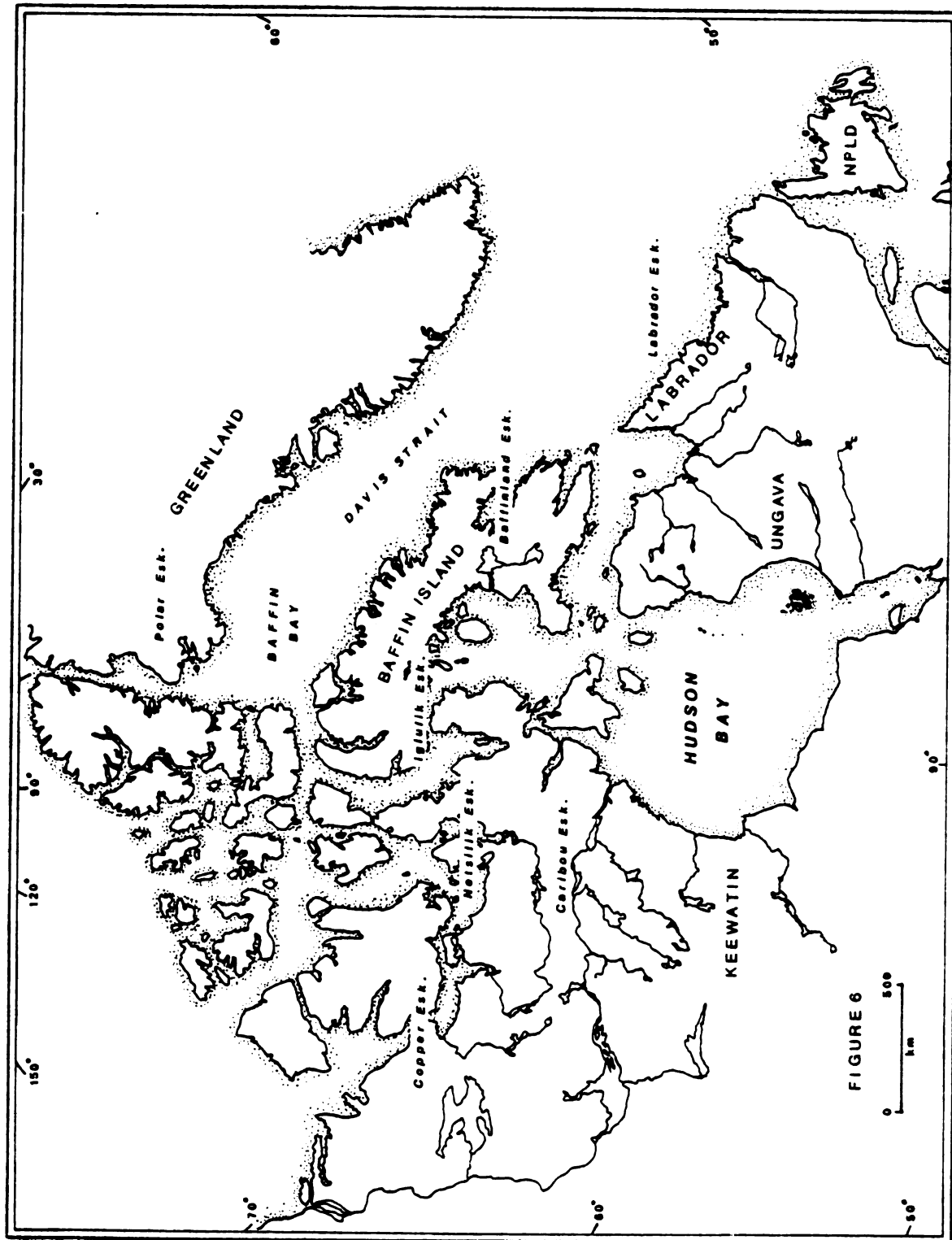
Introduction

The Inuit inhabiting the south coast of Baffin Island are part of the larger cultural group referred to as the Central Eskimo (Figure 6). In his classic ethnography of this group, Boas describes the region occupied by the Central Eskimo as "the northeastern part of the (North American) continent and . . . the eastern islands of the Arctic-American Archipelago" (Boas 1888: 414).

On Baffin Island, where his own fieldwork was carried out, Boas identified several local groups who referred to themselves according to the names of places they inhabited. Those groups associated with the south coast of Baffin Island include the Sikosuilarmiut, who inhabited the southwestern part of the island along the Foxe Peninsula; the Akulfiarmiut, who were centered in the North Bay-Big Island region; and the Qaumauangmiut, who lived further to the east in the vicinity of the Middle Savage Islands (Boas 1888: 421-22).

The purpose of this chapter is to summarize from the ethnographic literature as much of the aboriginal pattern of subsistence and settlement behavior as can be reconstructed, in order to clarify major characteristics of Baffinland Eskimo adaptive organization. Particular emphasis is directed first toward outlining the basic components of a subsistence-settlement system. Following this, strategies which provide

Figure 6
Regions Inhabited by the Central Eskimo



adaptive response to the effects of climatic/ecological change are identified.

In addition to Boas' ethnography and additional works (Boas 1901/1907), other descriptions of the Baffinland Eskimo include several early accounts (Collinson 1867; Ellis 1967; Hall 1865; Kumlien 1867), as well as later sources which refer to the first quarter of the present century (Bilby 1923; Fleming 1965; Hantzsch 1977; Munn 1922). More recent studies include those by Graburn (1963), Kemp (1971, 1975, 1976, n.d.), and Manning (1944).

Ethnographic accounts of other Central Eskimo groups are numerous. Major works include those of early explorers and ethnographers (e.g. Hawkes 1916; Steffanson 1913, 1914; Steensby 1910; Turner 1894), members of the Canadian Arctic Expedition of 1913-18 (Jenness 1922, 1924a, 1924b; Roberts and Jenness 1925), and, most notably, members of the Fifth Thule Expedition of 1921-24 (Birket-Smith 1929, 1945; Mathiassen 1928; Rasmussen 1929, 1930, 1931, 1932). Several more recent studies of Central Eskimo culture are also based in large part on data pertaining to the earlier part of the present century (e.g. Balikci 1964, 1967; Damas 1963, 1969a, 1969b, 1975; J. G. Taylor 1974).

In the following sections of this chapter, ethnographic data on Baffinland Eskimos are presented in three parts. First, the annual cycle of subsistence and settlement activities is outlined. This is followed by a more specific examination of resource procurement activities, in which technology and hunting methods are emphasized. Finally, major characteristics of aboriginal social organization are evaluated in relation to the annual cycle. Attempted here is a portrayal of the aboriginal or traditional Baffinland Eskimo subsistence-settlement

system and its adaptive organization prior to extensive acculturative change (e.g. introduction of boats, motors, guns, cash economy, etc.). The ethnographic present is used throughout the chapter.

Annual Cycle

At the close of summer, Baffinland Eskimo groups gather along the coast and establish their fall-early winter villages. These settlements are situated in places close to major hunting areas which are also protected by local topographic relief from adverse weather conditions (Boas 1888: 420, 428; Bilby 1923: 72). A primary factor associated with the aggregation of people at these settlements is that during fall cooperative walrus and beluga hunts are carried out, and these activities require several hunters (Boas 1888: 497-98; Kemp n.d.). According to Kemp, the size of these villages is variable, but ranges between 18 and 40 persons.

Hunting activities are particularly intensive during October and November, in order that large quantities of food might be stored for subsequent winter use. In addition to walrus and beluga hunting, sealing in the still open water and fishing at weirs in coastal rivers are carried out. In modern times, the extent to which winter hunting is necessary depends in part upon the success of the fall hunt (Kemp 1971: 110-11).

Small game and bird hunting, digging for clams, and collecting berries, plants, and other materials are minor subsistence activities which continue from the summer months.

The fall-early winter settlement consists of seal skin tents and the more substantial qarmats, which are strongly reinforced skin tents with sod and stone foundations, sometimes with two or three rooms

to accommodate large or multiple families. Often, qarmat structures are set up over older stone house foundations (Boas 1888: 547-50). In addition, a variety of other structures are set up, including storage facilities, festival or dancing houses, and kayak stands. These settlements are traditionally occupied by the local group year after year. However, many of the structures, especially storage facilities, are used during all seasons. Most village occupants eventually move on to other seasonal settlements, but it is not unusual for some to remain at this site year-round. Consequently, the fall-early winter village is the most important settlement of the local group, around which the seasonal pattern of movement is organized (Kemp n.d.).

As the winter season progresses, subsistence activities turn increasingly to the hunting of seals at breathing holes in the fast ice as well as in the open water margin off the floe edge. If the fall-early winter settlement is situated along the coast so as to afford easy access to the sea ice hunting areas, then it remains as situated throughout the winter. During these months, snow houses are the major dwelling type (Boas 1888: 539). Frequently, however, it is necessary to relocate the sealing village out onto the ice, closer to the hunting grounds. This move does not occur until December, because only then is there sufficient snow on the sea ice to permit construction of snow houses. In some years, the maximal aggregation of the local group occurs at this time, in order to provide as many hunters as possible for breathing hole seal hunting. Damas has suggested that aggregations of as many as 100 persons are typical for aboriginal Central Eskimo sealing villages (Damas 1969a: 122); however, Baffinland Eskimo sealing villages are generally smaller (Kemp n.d.).

The duration of the sea ice village is variable, depending on the success of the hunt as well as the stability of the ice. Bilby (1923: 89) notes that coastal villages are preferred, thus sea ice settlements are occupied only for a few weeks. Furthermore, recent satellite photos demonstrate that sea ice settlements along this shore in locales other than North Bay and Markham Bay can be dangerously unsafe.

In addition to sealing, caribou are occasionally hunted along the coast and in the interior. During the latter part of the winter and on into spring, fishing for char beneath lake ice is also carried out, and birds and other small game are sometimes hunted. Cod may also be obtained from coastal lakes affected by Hudson Strait tides.

With the onset of the basking seal season in March or April, the winter village breaks up and smaller snow house camps are established in scattered places along the coast (Boas 1888: 419). Each family chooses their own campsite, but usually these are located fairly close together so that families may easily visit each other (Bilby 1923: 83). Floe edge hunting continues during this season but the major hunting effort is directed toward seals basking on top of the ice. Occasionally, polar bears, who at this time are also stalking the sleeping seals, are killed as well. The dispersal of the spring camps along the coast is directly related to basking seal hunting, since the success of the hunt depends upon the extent of area that can be visited by hunters working either singly or in pairs (Boas 1888: 428, 485).

As the spring season progresses and the snow begins to melt, snow houses become increasingly uncomfortable. To prevent them from caving in, the snow block roofs are removed and replaced with seal skins.

Eventually, enough new skins are obtained by the hunters to enable the women to sew new tents (Boas 1888: 419, 451-53, 576-77). Soon, tent camps are set up at the heads of fiords and inlets, where char can be taken and where access to the interior caribou hunting grounds is easiest (Boas 1888: 419).

During the summer a wide variety of hunting activities are carried out (Kemp 1972, n.d.). These activities are distributed across many distinct habitats, and small settlements are established at various points along the coast as well as in the interior. Some members of the local group, especially older men, women, and children, remain at the coastal settlements and engage in fishing, hunting seals and waterfowl from kayaks, and hunting birds and small game on land. Digging clams and mussels, and collecting eggs, berries, and a variety of other materials are also frequent activities. Most of the food obtained in the course of these activities is consumed within a few days, and practically none is stored. During late summer, however, Arctic char may be obtained in great quantities, at weirs set in major rivers along the coast. Many are cleaned and dried, and stored away for subsequent winter consumption or use as dog food (Boas 1888: 515; Kemp n.d.).

The other major summer activity is caribou hunting. For this, many families travel inland, and set up large camps in areas where caribou are abundant. Boas (1888: 421) reports that the Akuliarmiut usually establish their summer camps along the south shores of Lake Amadjuak. Bilby (1923: 239-40) also speaks of large caribou hunting camps at Markham Bay, and indicates that at this time of the year large population aggregations normally occur. As the summer season progresses into fall, caribou hunting becomes an increasingly important activity,

not only to obtain the best skins for clothing but also to add to the supply of meat stored away for the coming winter months (Boas 1888: 419,501).

Before the sea ice begins to freeze in late fall, the caribou hunt is ended, and the local groups once again congregate along the coast. Thus, the annual cycle begins anew.

In summary, the annual cycle of hunting activities along the south coast of Baffin Island revolves around open water walrus and beluga hunting in fall, winter seal hunting at breathing holes in the fast ice or at the floe edge, basking seal hunting on the sea ice in spring, and fishing and caribou hunting throughout the summer and early fall. These activities are augmented by a variety of secondary and/or alternative procurement options. As a result, the economy of the Baffin-land Eskimo is based on the seasonal utilization of a variety of animal, plant, and material resources obtained from a number of distinct habitats (Figure 7). An annual pattern of settlement and demography is related to this subsistence orientation, in which varying numbers of individuals and families establish a number of settlement types from which specific subsistence activities are carried out. These major settlement types include: large, fall-winter base camp/village settlements along the coast; large, temporary snow house villages on the sea ice; small, springtime snow house camps along the coast; small summer tent camps along the coast; and, finally larger summer tent camps located in the interior.

Technology and Resource Procurement Strategies

Much of the information presented in this section was taken from Boas (1888, 1901/1907), and therefore his terminology for specific items

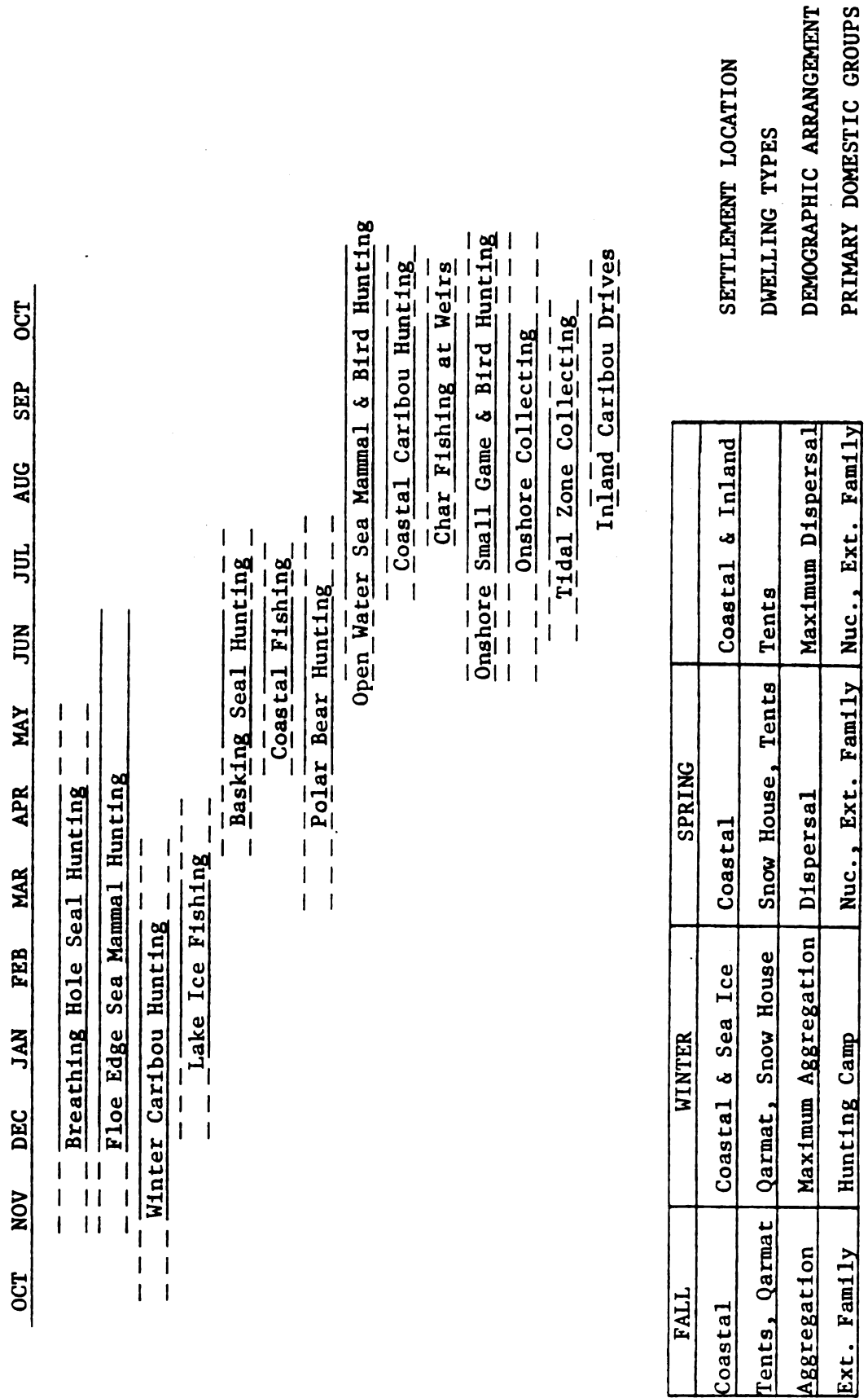


Figure 7: Annual Cycle of Baffinland Eskimo

and activities is used. It should be noted that Boas' spelling of Inuttitut words (underlined in the text) differs somewhat from modern Inuit orthography.

Breathing Hole Seal Hunting

During late fall ice begins to form along the margins of the shoreline and gradually it extends outward. As the ice grows in extent and thickness frequent storms break it up, but eventually it begins to form a more stable cover. During this season of ice formation, younger seals move farther away from the shore to remain in open water, while females and adult males begin to maintain breathing holes through the newly formed ice in bays, inlets and offshore areas protected by islands. By December, the fast ice expanse becomes a major hunting ground where ringed seals and, to a lesser extent, bearded seals are hunted throughout the winter.

During the earlier part of the ice hunting season, before there is substantial buildup of snow, breathing holes are relatively easy to locate, and it is even possible to discern holes kept open by bearded seals (Kemp n.d.). However, by mid-December snow drifts across the ice, making the holes increasingly difficult to see. According to Boas (1888: 475), under these conditions dogs are frequently used to locate breathing holes by scent.

The winter harpoon, or unang, is the primary weapon used for breathing hole seal hunting, and in addition to this a variety of ice hunting accessories are also used. The aboriginal form of this harpoon is described by Boas in his ethnography (1888: 471), and illustrated in a later report (1901/1907: 16, Figure 8). This harpoon has a bone fore-shaft firmly attached, or fixed, to the wooden shaft. At the opposite

end is a bone or ivory ice pick. Both foreshaft and ice pick are attached by means of thongs and rivets. The fixed foreshaft and ice pick are distinguishing features of the winter ice hunting harpoon throughout the Central Arctic (Birket-Smith 1945). A small toggling harpoon head, or naulang, is fitted to the foreshaft and attached to the harpoon by means of a seal skin thong, one end of which is passed through the line hole of the naulang and tied or braided into a loop. The line is then tied to the harpoon shaft with a slip hitch so that when a seal is struck, the hitch comes undone and the harpoon shaft falls away. Sometimes the line is tied to the shaft in such a way that the shaft is dragged down into the hole, impeding the movements of the struggling seal.

When the hunter arrives at the hole, or allu, he cuts away the snow cover with a snow knife, and examines the hole to determine if it is still in use. Satisfied that a seal will eventually return, the hunter sets about making preparations for his wait. This often includes erecting a snowblock windbreak as well as a seat. The harpoon is laid across two notched pegs struck into the snow. Sometimes, a thin wooden rod is stuck down into the hole, with a bone or ivory knob on top which rests on the surface of the snow. When a seal rises to breathe it nudges the rod, thereby alerting the hunter to its presence. Boas reports some aversion to the use of this seal indicator, however, as it frequently scares the seals away (Boas 1888: 479). More often, the Inuit depend upon their sense of hearing to detect the sound of the seal as it surfaces (Boas 1888: 477; Kemp 1972: 110).

Once the seal is harpooned, the hunter quickly cuts away the snow with his snow knife, holding onto the line as the seal attempts to

escape. When the seal surfaces for air, it is killed with a blow to the head. The hunter then drags the carcass out onto the ice, and closes its wounds with wound pins or plugs made of bone, ivory, or wood. A slit is cut through the nose or the lower jaw, through which a line is passed, which has a toggle tied to one end. At the opposite end of the line is a handle for dragging the seal across the ice to the sled or back to camp. To prevent the line from becoming twisted or tangled, a small whirl is sometimes attached. Boas notes that a single hunter usually kills at most only one to two seals in a day (Boas 1888: 482).

Boas does not mention exactly how many hunters go out onto the sea ice together. However, since one seal may keep six to twelve holes open, it is most efficient for as many hunters as possible to disperse throughout a particular area. This factor is generally viewed as a primary reason for the aggregation of families at the winter seal hunting villages in the Central Arctic. Damas has suggested that in general breathing hole seal hunting requires at least a dozen hunters, which implies a minimum of 50 persons at the winter village (Damas 1969b: 51). However, in the southwest Baffin-northwest Hudson Bay region, Manning reports that only six or seven hunters usually go out together (1944: 141). Given Kemp's figure of 18-40 for the winter village size among the Baffinland Eskimo, an estimate of 6-10 hunters can be made.

Boas notes one major variation in breathing hole seal hunting which sometimes occurs during spring just before breakup (Boas 1888: 455). When the snow has melted from the ice and the breathing holes are again easy to find, the entire village disperses over the ice in search of all holes they can find. Armed with sticks, the women and

children frighten away any seals that rise at their holes, and eventually the seals come up at the holes where the men are stationed with harpoons.

Seals obtained during the course of breathing hole hunting usually are brought back to the village and processed inside of the qarnat or snow house. If adequate supplies of meat and skins are already on hand, then additional amounts may be stored for use during future periods when the hunters may be less fortunate. Although the dogs are fed some seal meat during winter, most goes for human consumption (Kemp 1971).

Floe Edge Seal Mammal Hunting

In addition to breathing hole seal hunting, a primary means of food procurement during winter is by hunting ringed seals, bearded seals, walrus, and occasionally beluga whales in open water at the edge of the landfast ice. This is a particularly important activity in the North Bay region, since the open water margin between Big Island and Juet Island is very close to the expanse of fast ice in the interior of the bay (Kemp n.d.).

Floe edge hunting becomes an increasingly favored activity late in the winter, when snow cover on the fast ice makes it difficult to locate breathing holes (Kemp 1971: 111). Ringed seals and bearded seals are the primary animals hunted at this time. Later on in spring, walrus and beluga may also be hunted. The basic method of hunting from the floe edge is to wait or walk along the edge of the ice until a seal (or other marine mammal) passes within range of a thrown harpoon. Upon striking the seal, the harpoon line is played out until the animal tires and can be pulled in to the floe edge and dispatched. The winter

harpoon, or unang, is used for this purpose (Boas 1888: 498). A kayak might also be hauled out to the floe edge to aid in the retrieval of the quarry (Kemp 1972: 110). Boas (1888: 498) also reports that hunters often jump from the floe edge onto floating pieces of drift ice to retrieve game.

Several methods for hunting walrus at the floe edge have been described. Apparently the most common method involves two men. As the walrus is harpooned, one man plays out the line while the other jams the butt end of the harpoon, to which the line is tied, into a hole in the ice, thereby providing additional leverage against the thrashing walrus (Boas 1888: 498-99). Hall reports that the walrus may then be killed with a heavy lance (Hall 1865: 459). If the water off the floe edge is free of drifting ice, a drag and float may also be attached to the harpoon (Boas 1907: 479).

Mathiassen (1928) describes a method of thin ice walrus hunting among the Iglulik Eskimo that may also have been important in the Baffin region. Walrus frequently break through thin ice which forms off the floe edge during especially cold, still periods. Hunters standing on top of this ice are thus able to harpoon the walrus as it breaks through, although this obviously can be very dangerous. Boas also notes that sometimes walrus swimming beneath new ice can be frightened whenever they come up to breathe, so that eventually they drown (Boas 1888: 499).

Manning reports that during the winter, floe edge hunting is often preferred over breathing hole hunting, as it is less uncomfortable to walk about the floe edge than to wait motionless for several hours over a breathing hole (Manning 1944: 140). However, onshore winds can

bring dense pack ice into the open water margin, which effectively prevents floe edge hunting. Similarly, long periods of calm weather with intense cold can cause the formation of thin ice, which may extend for some distance from the floe edge. Finally, except in places where the floe edge is very stable (such as between Big Island and the Baffin shore), there is a danger of the floe edge splitting away from the land-fast ice, leaving hunters drifting out to sea. Even in recent times this is a common cause of survival episodes and fatalities.

As with breathing hole hunting, seals are brought back to the village and processed there. However, larger mammals are butchered where they are killed, and only the useable parts are normally returned to the settlement (Kemp n.d.).

Basking Seal Hunting

In early April, increasing amounts of sunlight and warm weather melt the snow cover on top of the sea ice, and the breathing holes of the seals are uncovered and enlarged. From this time until breakup, seals spend many hours out of the water, lying next to their holes, sunning themselves on the ice. During this season, hunting activities focus on these basking seals.

According to Boas (1888: 483-84), the hunter approaches the seal from the windward (sic) side, moving cautiously to a distance of 20 to 25 meters. Then, fastening a piece of skin to one arm, the hunter lays down on the ice and creeps toward the seal, moving a few feet closer each time the seal puts its head down to sleep. When every few minutes the seal awakes and looks around for signs of danger, the hunter must either freeze or imitate the movements of another seal, so as not to startle his quarry. Upon reaching a point quite close to the seal, the

hunter suddenly jumps up and attempts to harpoon it before it has a chance to escape down its breathing hole.

Although the rifle was commonly used for basking seal hunting from the 1880s on, Boas reports that the unang formerly was used for this purpose. Kemp (n.d.) also reports a rather unique weapon used along the south coast of Baffin Island. This is the autoot, a long thin board resembling the runner of a sled. It has antler shoes and is tipped with a metal rod which holds a detachable harpoon head. The harpoon head is attached to the runner by means of a skin thong. The autoot is pushed along the ice in front of the hunter as he creeps toward the basking seal. As he approaches within striking distance the autoot is pushed across the ice, hopefully striking the seal.

The best conditions for stalking basking seals are provided either by hard snow, where crawling is easiest, or by hummocky ice, where the hunter can conceal himself as he approaches his quarry (Boas 1888: 484). Two hunters frequently go out to hunt together, traveling by dogsled to the basking seal area. Upon reaching a point where seals can easily be observed, they stop and determine a general route along which they may proceed. Then, while one hunter remains with the dogs to keep them still, the other hunter does the stalking. If conditions are favorable, a seal can be approached in 20 to 30 minutes, and as many as 15 to 20 seals may be obtained in a day (Boas 1888: 484-85).

Sometimes when seals are fast asleep, the hunter can simply walk up and kill it. Also, several hunters will sometimes run toward a basking seal making a great deal of noise, hoping to startle it long enough to close in for the kill (Boas 1888: 485).

Manning (1944: 143) points out that the heavy snowfall

characteristic of southeastern Baffin Island makes basking seal hunting very difficult in that region. Because of this, at least in historic times, white canvas screens were used to camouflage the hunter as he crept along through the deep snow toward the seal.

Open Water Sea Mammal Hunting

By the month of July, the sea ice has broken up and dispersed sufficiently for open water hunting to begin. This activity is carried out from kayaks, or, in the case of hunting large bowhead whales, from umiak. Ringed seals and bearded seals can be hunted throughout the open water season. Although the harbour seal is also indigenous to the region, they are only infrequently taken due to their limited distribution (Kemp 1976: 130). Harp seals migrate along the south coast of Baffin Island during mid-August and early September, but because they tend to remain rather far from shore they are not usually hunted (Manning 1944: 144). Walrus and beluga are most abundant during late summer and early fall. In former times, bowhead whales also passed through the Hudson Strait during summer months.

Kemp (n.d.) suggests that open water seal hunting was seldom practiced prior to the introduction of motorized canoes and rifles. This may be related to the relative difficulty of approaching and harpooning seals from kayaks. Among many Central Eskimo groups, open water seal hunting is practiced mainly by older, experienced males unable to journey inland during the late summer caribou hunting season (Damas 1969b). Along the south coast of Baffin Island, walrus and beluga are the primary game hunted in the open water during the late summer and early fall (Kemp 1976: 140).

The various weapons used for open water sea mammal hunting are

all arranged in specific places on the kayak (Boas 1888; Arima 1964). The primary weapon is the summer harpoon, or igimang. This consists of a large wooden shaft 4.5 to 5 feet in length, with an ivory knob at the butt end and an ivory socket at the opposite tip, into which a large, moveable foreshaft is affixed. Along the middle of the shaft is an ivory support or finger rest, and a small ivory knob for hooking the tension piece (also made of ivory) affixed to the harpoon line. The foreshaft has a large conical base, perforated with two sets of holes. Thongs are threaded through these holes and through parallel holes drilled into the shaft. In this way, the foreshaft rotates sideways upon impact, releasing the large harpoon head (tokang), while still remaining attached to the shaft (Boas 1888: 490).

The harpoon is placed on the right side of the kayak, with the line coiled up in a receptacle just forward of the cockpit. The end of this line is attached to a large seal skin float, or avatuk, which sits on the back of the kayak. This float serves both to tire the harpooned animal as it attempts to escape, as well as mark the path of its retreat to aid the hunter in pursuing it. The avatuk is made from an entire seal skin which has been carefully removed from the carcass. At the head of the float the skin is tied around a bone or ivory mouthpiece by means of which the skin may be inflated. This mouthpiece is plugged with a small wood or bone stopper. Any holes in the skin are repaired with a carved button or mending disk. The hind flippers and tail are cut off and the skin tied around a wooden bar. This bar provides a handle to which the harpoon line is tied (Boas 1888: 492-93; Manning 1944: 139).

When this harpoon is used to hunt larger sea mammals such as

walrus or beluga, an additional item known as a niutang is attached to the line. This is a hoop of wood over which a piece of skin has been stretched and securely tied. When pulled along under the water, the niutang acts as a drag to further tire the animal (Boas 1888: 550). The avatuk and niutang are not used as long as there is much floating ice about, since ice tends to entangle and cut the lines (Boas 1888: 497).

Another weapon carried on the kayak is the lance, or anguvigang. Boas illustrates a typical specimen (1888: 496, Figure 432) which is similar to the igimang except that the foreshaft itself is slotted for an endblade; hence, there is no line. The anguvigang is used primarily for killing large sea mammals once they are harpooned.

A second type of harpoon is also included in the kayak's equipment. This smaller harpoon, or agdliaq, is mainly used to hunt smaller seals. Its design is similar to that of the larger kayak harpoon, except that it has a float made of a seal's bladder attached directly to the harpoon shaft. The harpoon head is also tied to the shaft, so that when it strikes a seal, the shaft and float trail behind, acting both as a drag and as a marker for the hunter. The use of the throwing board to propel the bladder harpoon is illustrated by Ellis, in an account dating from the mid-17th century (Ellis 1967).

Two other weapons also are included on the kayak: the bird dart (also hurled by means of a throwing board), and a second type of lance used mainly for spearing deer in lakes. This particular lance has a fixed foreshaft, and is somewhat smaller than the anguvigang (Boas 1888: 495).

Although the basic technique of throwing the harpoon from the kayak is essentially the same for hunting all sea mammals in open water,

there are some precautions which must be taken when larger game is pursued. Since walrus present great danger to the lone hunter in his kayak, these animals are usually harpooned from as great a distance as possible, and only after they are quite tired and weak from loss of blood does the hunter close in for the kill. Boas reports that frequently walrus are harpooned while basking on low islands or along the shore where, because of their sluggishness on land, they present significantly less danger to the hunter.

Large whales are pursued either by several hunters in separate kayaks or by a team of whalers in an umiak. In the former case, each hunter attempts to sink a harpoon into the whale. As the whale tries to sound, the attached floats and niutang create a tremendous drag, and eventually the whale can be approached and killed with lances.

More often, whales are pursued by a team of whalers in an umiak. One man serves as the steerer, and another as the harpooner. Boas does not indicate how many other men are paddlers; however, four Thule engravings from the Baffin region show five men per umiak in whale hunting (M. S. Maxwell, personal communication). A large whaling harpoon, or sakurpang, is used in this situation. It has a 10 to 12 foot shaft with a large fixed foreshaft (Boas 1888: 500, Figure 431). The harpoon head is also quite large and made of whale bone, with a large slit in the end. The harpoon endblade is set into a flat piece of bone, which in turn is fitted into the slot in the harpoon head. Attached to the harpoon line are five large seal skin floats plus a niutang. A harpooned whale will eventually be killed with a large lance.

During the late summer and early fall seasons, open water

hunting is carried on with great intensity in order to store up supplies for the coming winter. Walrus and beluga provide a large amount of stored provisions for winter use among the Baffinland Eskimos. Walrus is also an important source of dog food. Carcasses usually are cut up and processed at or near the kill site rather than back at camp.

Although Boas does not specifically discuss butchering practices, Freeman (1969/70, 1974/75) presents a very thorough discussion of walrus hunting and processing as it is carried out in northwestern Hudson Bay in modern times. In 1974, our party witnessed a walrus hunt along the south Baffin coast during the month of July in which a herd was chased deep into a narrow inlet by three motorized canoes, where several were then shot. The walrus that were hit sank immediately, but several hours later, at low tide, their carcasses were exposed on the flats. Here they were butchered, and meat, skins, tusks, and some bones were then transported approximately one hundred kilometers back to the main settlement.

Bird Hunting on Water

As noted above, part of the standard kayak equipment of the Baffinland Eskimo is the bird dart and throwing board, used to hunt birds on the open water along the Hudson Strait coast. Kemp observes that this activity is most often carried out by older hunters remaining along the coast during summer (Kemp n.d.). The importance of waterfowl may be considerable during these months, as many species nest in significantly large numbers on cliff rookeries at the mouth of White Strait and at the eastern end of Big Island. In his study of the flow of energy in an Inuit hunting band during the 1960s, Kemp found that the caloric contribution of waterfowl and their eggs during summer

exceeded that of all land mammals combined (Kemp 1971: 110).

The bird dart as described by Boas has a slender wooden shaft about four feet in length, with a single point at the distal tip and three curved and barbed side prongs encircling the center of the shaft (Boas 1888: 495-96; 1901: 23-24). The butt end of the shaft is squared to fit the groove of the throwing board, and tipped at the proximal end with an ivory knob to receive the spike set into the end of the groove in the throwing board.

Birds are hunted both along the coast in conjunction with sea mammal hunting, and at inland lakes. As the birds are approached by kayak, the dart is propelled with the throwing board. The side prongs serve to increase the effectiveness of the weapon by enlarging the strike zone. Since waterfowl usually dive when approached by kayak, an alternative method is to simply pursue them until they drown (Boas 1888: 512). Like other small game obtained during the summer months, birds are usually consumed within a few days of their capture.

Onshore Small Game and Bird Hunting

At any time during the year, but especially during the summer months, a variety of small game and birds are pursued in onshore areas along the coast, up river valleys, and at inland lakes. Mammals include wolves, foxes, hares and weasels or ermine; birds hunted in terrestrial habitats include ducks, geese, gulls, and ptarmigan. As with summer bird hunting on water, most onshore game hunting is done by persons remaining along the coast during the summer months.

Boas describes a variety of techniques by which small game are hunted (Boas 1888: 510-13). Animals and birds may be stalked and shot with the bow and arrow or entangled in bolas. During molting season

birds may be easily run down and caught by hand or killed with sticks or stones. Frequently, snares or traps are set. These are made of baleen and often set alongside or across ponds and lakes. Ducks and geese can be caught in great numbers by setting snares across their nests. Stone traps are also built during summer to trap foxes, and in winter ice blocks are used to construct similar traps. Wolves apparently are killed only when they become troublesome. Methods used include leaving blood-coated knives blade up in the snow, or leaving baleen "wolf-killers" (sharp pointed baleen strips rolled up and encased in pieces of meat or blubber) lying about.

Gulls are sometimes caught in winter by building flat-topped snow houses. Bait is placed near a hole in the roof, and when a gull lands to grab the bait it is caught by the hunter waiting inside of the snowhouse.

Stone walled traps are also built alongside lakes to catch geese during the summer. Boas describes geese as "stupid creatures" which can easily be chased or led along the shores of lakes and into these traps (Boas 1888: 513).

Caribou Hunting

Caribou are hunted by Baffinland Eskimos for a number of reasons: to contribute variety to the diet, to obtain antler, bone and sinew for various manufactures, and, perhaps most importantly, to obtain the skins from which winter clothing is made. Although caribou can be hunted year-round, the most important time for this activity is during the late summer and autumn when skins are in prime condition. This hunt is carried out in the interior upland regions, in favored areas accessible through various river valleys, and lasts until the first snows begin to

fall in September. In the North Bay region, the Soper River valley and the upland between McKellar Bay and Frobisher Bay are particularly important (Kemp 1976: 132). During winter, hunting also may be carried out in certain river valleys and at places along the coast where caribou are encountered.

Caribou most often are taken with bows and arrows, or with lances thrust from kayaks when caribou are pursued across lakes. Frequently, inuksuit and/or stone-walled hunting blinds are erected to facilitate the driving of caribou toward selected areas. Ellis illustrates the type of bow used during aboriginal times (Ellis 1967: Figure facing page 133). This is a recurved bow constructed from several pieces of wood and/or antler, backed with sinew binding. The arrow shown on the same figure is fletched with feathers and tipped with a triangular shaped point. Boas illustrates and described two types of bow: one is a simple bow made of a single piece of curved wood strengthened with sinew binding, while the other is recurved and made of three pieces tied together with lashing braces and sinew binding (Boas 1888: 501-03). Arrows are made of wood, and often several pieces are lashed together to achieve a sufficient length. The nock ends are fletched with feathers. Separate arrowheads are attached by two methods: some have conical shaped butt ends that are inserted into sockets at the distal ends of the arrowshafts, while others have scarf-cut bases and are lashed to similarly cut arrowshafts. Boas notes that in former times arrowheads were often tipped with slate endblades (Boas 1888: 506). Quivers for carrying the bow and arrows on inland journeys are usually made out of seal skin, with carved bone or ivory handles. Carried with the bow and arrow are a variety of tools used for maintenance and repair, including marline

spikes, sinew twisters, and arrowshaft straighteners (Boas 1888: 508).

Several methods are employed to hunt caribou. The favorite method is to wait for caribou at certain lakes traditionally crossed during the late summer migration. As the caribou swim across, they can be pursued in kayaks and killed with lances. These lances have long, slender shafts with long points inserted into the ends (Boas 1888: 495). Sometimes, it is necessary to drive caribou into lakes so they can be hunted in this fashion. If so, a line of inuksuit is erected, leading toward the lake.

In flat, open areas, it is necessary to stalk caribou by imitating their movements or by sneaking up on them from behind rocks. Sometimes stone blinds are erected and the hunters attempt to lure the caribou toward them by grunting. In steep and hilly terrain, several hunters may drive caribou toward an ambush of awaiting hunters. For all of these methods, the bow and arrow is commonly used (Boas 1888: 508-09).

During the winter season, caribou sometimes are individually stalked, although this is difficult because of the noise made by the hard crusted snow crunching underfoot. Alternatively, pits may be dug into the snow and covered over with thin snow slabs. Urine or salt water is poured over the slabs covering the pit to attract caribou, who then break through the roof and fall into the trap where they are easily speared (Boas 1888: 509).

Boas reports that during summer caribou most often are skinned and butchered at the kill site. If the distance back to camp is not great or if it can be made with the help of a boat or sled, then the whole carcass might be brought back to camp. Otherwise, only the hams and the skins are retrieved, and the head, legs and ribs are cached

(Boas 1888: 577). The major time for caching caribou meat, however, is during fall, when spoilage does not occur.

Lake Ice Fishing

During the latter part of the winter, fishing through the ice in inland lakes for Arctic char or cod is sometimes carried out. This activity usually is concentrated in a few prominent lakes close to the coast (Kemp n.d.). These fish are used primarily as dog food.

Boas describes a method of jigging through holes cut in the ice, using antler hooks tied to sinew lines, sometimes using a short wooden pole as well (Boas 1888: 515). Decoy fish lures are often used to attract fish to the hooks. In more recent times, nets are used for catching fish, as well as triple-pronged leisters (kakivak). Gill nets are set below the ice through a series of holes. To do this one end of the net is tied to a long wooden pole, and the pole is then pushed along beneath the ice from hole to hole until the net is stretched between the two end holes. Weights are attached to the net to keep it extended. Nets are visited periodically and drawn in from the end holes to retrieve the fish (Manning 1944: 146).

Coastal Fishing

During the spring and summer migrations of Arctic char, fishing through leads or in open water in bays, inlets, and river mouths along the coast become important subsistence activities. Fishing is concentrated at leads in the ice in rivers, bays, and inlets during spring, but when the char migrate from the ocean back to the lakes in late summer and fall, fishing is carried out at weirs set across major river mouths. This later summer fishing is most productive, and large quantities

of fish can be procured and stored away for later winter use (Kemp n.d.).

The most common weapon used to catch Arctic char is the leister, or kakivak. This consists of a long wooden handle which broadens out at the distal end. In the center of this wider end a prong of bone or ivory is inserted, and along either side additional curved prongs are attached. Bone barbs are set into the side prongs, pointing down and inward. When fishing through a lead in the ice or from a riverbank, a fish lure frequently is used along with the kakivak. However, at the mouths of rivers, stone weirs are constructed to retain the char on their upriver migration, which permit large quantities of fish to be speared using the kakivak alone. The fish are then strung on skin lines which have a slender bone needle at one end and a toggle at the opposite end (Boas 1888: 514-15).

Collecting

Kemp briefly notes a variety of collecting activities by means of which several important food and material resources are obtained (Kemp n.d.).

Collecting activities are carried out in two distinct habitats. Clams, mussels, seaweed, driftwood, and some kinds of stone are obtained from the intertidal flats and beach zone along the coastal shoreline. Digging sticks and scoops are used to dig clams and mussels out of the mud. Beach zone collecting is limited to the snow free months, and intertidal collecting is only possible at low tide during summer.

Onshore collecting usually is carried out along the coast or on islands. Of greatest importance to the subsistence economy are duck and goose eggs obtained during the summer. Berries and occasionally other plant foods are also collected, as are plants used for fuel, bedding,

lamp wicks, and other purposes. Driftwood and stone may be collected for a variety of manufactures. Onshore collecting is also restricted to the summer months, when the snow cover has melted away. The procurement of some resources, such as eggs, ripe berries, and cotton grass is possible only during specific weeks. Containers and carrying devices are the most important material items used in the context of these activities.

Summary of Techno-economic Adaptive Strategies

From the preceding description of the annual cycle, subsistence technology, and resource procurement strategies, several important aspects of Baffinland Eskimo techno-economic adaptation may be identified.

Technological Complexity

One of the most fundamental, and widely recognized, aspects of Inuit adaptation throughout the Arctic is the very complex and specialized subsistence technology, with which it is possible to harvest sufficient animal resources from the Arctic environment, to sustain the local population. In the preceding review of Baffinland Eskimo resource procurement strategies, it was shown that particular weapons and implements are quite often used for a limited number of purposes, and in some cases these are even associated with specific habitats and species. As a result of the wide range of habitats and species utilized, the subsistence technology of the Inuit ranks highest in complexity among hunter-gatherers throughout the world (Oswalt 1976: 182). A related aspect of Inuit technology is the development of elaborate storage facilities which permit food surpluses obtained during productive seasons (i.e. summer and fall) to be stored for later consumption during more rigorous

periods (i.e. winter). Oswalt has summarized the ecological basis of Inuit subsistence technology in the following passage:

The Eskimo habitat supported comparatively few species of wild animals, but they often were found in very large, or at least sizable, aggregations at one or more times during a year. Examples include caribou, walrus, waterfowl, and whales. Other species, especially seals, often were present in small numbers throughout the year and might at times form large groups. Marked seasonal variability in the resource base typified arctic habitats, and the migration patterns of some species often were dramatic. Furthermore the environmental conditions for taking animals varied widely by season. By far the most important species were aquatic, and as has been demonstrated, subsistants designed for use in the water were usually more complicated than those employed on land. In light of all these factors we would anticipate that specialized, even species-specific, forms of relatively elaborate design would prevail among Eskimos (Oswalt 1976: 182-83).

Seasonality and Scheduling of Procurement Activities

Two closely interrelated aspects of resource procurement may also be identified as regulatory mechanisms important to the organization of subsistence activities: (1) the characteristics of various habitats, and the distribution and availability of species within them, undergo significant changes from season to season, which affect resource procurement opportunities; and (2) therefore, procurement activities and options are scheduled in relation to prevailing environmental conditions and resource predictability, in order to provide adequate resources to sustain the local group (cf. Flannery 1968: 74; Jochim 1976: 15-22). These mechanisms result in both the maintenance of order and predictability in the annual cycle, as well as the maintenance of a range of viable alternatives with which to augment basic subsistence strategies (Balikci 1968: 80-81). Given the propensity of the Arctic environment to experience unpredictable seasonal fluctuation (as discussed in Chapter Three), alternative procurement strategies are a major component of

adaptive organization. When environmental changes result in corresponding changes in the distribution, abundance, or predictability of critical subsistence resources (in this case, various animal species), the resource procurement schedule can be adjusted accordingly.

Flexibility in the Organization of Settlement and Demographic Patterns

Closely associated with changes in the seasonal scheduling of resource procurement systems are concomitant shifts in the locations of settlement types vis a vis resources, and in the numbers of people occupying those settlements. Adjustments in the distribution of people are closely related to the schedule of resource procurement activities because specific procurement activities or sets of related activities are often associated with certain numbers of individuals (cf. Jochim 1976: 44-45). Therefore, environmental changes which produce corresponding changes in the distribution, abundance, or predictability of species may necessitate adjustments in the settlement pattern as well as in the number of individuals occupying various settlement types, in relation to adjustments in the resource procurement schedule. Furthermore, these adjustments in seasonal population distribution imply additional regulatory mechanisms to facilitate the re-integration of the resource procurement schedule with the annual pattern of settlement and demographic arrangements, in order to maintain a flexible subsistence-settlement system without engendering social stress. Among the Baffinland Eskimo, several aspects of social organization function in this capacity, and it is to the examination of these that we now turn our attention.

Social Organization

An important observation which emerges from the preceding discussion is that among the Baffinland Eskimo the composition and organization of socioeconomic groups varies from season to season, and this is an important factor in the integration of subsistence activities and settlement patterns within the annual cycle. In terms of the specific resource procurement systems discussed above, we note that each depends upon a particular arrangement of cooperating individuals. In order to understand fully the adaptive nature of the Baffinland Eskimo subsistence-settlement system, it is therefore necessary to examine those features of aboriginal social organization which underlie the structure of socioeconomic groups.

In the discussion which follows, the major characteristics of Baffinland Eskimo band organization are reviewed, and the social mechanisms underlying the structure and organization of socioeconomic groups during successive phases of the annual cycle are identified. This provides a basis for recognizing adaptive strategies at the social level which complement those previously identified at the techno-economic level. Before proceeding, however, it is necessary to define basic concepts pertaining to band organization used in this analysis.

The meaning of the term "band" as used in this study follows Damas' definition which he derived from the general literature pertaining to North American Indian hunting and gathering societies:

The term 'band' has most often been associated with a group varying in size from 50 to over 300 persons. There is usually an identification by name with the general territory that is exploited, though this does not necessarily imply defence of a territory. The band generally seems to be composed of smaller segments that operate within the general area designated by the band name. Periodic meetings of these segments generally take place, at which time there are usually

associated ceremonial activities. There is seldom if ever a year-round local aggregation of all members of the band. In some cases there is a band leader or chief (Damas 1969a: 123).

In the Arctic, as is the case in many other culture areas, the band is typically related to a larger entity comprised of several adjacent bands within a region. This larger entity usually forms a marriage universe, within which a broad sphere of kin and non-kin contacts are recognized. Features of social organization within these entities usually are fairly homogeneous. Damas (1969a: 129) has referred to these entities among the Central Eskimo as "tribes," but the use of that term may not be appropriate in that it is most often applied to sedentary and/or food producing societies. In this study, the term "macroband" is used instead to refer to regionwide, multi-band associations.

Within the band smaller social groupings occur in connection with collective resource procurement activities. Balikci's concept of "basic socio-economic units" quite precisely distinguishes these groups as "concrete social units constituted in the fields of production, distribution, and consumption of strategically important goods" (Balikci 1964: 2). The primary features of these groups are their extension, or total number of individuals comprising the work group; composition, or specific kinship relations existing between members of the economic group; and function, or the concrete objectives pursued by the group (Balikci 1964: 2).

In the fields of food acquisition, distribution, and consumption, several socio-economic units of importance have been distinguished for the traditional Netsilingmiut alone. The extended or joint family, the winter sealing camp on the flat ice comprising several extended families, and the nuclear family (in different seasons) in varying circumstances and fields of activity tended to constitute important socioeconomic units (Balikci 1964: 3).

In this study, the term "domestic group" will be used in reference to these basic socio-economic units.

To recapitulate, three hierarchically-arranged social entities are considered in the following analysis. From smallest to largest, these are the domestic group, the band, and the macroband.

Aboriginal Band Organization

In his discussion of the distribution of various Baffinland Eskimo groups Boas reports population figures for several regions (Boas 1888: 421-44). Along the south coast of Baffin Island Boas reports that the Sikosuilarmiut, the Akulfarmiut, and the Qaumauangmiut numbered 50, 200, and 50 members, respectively. Although these figures were obtained from unidentified whalers not Boas, other accounts of aboriginal population along the south coast, dating from 1748 to the present century, seem to indicate a regional population of between 250 and 300 persons (Bilby 1923; Ellis 1967; Fleming 1957; Lyon 1925; cf. Maxwell 1979).

According to Damas (1968, 1969a), two important features of Central Eskimo band organization are the size and duration of the winter aggregation. For example, the Netsilik, Iglulik, and Copper Eskimo all have winter aggregates of as many as 100 individuals, which Damas feels represents the typical band assemblage for each of these groups (Damas 1969a: 122). It is likely, however, that Baffinland Eskimo groups had much smaller winter aggregations than the Netsilik, Iglulik, and Copper Eskimo groups.

Support for this interpretation can be found in the Inuit Land Use and Occupancy Project Report interview data from the south Baffin region (Kemp 1976; Brooke n.d.), and also a subsequent study of

ethnohistoric sources done by Maxwell (1979). Kemp describes the traditional population distribution along the south Baffin coast as consisting of several local groups, or bands, each occupying separate areas which were utilized on a more or less permanent basis. Each local group maintained a number of potential winter village sites within their regions, only a few of which were used during any particular year. The local groups were individually referred to by names which provided reference to their territories and distinguished each one from all others. Although each local group exploited primarily the resources of its own region due to greater familiarity with the local environment, boundary distinctions were only loosely maintained, and there were no concepts of territoriality. In summary, Kemp notes that:

The late fall and winter village was the most permanent and important aggregate and each band was broken up into several of these villages (Kemp n.d.: 17).

In a study of ethnohistoric sources pertaining to aboriginal population distributions along the south coast of Baffin Island, Maxwell also addresses the issue of band size and membership. Maxwell's conclusions are quoted here extensively:

A major question raised is what appropriate anthropological taxon can we use for the 200 persons in the region? All evidence points toward considering winter settlements, at least prior to 1960, as the largest meaningful social units. Kemp's (1975) description of the last remaining winter hunting settlement in the region serves as an adequate model and makes clear the fact that the winter settlement unit can be considered a hunting 'band.' Members have cognitive recognition of the band as an entity even though personae vary from winter to winter. Kindred usually form the nucleus, but daughters marry and either join other bands or bring husbands back into theirs; brother and sons with their own nuclear families come and go; and non-kindred affiliate themselves or drift away in accordance with the strength of the band leader (Maxwell 1979: 85).

Maxwell further points out that:

The model often suggested elsewhere for Inuit bands to be

large in winter and to break into smaller hunting units later in the seasonal round seems to be inappropriate in this region. Summer camps may or may not have the same personae as winter settlements. The band core may move 20 miles away for summer hunting, or only a few hundred meters distant from the stench of thawing winter effluvia. Regardless of these variables, during its existence the hunting band/winter settlement has a level of social cohesion that is easily recognized (Maxwell 1979: 86).

Maxwell's view of what constitutes a "band" along the south coast of Baffin Island is clearly different from Damas' (1969a, 1969b) interpretation of this social unit among the Netsilik, Iglulik, and Copper Eskimos. Maxwell considers the individual winter village settlement to be the band, whereas Damas suggests that the regularly recurring aggregation of several local winter settlements at the winter sealing village on the sea ice represents the band assemblage among the groups he has studied. Since the large aggregations typical of the Netsilik, Iglulik, and Copper Eskimos appear not to be as predictable and enduring among the south Baffin groups, the interpretation of the individual winter settlements of these groups as primary social units is justified. However, designation of individual winter settlements as bands (using the definition cited) tends to negate the significance of primary kin ties cross-cutting adjacent winter settlements. These kin ties play a very important role in regulating the flexible pattern of residential alignment observed among the Baffinland Eskimo (a point clearly recognized by Maxwell in his discussion of band organization cited above). In my view, this flexibility is a very important aspect of Baffinland Eskimo adaptation, and therefore the mechanisms associated with this pattern warrant inclusion within our interpretations of band organization. For this reason, I suggest that along the south coast of Baffin Island there exists a coherent social entity represented not

by any single settlement or aggregation, but rather by the network of primary kin ties extending throughout one or more settlement groups within a local area. Furthermore, I suggest that this is the social entity we should designate as the band.

Consider the example illustrated in Figure 8 (after Brooke n.d. and discussed by Kemp n.d.). This group of 74 individuals consists of nine family heads who, along with their families, comprise three separate winter villages. Primary kin ties cross-cut these settlements, and serve as the major structuring mechanism for individual settlement units as well as for the band as a whole. Residential alignment closely follows kinship patterns with virilocality emphasized although uxorilocally attached nuclear families occur in all of the settlements. Individual households are headed by the family leader, or isumatak, whose authority seldom extends beyond the membership of his or her household.

The winter villages occupied by groups such as the one discussed here vary in size from year to year as a result of the movement of individuals and families within the band. The locations of the winter villages may also change from one year to the next, depending upon the distribution and availability of critical faunal resources (Kemp notes that in recent years such moves ranged in distance from 3 to 11 miles). Each village is identified with reference to the primary nuclear or extended family household around which the settlement is organized and to which other families are attached. Village solidarity and cooperation is the sum of responsibilities existing between related individuals, and allegiance to the settlement group as a fixed entity does not exist (Kemp n.d.). This pattern of kin-based behavior pervades all critical aspects of socioeconomic activity: there are no formal hunting, sharing,

Figure 8
Kinship Chart for Southern Baffinland Eskimo
(After Brooke, n.d.)

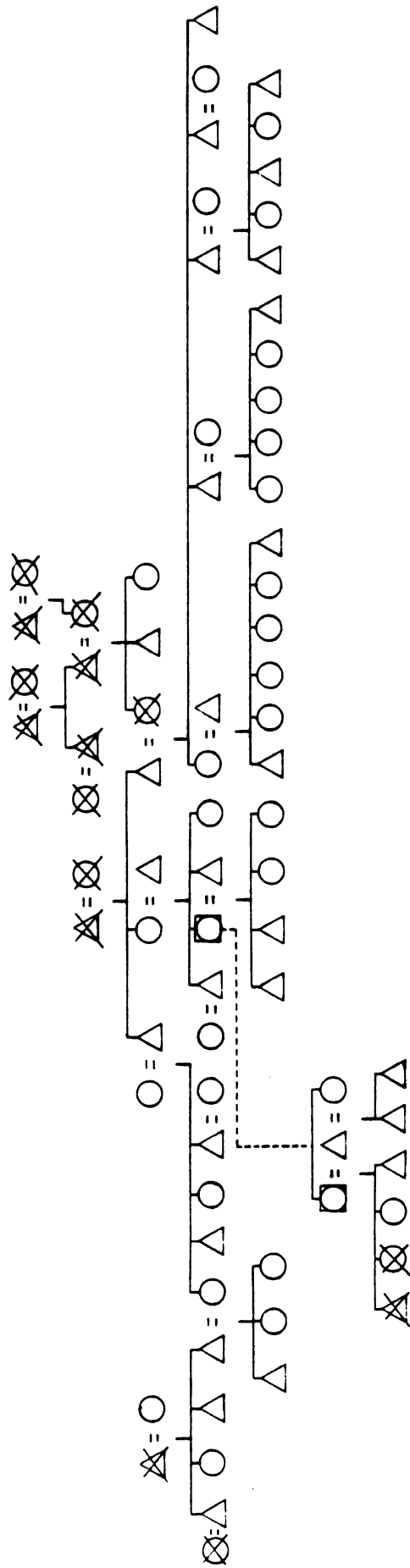


FIGURE 8

or name-sake partnerships; rather, networks of sharing and cooperation are established along kin lines transcending individual settlements.

Aboriginal band organization among Baffinland Eskimos thus incorporates one or more relatively small winter settlement groups within a local area, whose members are related through primary kin ties. These local settlement groups form a series of cooperative domestic groups wherein collective activities are patterned in relation to kin-based behavioral directives and obligations. This pattern of socioeconomic organization makes it possible for individuals and families to move easily from one settlement to another, and become integrated within new domestic groups, within the territory occupied by the band. As mentioned above, and as will be discussed in greater detail below, this flexibility may provide significant adaptive advantages.

Macroband Organization

Examination of traditional settlement areas along a larger portion of the south coast indicates that the winter villages of adjacent bands form a fairly continuous and evenly spaced distribution of settlements throughout the region. According to Maxwell's analysis, "historic evidence suggests that contemporaneous settlement locations were traditionally spaced along this coastline at 15 to 30 mile intervals" (Maxwell 1979: 81). It is important to note also that considerable movement of individuals and families occurs between these settlements, which again is facilitated by the extensive regional network of kin ties along with a general desire among the Inuit to visit families and friends in other areas whenever possible (Boas 1888: 574-76). The movement of people between adjacent settlements and band territories

might therefore be temporary, as in the case of seasonal visits, or more permanent, when a family from one region becomes attached to a family or other social unit in another region where kinship relations can be established. Thus, in addition to the frequent shifting of individuals between settlements within a local band territory, there is also a significant movement of individuals throughout the larger macroband region.

The point made here is that kinship relations are the primary means by which social ties are established both within the local band as well as between adjacent bands comprising a larger social entity referred to here as the macroband. Movement of individuals and families within the local band territory as well as throughout the macroband region is possible because of the extensive network of kin ties a person builds up over a lifetime through consanguinial and affinal relationships of spouses, siblings, parents, parent's siblings, cousins, etc. (see e.g. Damas 1963; Graburn 1964). In addition to these real kin ties, naming, mid-wifery, adoption, and wife-exchange all serve as addition mechanisms among Baffinland Eskimos through which fictive kin relations may be created:

Social organization within the Baffinland Eskimo territory was established by real kinship ties of birth and marriage and by the fictive relationships that serve as an addition to, and substitute for, these ties. Fictive kinship provided alternatives for creating interpersonal alliances both within and outside of consanguinial and affinal bonds (Kemp n.d.: 18-19).

The adjacent local bands of Inuit along the south coast may thus be viewed as comprising a fairly continuous network of real and fictive kinship ties, which cement these local groups into a larger regional population called the macroband. The socioeconomic organization of the macroband therefore may be viewed as a region-wide extension of the

organization characteristic of local bands; that is, macrobands also form a (much larger) series of cooperative domestic groups, in which collective activities are patterned by the same kin-based behavioral directives and obligations. Therefore, in order to fully understand the dynamic aspects of Baffinland Eskimo socioeconomic organization and adaptation on both local and regional scales, it is necessary to consider the nature of domestic group organization and integration.

Domestic Group Organization

As a result of the requirement that particular cooperative socioeconomic units be formed in relation to specific resource procurement activities, each settlement, regardless of its size or the season during which it is occupied, is made up of one or more domestic groups. As previously discussed, these domestic groups are the primary social units constituted in the fields of production, distribution, and consumption of strategically important goods. The seasonal settlements of the Baffinland Eskimo, like those of other Central Eskimo groups, usually consist of a number of interacting households. These households normally function as individual domestic groups in that they are the primary groups involved in the acquisition, processing, and consumption or utilization of critical resources. However, precisely what constitutes the household within these settlements may vary from season to season. Although the extended family is the most frequent household unit (Kemp n.d.), sometimes it is the nuclear family. Nuclear family households are especially likely to occur during the spring and summer when the local population becomes increasingly dispersed. A quite opposite pattern may arise during the winter, however, when the local population may be temporarily aggregated at seal hunting villages on the sea ice. At this

time, the acquisition, processing, and consumption of food transcends the household and becomes a village-wide affair. All of the hunters in the village go out and hunt together, in order to cover as many seal breathing holes as possible. Then:

When a seal is brought to the huts everybody is entitled to a share of the meat and blubber, which is distributed by the hunter himself or carried to the individual huts by his wife. This custom is only practiced when food is scarce. In times of plenty only the housemates receive a share of the animal (Boas 1888: 582).

The summer caribou hunting camps, which typically consist of several family units, or households, may similarly function as single domestic groups. In these camps, Boas reports that "the families do not cook their own meals, but a single one provides for the whole settlement" (Boas 1888: 577).

Thus we see that among the Baffinland Eskimo domestic groups range from the nuclear family to extended family households, and may even include larger summer caribou hunting camps and winter sealing villages.

The formation of particular kinds of domestic groups depends not only upon the season but also upon situational factors affecting resource procurement. As previously noted, changes in the location and size of settlements may result from changes in resource procurement schedules. To be sure, a variety of other factors, including whimsy and wanderlust, are frequently associated with settlement and demographic shifts (see e.g. Rouselliere 1976 and Maxwell 1979). However, for our purposes ecological factors related to resource procurement may be given primacy. Accordingly, settlement shifts sometimes result in greater levels of aggregation (for example during late summer caribou drive, fall walrus and beluga hunts, or winter seal hunting), or, conversely, in the

dispersal of the local population into several smaller units. To reiterate, these shifts often depend upon the demographic requirements or possibilities of the resource procurement schedule.

It is important to note, however, that the number of domestic groups comprising a settlement is not strictly a function of settlement size. For instance, a settlement along the coast during the fall might consist of two or three extended family households, each procuring and consuming resources individually. On the other hand, a much larger (albeit more temporary) winter sealing village on the sea ice might be integrated into a single domestic group, when all of the hunters go out together to cooperatively participate in breathing hole seal hunting, and the meat they obtain is then shared and consumed village-wide. Thus it appears that resource availability, rather than settlement size, is a primary determinant of domestic group organization.

In addition to the fact that we can identify different kinds of domestic groups among the Baffinland Eskimo, it is also true that considerable organizational variation may be observed within individual domestic groups. Consider, for example, an extended family household occupying a settlement during the summer season. The members of this domestic group may during one part of the season engage in open water seal hunting from kayaks and gathering berries and other plant resources along shore, both of which are activities involving individuals working largely by themselves. Later on, all members might collectively engage in fishing for char at weirs. Thus, the specific productive units within a single domestic group may vary from time to time. Similarly, processing, sharing, and commensal units within the domestic group may also involve various combinations of individuals, depending upon

situational circumstances and the preferences of the larger social group comprising the settlement.

The various procurement, processing, sharing, and commensal activities that any single domestic group must carry out therefore may be adjusted if situational factors necessitate the replacement of preferred resource procurement systems with optional or alternative ones. Flexibility in the organization and integration of domestic groups thus provides adaptability to changing ecological conditions at two levels: the integration of activities within specific domestic groups can be varied; or altogether different domestic groups can be organized within settlements, if necessary.

Summary of Social Organizational Adaptive Strategies

From the preceding discussion of Baffinland Eskimo social organization, two additional adaptive strategies can be identified. The first involves kinship and anucleate band organization, and the second is related to the flexible pattern of domestic group integration.

Kinship and Anucleate Band Organization

Baffinland Eskimos along the south coast are arranged into a series of local groups, or bands, each residing in a loosely recognized territory. Within their own territory each band is further divided into several seasonal settlements; perhaps two or three larger villages during the late fall and winter, and possibly several smaller settlements during the summer. From year to year the specific locations of these settlements may change in relation to biogeographical variables affecting resource procurement activities. The membership of these settlements may also change, given the wide range of options an individual or family has

with respect to living with one's kin.

In addition to this local picture of band organization, we have also seen that individuals and families frequently move across territorial boundaries and take up residence with adjacent bands. This is facilitated by the extensive network of kin ties cross-cutting the regional population, or macroband. The pattern represented here very closely approximates what Yellen and Harpending (1972) have called an "anucleate" organization of band units, in which links (such as kinship ties) between individual units (e.g. local groups or bands) extend evenly in all directions, with no evident clustering or segregation. The pattern of anucleate band organization as observed among the Baffinland Eskimo also illustrates a related observation made by Yellen, which pertains to the necessary distinction that must be made between the band as a discrete social entity and the individuals comprising the band:

The central point . . . is that a group or band (emphasis in the original) may be defined in terms of areal exploitation, but not on the basis of individual members. Bands have a certain stability, and predictions dealing with band size and general movements are likely to fall close to the mark. The movement of individuals and single nuclear families, on the other hand, is difficult to predict, and in the long run may best be conceived as random (Yellen 1977: 37).

One important adaptive characteristic of anucleate band organization is that by virtue of the frequent and random movement of individuals and families throughout the macroband region, information pertaining to environmental conditions, etc. flows very rapidly. This obviously provides an important adaptive advantage in regions (such as southern Baffin Island) where environmental fluctuations can be rapid and severe, effecting significant changes in distribution, abundance, or predictability of critical subsistence resources. In relation to

this, Yellen notes (1977: 40-44) that the loosely defined territories occupied by anucleated bands permit a considerable degree of boundary flexibility, which in turn enables local populations to move about in the face of changing resource distributions and procurement opportunities. Thus in terms of individuals bands are merely temporary aggregations which can change their composition very rapidly in relation to both short-term and long-term demographic adjustments. These demographic adjustments may be viewed as complementary adaptive strategies allowing local populations to cope effectively with a variety of conditions normally associated with physically-controlled environments. These strategies are discussed by Yellen in relation to both the band and the individual:

For a society to function effectively, some consistent mapping between people and available resources must exist. Over the short run some balance must be struck so that an individual can predict with some degree of accuracy where other people will be and what options may be open and advantageous for him. A very short-term model, which includes elements of the territory, the band, and individuals who are at least partly associated with a territory, can accomplish this. To complement this, the individual model allows for long-term demographic changes within the context of bands and territories by emphasizing the different network of kinship ties of inherited rights (Yellen 1977: 48).

In other words, Yellen recognizes that adaptations to environments characterized by severe and unpredictable fluctuations require mechanisms capable of response to short-term as well as long-term events and processes. The kinship system and anucleate organization of Baffinland Eskimo bands provide such means for coping in these environments by maintaining local groups in territories they are most familiar with and able to get along in, while at the same time permitting flexibility in the distribution and composition of these groups in relation to changing environmental conditions and subsistence opportunities.

Domestic Group Organization

Throughout the annual cycle the organization of domestic groups is in part determined by the seasonal schedule of resource procurement systems, and the relationship between this and associated features of settlement and demography. However, rather than being merely a function of these interrelationships, the flexible pattern of domestic group organization and integration provides an additional level of adaptability to environmental conditions.

Since domestic group organization can be flexible with respect to the organization of other components of the subsistence-settlement system, important adaptive advantages result in relation to both short-term and long-term environmental changes. When short-term fluctuations necessitate adjustments in resource procurement systems or in scheduling, a re-organization of domestic groups within settlements may help accomplish this. Boas' account of cooperative breathing hole seal hunting and village-wide food sharing is one example of an effective response to temporary shifts in prevailing conditions. Changing wind patterns bringing pack ice into the open water margin off the floe edge, for example, might prevent floe edge hunting, and therefore preclude the maintenance of multiple domestic groups within the settlement due to a paucity of resources. By re-organizing the settlement as a single, large domestic group temporarily sharing the less abundant returns from breathing hole seal hunting, the entire aggregated group stands a better chance of survival. When adjustments in settlement patterns and demographic arrangements are also required in relation to larger environmental changes, domestic group flexibility may again serve an important adaptive function: re-organization of domestic groups in such cases as these

enable local populations to integrate associated changes in resource procurement scheduling, settlement patterns, and demographic arrangements, thereby maintaining a coherent subsistence-settlement system over the long run.

Subsistence-settlement system variability permitted by flexibility in domestic group organization therefore provides a considerable measure of adaptability to both short-term and long-term environmental fluctuations by translating necessary adjustments to these unpredictable fluctuations into the predictable range of domestic group variations. This effectively avoids social stress which might accompany other ways of re-organizing the subsistence-settlement system. The stresses of both predictable and unpredictable environmental fluctuations may thus be overcome without major structural change in the socioeconomic system.

Summary of Baffinland Eskimo Adaptation

In this chapter an attempt was made to reconstruct the aboriginal subsistence-settlement system of the Baffinland Eskimo, and identify major adaptive strategies in response to environmental change. The interrelationships among adaptive strategies are discussed in this concluding section.

We began with recognition of a highly developed and complex subsistence technology and associated set of resource procurement systems. This subsistence technology provides the technical capability to obtain a variety of animal resources from a wide range of seasonally changing habitats. The key to understanding subsistence adaptations, therefore, lies in the manner in which Inuit organize resource procurement activities from one season to the next, and integrate these activities with other components of the subsistence-settlement system to provide

adequate food and raw material resources to sustain local and regional populations under variable environmental conditions.

Two adaptive strategies based upon subsistence technology and procurement systems provide initial response to environmental fluctuations affecting subsistence resources. These are: (1) rescheduling procurement systems in relation to changes in resource availability, and (2) maintaining flexibility in settlement patterns and demographic arrangements necessary to incorporate changes in the resource procurement schedule. Since it is often necessary to make some adjustment in settlement patterns or demographic arrangements to accommodate changes in the resource procurement schedule, these adaptive strategies frequently go hand in hand. It is important to note, however, that settlement and demographic adjustments normally remain within the range of variation typical of the annual cycle.

Changes in the resource procurement schedule and associated settlement and demographic adjustments are thus viewed as important techno-economic strategies permitting Baffinland Eskimos to cope with environmental changes affecting the availability of subsistence resources. However, in order to ensure that these adjustments mesh smoothly with other aspects of socioeconomic organization, higher-level integrative controls are required. Two important aspects of Baffinland Eskimo social organization appear to function in this capacity. These are: (1) the kinship system and anucleate nature of band organization, and (2) the flexible pattern of domestic groups organization and internal adjustment. These characteristics of social organization permit rapid information dissemination and allow local population distributions to quickly adjust to changing resource distributions and subsistence

opportunities. The maintenance of flexibility in domestic group organization also serves an important integrative function by translating necessary subsistence-settlement system adjustments into the predictable range of variation which occurs in domestic groups, thereby reducing social stress which might otherwise result from demographic reorganization.

Several comments regarding the applicability of these concepts to archaeological interpretations can now be made. First, these adaptive strategies provide a set of assumptions upon which models of Thule subsistence-settlement systems can be based. For example, the necessity for linked adaptive strategies as well as higher level mechanisms associated with the social integration of techno-economic adjustments might be anticipated. The testing of hypotheses aimed at confirming or rejecting these notions may thus provide considerable insight into the nature of Thule adaptive organization.

Delineation of the interrelationships among subsistence-settlement system variables also informs us as to the kinds of behavioral responses we should expect in relation to different magnitudes of environmental stress. The rescheduling of procurement systems, for example, provides some adaptability to environmental fluctuations, but when coupled with associated adjustments in settlement patterns and demographic arrangements, adaptive resilience is greatly increased. Therefore, we may anticipate perhaps more complex subsistence-settlement system adjustments to environmental changes surpassing a certain threshold level.

In summation, this review of Baffinland Eskimo adaptation demonstrates the importance of several aspects of social organization

CHAPTER FIVE

ECOSYSTEM MODEL

In this chapter the environmental and ethnographic data presented in Chapters Three and Four are synthesized to provide a model of the ecosystem within which aboriginal Baffinland Eskimos participated. The purpose of this model is threefold: (1) identify critical aspects of the effective environment of Baffinland Eskimos, and show how certain cultural and environmental variables are systematically interrelated; (2) identify the kinds of phenomena, both internal and external to the system, that might affect these relationships; and (3) identify ways in which systemic relationships are maintained or may change.

By analogy, this model may serve as a source of hypotheses concerning the nature of past cultural/environmental relationships which can be tested using archaeological data. (Two hypotheses are presented in Chapter Six following a summary of paleoenvironmental change in the south Baffin region.) These hypotheses are based on the assumption that observations regarding modern Inuit cultural-environmental relationships can be applied to the Thule Eskimos as well. This assumption is justified for two reasons: First, the characteristics of the Arctic environment necessitate specialized human adaptations. To be sure, many cultural differences can be found throughout the Inuit ecumene; however, in terms of exploitative organization and associated aspects of settlement, demography, and social organization, a general pattern does exist

(Weyer 1932; Graburn and Strong 1973). The persistence of this general pattern supports the assumption of a corresponding set of basic cultural/environmental relationships. Second, as shown in Chapter One, historical continuity between Thule Eskimos and recent Inuit is amply documented by empirical evidence from across the North American Arctic. In the Central Arctic, Thule Eskimos and their Inuit descendents (at least aboriginally) have utilized generally similar environments in generally similar ways for approximately the past millenium. Hence, analogies regarding the basic relationships between specific cultural (e.g. subsistence technology, hunting techniques, settlement pattern, social organization) and environmental variables (e.g. habitats, species, climatic effects, etc.) are valid in this case. Yellen (1977: 1-12) provides a lucid discussion of these considerations.

Approach

In Chapter Two the subsistence-settlement system approach was discussed as a useful method for organizing and analyzing archaeological data with the aim of studying prehistoric cultural adaptations in mind. The value of this approach derives from the widely held notion that among hunter-gatherers in general (and among the Inuit in particular), the primary factors underlying cultural adaptation stem from interactions between human populations and the resources upon which they depend (see e.g. Rappaport 1969; Fladmark 1975; Jochim 1976; Yellen 1977b).

This approach focuses on the structuring of the relationship of a group to its natural environment, with primary consideration given to characteristics of the natural environment. Priority may be given to an examination of the exploitative activities and their implications for settlement patterns and demographic arrangements, because these are the areas of clearest articulation of man and his environment (Jochim 1976: 9).

In a general model of hunter-gatherer economic behavior derived

from a cross-cultural survey of the ethnographic literature, Jochim identifies resource use schedule, site placement, and demographic arrangement as major components, or subsystems, of a subsistence-settlement system. In this system, human behavior is patterned as a result of solutions to the following problems:

- (1) Which resources should be used?
 - (2) How much of each resource should be used?
 - (3) When should each resource be used?
 - (4) Where should the resources be procured?
 - (5) How many people can and should procure the resources?
- (Jochim 1976: 11)

The matrix of objectives which enter into hunter-gatherer economic behavior is quite complex, even if we restrict our consideration of decision-making criteria only to those most directly related to the acquisition and utilization of critical resources. These objectives are highly interconnected and mutually affecting, and together they comprise a hierarchically arranged set of conditions which result in greater importance of some objectives in relation to others. Thus, Jochim argues that "greater independence and causative priority" should be accorded the resource procurement schedule in this model, since the state of the other subsystems is conditioned by the determination of resource use (Jochim 1976: 12-13). Hence, the model:

RESOURCE USE SCHEDULE

SITE PLACEMENT

DEMOGRAPHIC ARRANGEMENT

The present study is concerned with the development of this subsistence-settlement system along the south coast of Baffin Island during the past 900 years. In order to understand the dynamic, adaptive characteristics of this system, the following model of south Baffin human ecology is offered. In this model, the direct articulation

between Thule populations and their environment is defined as a set of resource procurement systems. The seasonal configuration of these systems comprise a sequence of "economic seasons" (Jochim 1976: 44-5) which order the annual cycle and determine the resource use schedule.

Resource Procurement Systems

The procurement systems of Baffinland Eskimos represent adaptations to a variety of environmental variables, the most important of which are: (1) a limited number of resources, most of which are animal species; (2) the habitats in which these species occur; (3) the distribution and abundance of these species and their exploitative potential; (4) seasonal changes in species/habitat configurations. These factors have been discussed in Chapter Three in relation to three major biotic zones: the tundra, the marine, and the riverine/lacustrine. These three zones constitute major procurement areas where the resources can be obtained. It is important to note that no single zone can provide a secure, year-round source of food and raw materials; rather, an adequate level of resource procurement throughout the annual cycle depends upon the successful seasonal utilization of all three zones. At the same time, this ecological requirement offers an important adaptive advantage: it results in a very flexible exploitative pattern which includes a variety of procurement options. The availability of these options ensures at least some resilience to the effects of environmental fluctuations, as will be discussed below.

Eleven procurement systems are discussed in this chapter. These encompass a variety of hunting, gathering, and fishing activities through which necessary food and raw material resources are obtained. Together these procurement systems comprise the basic subsistence

economy of Baffinland Eskimos. Within this economic pattern, however, are several important aspects of variability.

First, each procurement system contributes a different proportion of the total amount of resources acquired during the course of a year, with some systems usually being far more important than others. For example, in recent years ringed seals alone constitute 65% of the annual country food harvest in the Lake Harbour region, with most hunting done in the open water from boats in summer or from the floe edge of landfast ice in winter (Kemp 1972, 1975). The extent to which some procurement systems are more important than others is a function of broad patterns of resource availability which stem from the interaction of numerous environmental variables. If the interrelationships among these variables are altered, associated changes in the importance of specific procurement systems may result.

Seasonality is a second major source of variability in the subsistence economy. Two important factors here are the changing distribution of species from season to season, and the seasonally changing configuration of habitats within major biotic zones. Some species, such as harp seal and various kinds of birds, migrate into the south Baffin region only during certain months of the year and hence may be pursued only during those times. Other species (e.g. caribou, hare, arctic char) follow seasonal patterns of aggregation and dispersal. Throughout the year, the changing configuration of specific habitats may also affect resource procurement. For example, during much of the year seals are found in a sea ice habitat. However, during the summer seals are associated with an offshore open water habitat. As a result of these changing species/habitat configurations different hunting

possibilities present themselves at different times of the year. These possibilities affect not only the ability of the hunters to obtain resources, but also the profitability of specific food-getting activities. Together these factors are primary determinants of economic seasons during which only a limited number of procurement systems are practical.

A number of situational or short-term environmental factors (e.g. cloudiness, wind, temperature, precipitation) may also produce variation in the annual economic pattern. These transcend seasonal factors and result in the selection of one procurement option over another at any particular time.

The eleven procurement systems identified for the Baffinland Eskimo may be organized into four distinct economic seasons which together comprise the annual exploitative cycle. These economic seasons are: (1) a fall season during which open water sea mammal hunting is emphasized, directed in particular toward the procurement of walrus and beluga; (2) a winter season predominated by breathing hole seal hunting and floe edge hunting; (3) a spring season characterized by basking seal hunting; and (4) a summer season during which caribou hunting and arctic char fishing are most important. These major procurement systems are accompanied during each season by a number of alternative systems, depending upon the time of year and prevailing conditions. The resulting seasonal procurement system configurations are presented schematically in Figures 9-12.

The major components of each procurement system are represented in the figures by several compartments labelled "biotic zone," "habitat," "activity," "resources," "implements," "products," and "uses." Important relationships between components are designated by connecting lines with

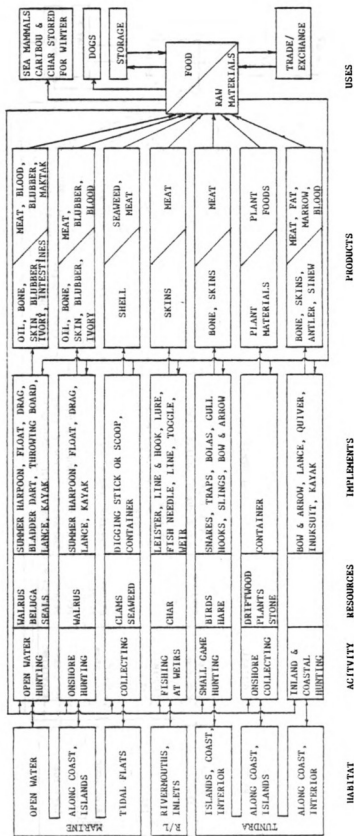


Figure 9
Fall Procurement Systems

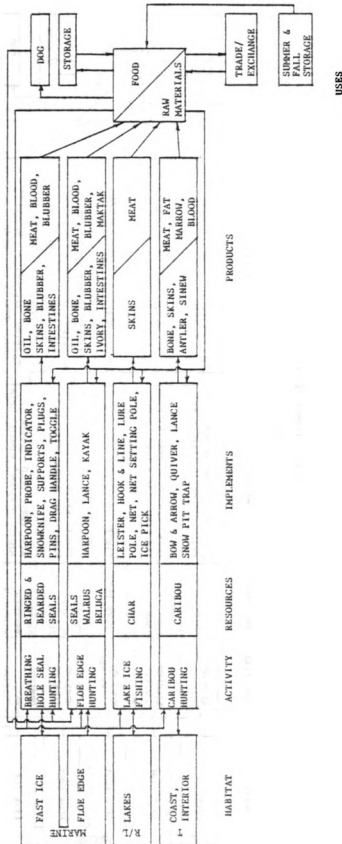


Figure 10
Winter Procurement System

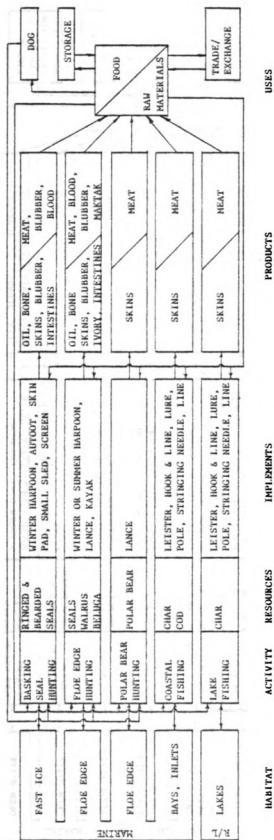


Figure 11
Spring Procurement System

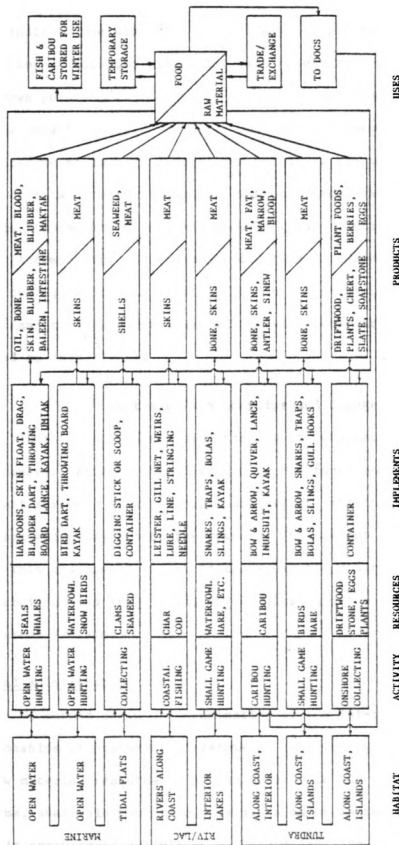


Figure 12
Summer Procurement Systems

directional arrows. From left to right the various compartments and arrows indicate the direction of acquisition, processing, storage, and consumption/utilization stages for each procurement system. The lines and arrows pointing from right to left represent important recycling and feedback relationships. The lines and arrows between "habitat" and "activity" point in both directions indicating the mutually-affecting nature of this interrelationship. The ecological relationships indicated by these figures are discussed below in greater detail.

Accompanying the schematic diagrams of seasonal procurement system configurations is Figure 13 which illustrates the spatial distribution of major procurement areas during each economic season. This map is based on Kemp (1976).

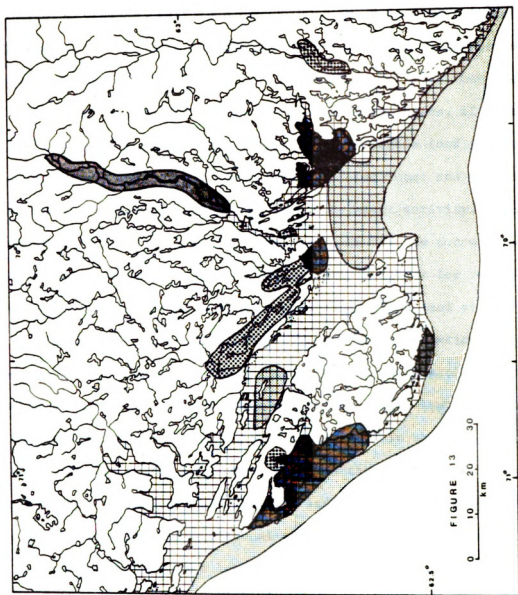
Systemic Relationships and Change

In this section the organization of seasonal procurement systems is discussed. Attention is directed to the functional aspects of important systemic relationships, and several internal and external phenomena which may affect the resource procurement subsystem are identified. This discussion refers to the schematic diagrams (Figures 9-12) and associated map (Figure 13) which illustrate the major features of procurement systems.

Internal Relationships

We should begin our examination of the internal functional relationships of procurement systems by considering the effects of food and raw material resources. As can be seen in any of the seasonal diagrams, available food resources are a major factor controlling specific procurement activities. The availability of an adequate food

Figure 13
Areas of Major Procurement Activities



supply is, of course, a basic requirement for procurement activities to be carried out at all. However, the amount and kinds of foods obtained during one hunting episode will in part also determine: (1) when the next hunting episode should take place (or, in extreme cases, if there will even be another episode); (2) which of the available food resources should be procured, and in what quantities or proportions; and (3) how many individuals should be involved in the procurement activity. The available food supply will also determine how much will be consumed immediately, how much will be stored either temporarily or for use during a later season, how much will be used as dog food, and so on.

As Jochim has pointed out (1976: 7), the basic criterion involved in these decisions is the maintenance of a satisfactory level of resource procurement to sustain the population, while keeping energy expenditure and effort within predetermined limits. In order to achieve these goals, the Inuit like many other hunter-gatherers rely on "mixed strategy" solutions. Several simultaneous and/or sequential procurement, processing, storage, and distributional activities will be performed, perhaps in a number of separate locations.

Raw material availability has a similar determinative function, but to a much lesser extent. The procurement technology and any associated items (e.g. transportation devices, general purpose implements used in the procurement process, manufacturing tools, etc.) are of course made from the raw material resources obtained by means of certain procurement systems. However, for the most part these raw materials are derived as by-products of food procurement and processing. Most other items, such as stone or driftwood, are almost always collected incidentally in the context of other economic pursuits. In other words, only

in the most extreme instances of shortage will the acquisition of raw materials itself be a primary determinant of procurement system scheduling.

The interrelationship between procurement activities and habitats, as noted above, is a mutually-affecting one in that the activities carried out in particular habitats may have reciprocating effects on those habitats or the resources they contain. For example, inuksuit caribou drive systems and fish weirs set across rivers are intentional, physical modifications of specific habitats which enable the Inuit to more effectively procure resources from those habitats. In addition to habitat modifications, procurement activities may affect the resources themselves. Some writers (e.g. McCartney 1977: 88-89; Hett and O'Neill 1974: 37-38) have argued that the effects of most aboriginal procurement activities on animal species are minimal at best. However, Simenstad, Estes and Kenyon (1978) have recently determined that prehistoric Aleut populations did in fact bring about changes in sea otter populations through local exploitation (which in turn resulted in other biotic changes in the marine habitat). In Chapter One, I also discussed Stanford's interpretation that Birnirk hunters along the north coast of Alaska overhunted the local ringed seal population, which subsequently necessitated a major shift in economic orientation.

Along the south coast of Baffin Island it is doubtful that many species could have been overexploited by aboriginal procurement systems. McLaren (1962) has shown that the ringed seal population in the region is quite capable of sustaining a 7% annual harvest, which is somewhat greater than the level at which the population is currently exploited, even though rifles and motorized canoes now add greatly to the

effectiveness of open water hunting, and an added economic incentive exists in relation to the worldwide market for seal skins. The distributional patterns of harp seals and harbour seals are such that these species are infrequently hunted. Bearded seals, however, might potentially be susceptible to overhunting because of their lower rate of reproduction. Walrus and beluga, being seasonal migrants into the North Bay area, probably were not susceptible to overhunting during prehistoric or aboriginal times. Baffinland caribou herds are typically dispersed during most of the year and also tend to wander in more-or-less haphazard patterns; hence, they too would probably not have been overhunted. Bird species, although some are utilized to a considerable extent, are almost all migratory and therefore would most likely not have been subject to extreme hunting pressure, at least in this region. However, intensive collecting of eider duck eggs could conceivably affect that population. Other small land mammals were only hunted to a minimal extent.

One other species that did have some economic importance and which might conceivably be subject to overexploitation is the Arctic char. Since these have an extremely low rate of reproduction and population growth, intensive fishing of a small river for several years could severely reduce the resident population of that river.

One last aspect of internal systemic relationships that can be mentioned here concerns the loss or attrition of resources through various stages of the procurement systems. Animals may be lost during the course of procurement activities; this is especially prevalent in open water sea mammal hunting, where sometimes the seals or walrus will sink before they can be retrieved. A certain amount of waste will

always occur during the processing stage, and some amount of stored food will always spoil or be eaten by unintended consumers such as polar bears or wolves. Normally these sources of loss and attrition will not be a problem, but a series of unlucky events might certainly produce a considerable amount of stress.

Internal Systemic Change

In the preceding discussion some possible internal sources of procurement system change were noted. Cyclical fluctuations in animal population sizes or in migratory behavior, for example, might necessitate changes in the seasonal emphasis of specific procurement systems. The overexploitation of particular animal species is another potential occurrence which might bring about some reorganization of seasonal procurement system configurations. In addition to these, three other potential sources of internally generated change may be identified.

One possible source of systemic change is the modification of a particular procurement activity or technique. Such modifications would presumably be in the direction of increased efficiency or ability to satisfy the basic criteria of adequate resource acquisition at low cost. An example of this might be the discovery that rapidly sinking walrus could be later retrieved if they were first harpooned in certain areas along the coast, such as at the heads of shallow inlets, where the bottom would be exposed at low tide. This discovery might encourage cooperative open water hunting by several hunters in kayaks, who together could drive walrus into these areas and thus end up with a far greater catch than could otherwise be obtained through individual hunting techniques. This development may well have taken place in the North Bay area if the original Thule migrants had come from areas where

the tidal range was not as great.

A second potential source of internal change is a shift in food preference. Especially during the summer months when a variety of procurement options exist, many equally viable economic orientations are possible. Within the Central Arctic, local food preferences may account at least partly for the fact that interregional differences in economic orientations do occur, some of which are unrelated to ecological factors (see for example Damas 1968, 1969b).

A third source of change is through technological innovation. The development of a new or different weapon or implement which is easier to use or more efficient in its task could result, if widely adopted, in a new set of associations between material culture, resources, and procurement activities, which together constitute the "core" of procurement systems. Such innovations might also produce at least some changes in the procurement techniques themselves.

The processes by which any of these internally generated changes might occur have been described by Flannery (1968): ". . . quite minor deviations in one small part of a previously existing system . . ., once set in motion, can expand greatly because of positive feedback." By means of such "deviation-amplifying" processes any of these changes, though initially of only minor consequence, could over a period of time result in significant reorganization of seasonal procurement system configurations or even the basic economic pattern. Moreover, these changes would not necessarily have been produced as the result of any external changes in the environment. Cultural changes can, of course, be generated as a result of such environmental relationships. These are discussed in the following section.

External Relationships and Change

The external environment of Baffinland Eskimo procurement systems is comprised of a variety of physical and biological variables, including other human populations in adjacent regions. The set of relationships which obtain between procurement systems and their effective environments are discussed in terms of their occurrence at three different levels: the ecosystem level, the procurement system level, and the population level. The potential for systemic change will also be discussed as it may occur at each of these levels.

Ecosystem Level

Procurement systems operate in the context of a number of discrete habitats which occur in three major biotic zones: the marine, the tundra, and the riverine/lacustrine. From one season to another these habitats undergo a sequence of predictable changes, and the annual sequence of habitat configurations and the distribution, abundance, and predictability of resources within them comprises the biophysical ecosystem to which Inuit populations are adapted.

There are at least three ways this ecosystem can change, the consequences of which may significantly affect Inuit adaptations. The first of these is a change in the geomorphology or physiography of the region, resulting in the alteration of habitats comprising major biotic zones. However, as concluded in Chapter Three, such changes have not occurred in the south Baffin region during the last one thousand years. Therefore, it is not necessary to consider this as a potential source of ecological change in this model.

Evolutionary changes in Arctic ecosystems may also produce changes in the relationships between specific cultural and environmental

variables. Dunbar (1968, 1973) among others has argued that Arctic ecosystems are young in comparison to temperate and tropical ecosystems; primarily due to a lack of nutrients, ecological growth or development is slow and has not yet reached a climax state. Aside from the problematic implication that natural selection can occur at the ecosystem level, there is no evidence for significant evolutionary development within Arctic ecosystems during the past millenium.

A third source of ecological change in the Arctic is through changes in the climatic regime. Climatic change may affect both the season cycle of habitat configuration as well as the distribution, abundance, and predictability of species within specific habitats. During the past one thousand years significant climatic changes have occurred in the south Baffin region (Andrews and Miller 1979; Barry et al. 1977), and these changes would most certainly have affected the animal species upon which Thule Eskimos depended (Schledermann 1976b; Vibe 1967). Hence, climatic change is included in the ecosystem model as one important external source of systemic change. However, it is necessary to recognize the different effects climatic changes can have on habitats in different environmental zones.

In marine habitats, climatic changes most significantly affect the annual sea ice cycle, or, more precisely, the relationship between open water periods and periods when the sea is covered with ice. Although the controlling variables are complex, changes in annual temperature, precipitation, and wind patterns will affect the yearly extent and duration of sea ice (Crane 1978; Barry and Jacobs 1974). Since the Hudson Strait also is penetrated by Atlantic waters, climatic changes in the marine system of more southerly regions could affect the

marine environment of the south Baffin region (Dunbar 1968). The major effect of this latter circumstance would be an increase in the mixing of waters from various depths, resulting in an upwelling of nutrients and an overall increase in primary productivity.

In tundra habitats, climatic changes may affect the rate of primary productivity and also the distribution of plant communities. These changes would in turn affect species at higher trophic levels: increases or decreases in primary productivity would have corresponding effects on secondary and tertiary consumers, while changing plant distributions would affect the distribution of herbivores feeding on those plants. Also, climatically induced changes in the extent and duration of snow and ice cover would affect herbivores (especially caribou) whose foraging habits are sensitive to these conditions (White 1975; Hoffman 1974). As noted in Chapter Three, the tundra zone is in general much more sensitive to climatic changes than is the marine environment.

Climatic changes can affect riverine/lacustrine habitats in two ways. An increase or decrease in precipitation will affect runoff and drainage patterns, thus changing the levels and discharge rates of ponds, lakes and rivers. Also, the amount of nutrients brought into these waters by runoff will affect primary productivity and hence influence species at higher trophic levels. Secondly, the extent and the depth of the ice cover in rivers and lakes, as well as the duration of the frozen period and time of break-up, is affected by changes in the seasonal temperature regime. This not only affects productivity but also the accessibility to humans of species such as fish.

Although a variety of other climatically induced changes in Arctic habitats could be identified, those discussed above are the most

significant in relation to human subsistence adaptations, and hence to this ecosystem model. The effects of these habitat changes on particular animal species along the south Baffin region will be considered in Chapter Six.

Procurement System Level

The "core" features of procurement systems, as illustrated in Figures 10-13 are the activities (techniques of procurement), the resources, and implements or technology involved. The most critical environmental variables at this level are: (1) the weather and its effect on habitat conditions and animal distributions; and (2) the behavioral characteristics of the animals that are being hunted. Changes in these environmental variables might influence changes in the procurement systems in several ways.

The effects of secular weather conditions on habitats provide a variety of constraints upon procurement activities. The nature of these constraints in the Baffin region are discussed most extensively by Beaubier (1970) in terms of factors influencing the availability of hunting areas as well as the various operational ranges of hunting activities (i.e. travel ranges, spotting ranges, shooting ranges, and retrieving ranges). Wind velocity and visibility are considered the two most critical variables influencing the success of hunters (Beaubier 1970: 86). Winds in excess of ten miles per hour frequently preclude hunting activities altogether (especially those carried out in open water, where wave height reduces the ability of hunters to spot sea mammals), although there is a certain amount of variability in this with respect to the season of the year. In terms of visibility, summer fog is a major limiting factor.

Several additional influences of the weather upon procurement systems mentioned in Chapter Three may be restated here. Periods of extremely cold, still weather during winter may prevent floe edge hunting if the open water margin freezes over. Severe winter storms may affect both the availability of species as well as the ability of the hunters to go out after them. Heavy winter precipitation in the form of snow may adversely affect caribou populations and their distribution. During spring and early summer, weather patterns resulting in a long period of sea ice break-up may hinder transportation and thus hunting possibilities.

The behavioral characteristics of animal species may also have important consequences for procurement activities. Evasive behavior and other characteristics can affect the ability of hunters to spot and shoot their quarry. Shifts in feeding ranges, migratory patterns, and cyclical population fluctuations may also affect the availability, accessibility, and predictability of species.

Population Level

Finally, several environmental variables affecting the ability of the human population to obtain or consume resources must be discussed. Certain aspects of weather, particularly temperature and wind, may temporarily exceed the tolerance levels of human physiological endurance. Disease may reduce the size of the population (and especially the available number of hunters) below the minimal level required for group survival in the Arctic. Accidents most commonly affect only small camps, where the death of one or two hunters might endanger the survival of other dependent camp members. Less common but certainly possible would be accidents involving larger numbers of people; violent storms

trapping several hunters or ice break-up destroying a snow house village would be examples. Hostilities arising between local populations, although rare in Inuit society, do occasionally occur and can have detrimental results. Other kinds of social stress such as hysteria, depression, etc., may also inhibit the ability of the local group to maintain an adequate level of resource procurement.

Settlement Pattern and Demographic Arrangement

During each economic season a particular settlement type and demographic arrangement is associated with the set of procurement systems which characterize that season. In this discussion we refer to settlement type as a discrete location along with the kinds of structures or dwellings that comprise the settlement. The sum of distinct settlement types occupied during the course of a year is the settlement pattern. Demographic arrangement, as used here, refers to the relative degree of population aggregation or dispersal associated with each settlement type. Settlement pattern and demographic arrangement along with the rules underlying their organization may be considered as subsystems, and these along with the resource procurement subsystem comprise the subsistence-settlement system. The functional relationships among these subsystems are discussed here in order of the economic seasons from fall through summer.

Fall Season

A primary focus of economic activity during the fall season is the procurement of large quantities of food so that a surplus may be stored away for subsequent use during the winter. The emphasis on intensive sea mammal hunting during this season results in the

establishment of fall-early winter settlements in specific locations along the coast which afford close access to preferred hunting areas. These settlements tend to be located in the same areas year after year, owing to the fact that beluga and walrus follow traditional migratory routes along the south coast during late summer and fall. Hence, the areas in which they will be available are fairly predictable.

The increasingly foul weather during the months of September, October and November add another constraint to the placement of fall settlements: sites affording local topographic protection from adverse weather conditions will be preferred. Jacobs and Sabo (1978) discuss some of the topographic variables that are important in this regard. These include height of land behind the site, directional aspect in relation to prevailing wind directions, restricted fetch seaward of the site due to the presence of islands or opposite shores, and beach protection from coves, spits, or other features in the immediate area.

The primary types of dwellings associated with the fall settlement are skin tents, although as the season progresses these are replaced by more substantial tents or qarmat structures.

The primary procurement activities during the fall season entail cooperative hunting techniques requiring several hunters. Moreover, the processing and storage of large amounts of animal products also places heavy demands upon the women residing in the fall settlements. For these reasons, in addition to other social factors (e.g. ceremonial events), the fall-early winter settlements are typically large, comprised of an aggregation of several households. In Chapter Four Kemp's figure of 18-40 as an approximate size range for these settlements was cited. However, throughout much of this century the cooperative fall hunt may

not have been as important as it was previously owing to the presence of a Hudson Bay Company store in Lake Harbour. This store provides an additional source of "insurance" against winter privation.

Winter Season

During winter almost all hunting activity is carried out on the sea ice or at the floe edge. As previously mentioned, if the fall-winter camp has been situated in a favorable area with respect to coastal ice conditions, it may remain occupied throughout the winter season. However, in the south Baffin region the extreme tidal range produces a belt of broken, jagged ice blocks extending along the shore which shifts position as the tide rises and falls. The effect of this is to make travel from points along the shore out onto the sea ice an extremely hazardous affair. Another factor influencing settlement during winter is the reduced period of daylight. For several weeks the sun rises above the horizon for only a few hours per day. Thus, in order to have the greatest access to sea ice hunting areas, winter settlements may be temporarily located out on the sea ice. Snow houses are erected at these settlements; otherwise, winter qarmats remain the primary dwelling type at coastal settlements.

The ecology of breathing hole seal hunting and its requirement for a large number of cooperating hunters has been discussed in Chapter Four. Because of this requirement the maximal winter aggregation usually occurs at the winter seal hunting village. Following the previous discussion of south Baffin demography, the size of these winter settlements probably ranged from 20 to 50 members. Although not typical, larger aggregations might have occurred, as sometimes happened among other Central Eskimo groups.

In addition to the need for a large number of cooperating hunters, other factors are related to winter population aggregation. Since food-getting activities are least productive at this time, sharing patterns are important, and the establishment of large settlements assures each family of access to some resources. The winter season is also an important time for a number of feasts and ceremonial activities in which all members of the local group take part. Such occasions undoubtedly functioned in the past as they have in more recent times as contexts for the sharing of information and resources among members of the local group.

Spring Season

In the spring procurement activities are directed toward resources that are more or less dispersed along the coast. Basking seal hunting is perhaps most important, although fishing in lakes or along the coast and floe edge hunting are also practiced. During this season the large winter settlement breaks up into several smaller camps situated at various places along the coast. Initially snow houses or snow block shelters are used, but eventually these are replaced by skin tents as the settlements are moved onto shore ahead of breakup. Procurement activities during this season are largely individualistic; usually only one or two households will reside at any one settlement.

Summer Season

During summer the greatest variety of habitats, both inland and along the coast, are accessible and therefore settlements may be located in a variety of areas adjacent to major hunting grounds. Coastal settlements are most often located at the mouths of rivers, where fresh water is available and where arctic char can be obtained.

Coastal settlements during summer are generally small, since most people travel inland to hunt caribou.

Inland settlements tend to be located close to areas where caribou are congregated or where their migrations will lead. These settlements are also situated along rivers or lakes to provide access to water as well as to a variety of small game such as birds. Several techniques of inland caribou hunting involve a number of cooperating individuals, so these settlements are characteristically somewhat larger than the coastal settlements. This is particularly true during the late summer, when caribou hunting is most intense.

Also during summer families frequently travel considerable distances to visit relatives in adjacent regions. There is also a tendency to engage in a wider variety of hunting and gathering activities simply to provide a change in the diet. Both of these factors result in the establishment of a large number of very temporary settlements distributed at various points inland and along the coast.

Changes in Settlement and Demography

Given the preceding view that the state of the settlement and demographic subsystems is conditioned primarily by the organization of the resource use schedule, it follows that most of the changes that might occur in these subsystems will be brought about as a result of other changes in one or more of the procurement systems. Changes in the seasonal emphasis of individual procurement systems, or other reorganization of seasonal procurement system configurations resulting from any of the numerous factors discussed above, may necessitate corresponding alterations in settlement and demographic arrangement. However, as discussed in Chapter Four, the anucleate structure of band organization

and the flexible pattern of domestic group organization can be viewed as important adaptive strategies which permit response to procurement system rescheduling without major changes in settlement and demographic subsystems. Thus we might anticipate within this model that major changes in settlement and demography are not necessarily produced by changes in the organization of procurement systems, unless those changes are great, resulting in entirely new procurement systems.

Conversely, changes in settlement patterns and/or demographic arrangements can occur as a result of other factors. Changes in social organization, or in preferences regarding settlement and community patterns, for example, might encourage or preclude either very large or very small camps. While it is unlikely that any such changes might themselves bring about a reorganization of procurement systems, under conditions of very abundant and secure resources this could occur. Finally, the various sources of population stress discussed previously (e.g. disease, accidents, hostilities, etc.) could also affect settlement patterns and demographic arrangements. In fact, only in the most extreme cases would population stress first affect procurement systems; more likely, it would initially produce some temporary change in these other two subsystems.

Summary of Ecosystem Stability and Change

In this chapter the Baffinland Eskimo ecosystem was examined and several internal sources of systemic change were identified. These were:

- (1) changes in procurement activities or techniques resulting in greater efficiency or satisfaction.
- (2) changes in food preferences.

- (3) technological innovation or introduction resulting in greater efficiency or satisfaction.
- (4) changes in settlement patterns or demographic arrangements resulting from changes in social preferences or from intra-group stress.

Any of these changes most likely would arise as minor deviations in the pre-existing system, and, if they provided significant adaptive advantages (or, at least, resulted in no significant maladaptive characteristics), could bring about a reorganization of the system through positive feedback mechanisms.

A number of potential external or environmental sources of change were also identified:

- (1) climatic changes, and particularly their effects upon the seasonal configuration of specific habitats and the distribution, abundance, and predictability of animal species within these habitats.
- (2) the short-term effects of weather on habitats and animal species.
- (3) the behavioral characteristics of animal species, especially changes in feeding ranges and migratory patterns, as well as cyclical fluctuations in population size.
- (4) population stress as a result of severe weather conditions, disease, accidents, inter-group hostilities, etc.

As a result of these external influences, various adaptive responses may be initiated. These responses operate as regulatory mechanisms counteracting deviation by means of negative feedback processes. That is, the numerous cultural variables discussed above each have a goal range, or predetermined range of variation which if maintained within limits will ultimately contribute to the acquisition of adequate food resources to sustain the group, while limiting the level of energy expenditure. If these variables deviate beyond their goal ranges, then adaptive responses are initiated which return the deviant variables back

to their goal ranges or reorganize the system according to a new set of relationships and goal ranges. In Chapter Four, the primary adaptive responses to external systemic change were identified as:

- (1) re-scheduling of procurement systems.
- (2) re-organization of associated features of settlement pattern and demographic arrangement.
- (3) reorganization of domestic groups in relation to the requirements and possibilities of resource procurement, settlement, and demographic subsystems.
- (4) redistribution of local populations and territories.

These in addition to other regulatory mechanisms (e.g. seasonality) permit effective adaptive response to the environmental changes discussed above.

Prehistoric Climates and Cultural Change

Considerable evidence of paleoclimatic change in the Arctic has resulted from a variety of geological, glaciological, palynological, paleosol, and other studies, allowing the sequent stages of climatic variation over past millenia to be reconstructed (e.g. Koch 1945; Lamb 1966; Bryson and Wendland 1967; Nichols 1968, 1975). The sources of paleoclimatic data upon which these sequences are based have been summarized by Dekin (1972) and Barry et al. (1977). The synchronous arrangement of climatic and cultural stages demonstrated by a number of archaeological studies (e.g. McGhee 1969/1970, 1972; Dekin 1972; Fitzhugh 1972; Schledermann 1976b; Barry et al. 1977) raises the possibility of "causal" relationships. However, the nature of any such relationships are not well understood in terms of the specific mechanisms and processes through which climatic change may affect human adaptations (cf. Fitzhugh 1976; Jacobs 1979). More importantly, as we have seen

in this chapter, climatic change is but one of many factors which may affect cultural development and bring about cultural change in the Arctic. If we ever hope to fully understand the nature of prehistoric cultural development in the Arctic, it will be necessary at some point to assess more carefully the role of causative factors other than climatic change.

Despite this criticism, most archaeologists would agree that the sequence of paleoclimatic episodes in the Arctic does provide a useful analytic framework within which diachronic questions concerning prehistoric adaptations may be addressed. However, rather than searching for cases where climatic changes "caused" cultural changes, we should be attempting to discover how prehistoric populations adapted to the climatic changes we have been able to document. This approach would allow us to incorporate our understanding of the effects of climatic change into more inclusive explanatory models which consider other relevant environmental, social, and cultural factors. The remaining three chapters of this dissertation focus on this problem as it relates to the south Baffin Thule culture.

CHAPTER SIX

PALEOENVIRONMENTAL CHANGE AND ARCHAEOLOGICAL IMPLICATIONS

In this chapter evidence of climatic change in the eastern Arctic during the past one thousand years is reviewed, and the probable effects of those changes on the ecology of the southern Baffin region are identified. Attention is directed toward reconstructing the effects of these climatic changes on the distribution, abundance, and predictability of critical faunal resources, as well as their effects on the ability of Thule populations to procure these resources. Based upon the ecosystem model developed in Chapter Five, two general hypotheses are offered concerning the kinds of adaptive responses that might be expected of Thule Eskimos given certain changes in the exploitative potential of various critical species and habitats. The archaeological implications of these hypotheses are then discussed.

Past Climatic Stages

The sequence of changing climatic conditions in the eastern Arctic over roughly the past millenium is summarized below according to a three stage model which in general outline (Figure 14) follows discussions by Schledermann (1976b) and Barry, et al. (1977):

Period I--1100 to 800 B.P.: This period has been referred to as the "Medieval Warm Epoch" by Lamb (1966). The climate was generally warmer than present, with mean summer temperatures about 1°C above the

Figure 14

General Climatic and Cultural Sequence in the Eastern Arctic

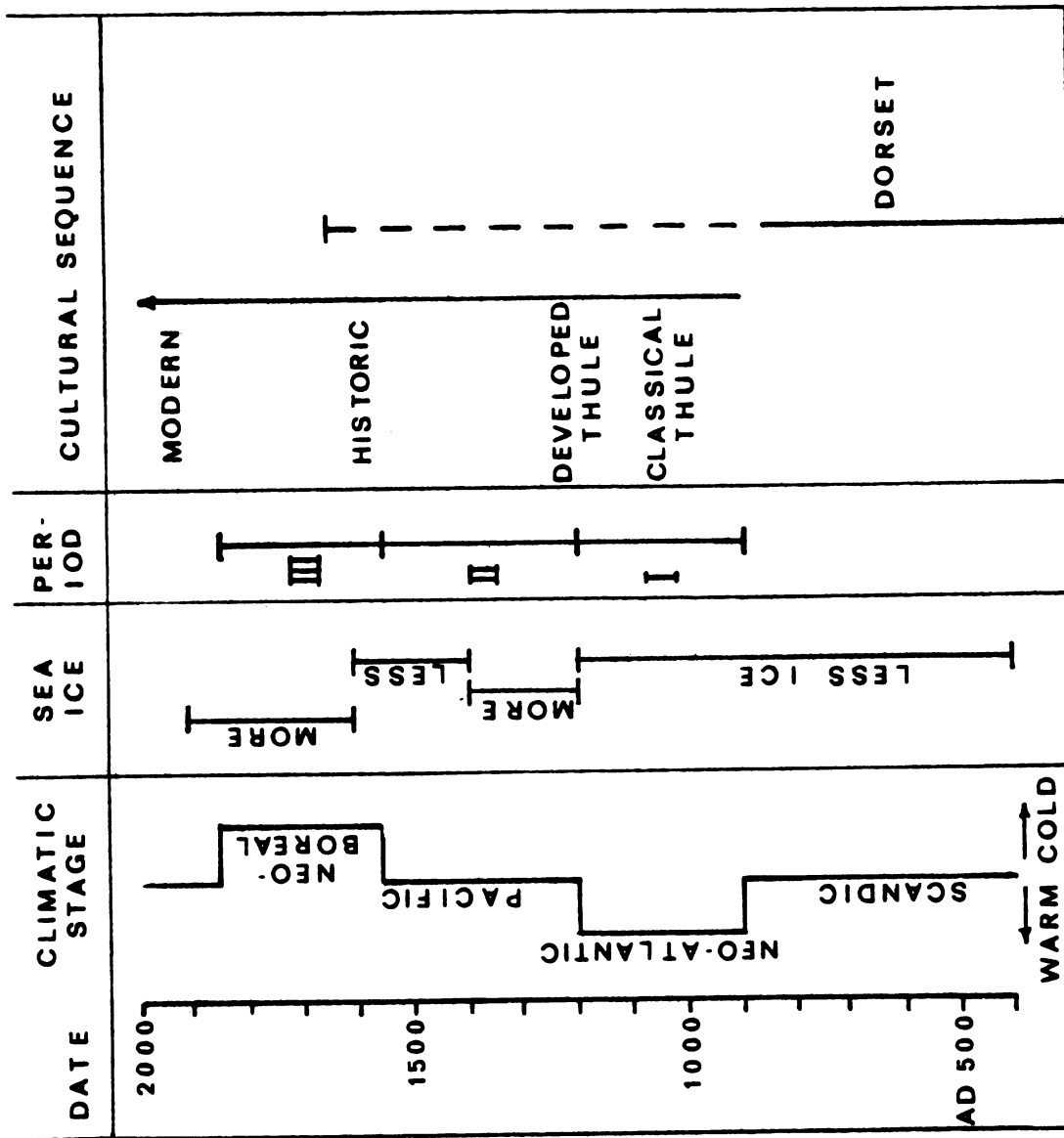


FIGURE 14

modern average (Nichols 1975). These temperatures were probably accompanied by more extensive and longer lasting open water conditions (Koch 1945; Bryson and Wendland 1967). The northern margin of the boreal forest also underwent an advance during this period (Nichols 1968).

Period II—800 to 400 B.P.: During this period gradually cooling and deteriorating conditions prevailed (Bryson and Wendland 1967; Nichols 1974). Average yearly temperatures fell to present averages, although increased frequencies of extreme periods (both warmer and colder) probably had greater ecological impact. Increasing amounts of summer drift ice began to occur with the deteriorating climate of this period (Koch 1945; cf. Jacobs 1979), although there was a slight amelioration between 550 and 350 B.P.

Period III—400 to 100 B.P.: This period is generally known as the Little Ice Age (Schwarzbach 1963) during which climatic deterioration continued and intensified (Daansgaard, et al. 1969), accompanied by further increases in the frequency, duration, and amplitude of extreme conditions. Summer temperature decreases of 1 to 1.5°C resulted in glacial expansion over much of central Baffin Island (Ives 1962; Miller 1973). Ocean temperatures dropped 1 to 3°C, and summer drift ice accumulation continued (Koch 1945).

Ecological Effects of Climatic Changes

Tundra Habitats

Throughout Period I warmer conditions may have been associated with increased precipitation; along the south coast of Baffin Island mild winters with heavy snowfall, sleet storms, etc., were probably characteristic. Such conditions are detrimental to caribou, making it very difficult for them to forage. Consequently, shifts in feeding

ranges to higher, more windswept areas may have occurred during this period, or there may have been some reduction in local population sizes. In either event, the potential for caribou hunting would not have been optimal for Thule hunters.

Conversely, during Period II cooler and drier conditions would have been favorable to caribou populations, increasing their potential value as a resource for human utilization.

The transitional period into the Little Ice Age doubtless brought about increasingly unstable conditions. These conditions would have continued throughout the Little Ice Age when glacial expansion and more extensive year-round snow cover also occurred. These latter conditions in particular would have had adverse effects on caribou populations resulting in substantial population redistributions and reductions. As noted in Chapter Three, when caribou herds on Baffin Island diminish in size the yearly pattern of movement becomes increasingly random. The effectiveness of hunting techniques as well as the exploitative potential of the caribou populations thus would have been greatly reduced.

Although caribou are by far the most economically important tundra-dwelling species, other animals are frequently hunted as well. The responses of herbivorous species such as hare or ptarmigan to environmental deterioration would have been similar to that of the caribou. We might also expect that to a certain degree carnivorous species such as wolves and foxes would have been likewise affected by these environmental changes. However, since the terrestrial carnivores also feed upon sea mammals the effects of climatic deterioration on them was probably less pronounced.

Marine Habitats

There is little evidence of significant change in the marine environment during the past millenium. McGhee (1972) and others have suggested that increases in annual open water conditions occurred during Period I; these would have been favorable to species preferring open water habitats. On the other hand, during the Little Ice Age the average temperature of the sea dropped, and this may have decreased productivity somewhat (although the factors affecting marine productivity are considerably more complex than this).

In other regions of the Central and Eastern Arctic significant changes in sea level resulted from isostatic recovery (Andrews et al. 1971); however, in the south Baffin region this does not appear to have occurred during the past one thousand years. Nor have there been any significant eustatic changes throughout this period (Barry et al. 1977: 201).

Perhaps the most critical source of change in the marine environment in relation to its exploitative potential is the effect of atmospheric climatic changes on the annual sea ice regime. In the past, such changes may have had significant influences on marine species.

During Period I open water conditions prevailed for a longer period of the year than is generally the case at present; at that time land fast sea ice probably formed later in the fall, and broke up earlier in the spring. Moreover, the number and the extent of places where there was open water year round (e.g. polynias, cracks and fissures in the ice, etc.) was probably greater. As previously discussed, ringed seals breed on the sea ice in early spring and the newborn pups are suckled until breakup occurs. Thus, during Period I ringed seals would have been

generally smaller in size, and probably fewer in number owing to an increase in the mortality of first year seals. However, these same conditions would have provided more favorable habitats for harp seals, bearded seals, and walrus, all of which prefer open water conditions (Mansfield 1967; Vibe 1967). Since bearded seals give birth on the floating pack ice, an earlier onset of fast ice breakup would have little if any effect on their breeding habits or on the viability of newborn pups. Beluga and bowhead whales also prefer open water habitats. Since bowhead whales migrate southward during the winter, longer lasting open water conditions would result in a corresponding increase in their seasonal availability.

In summary, during Period I the potential for hunting ringed seals on or through the landfast ice would have been reduced by early spring breakups, while open water hunting of larger sea mammals would have been favored by prevailing conditions.

With the cooling climate of Period II the extent and duration of the landfast ice increased, as did the amount of drift ice in summer. Thus the ringed seal habitat expanded, especially with respect to the length of time the ice lasted into the spring. The availability of this species would therefore have increased as a result of both an increase in the average sizes of seals as well as an increase in the size of the population.

An opposite situation may have developed for harp seals, bearded seals, walrus, beluga, and bowhead whales through a reduction in the open water habitat. However, given the subarctic marine characteristics of the waters off the south coast of Baffin Island, it is also possible that an increase in the relative abundance of these species might have

occurred through a southward redistribution of sea mammal populations formerly ranging further north. Even so, significant increases in summer drift ice would have begun to greatly hamper open water hunting during this period; thus, there probably was an overall reduction in the exploitative potential of these species.

Throughout Period III the general trends already underway were intensified. Despite the positive relationships between the duration and extent of landfast ice and ringed seal abundance, during especially cold winters the sea ice can become too thick for seals to maintain their breathing holes (McLaren 1958). Should this occur ringed seals may move out to the floe edge or even migrate to other areas where ice conditions are more favorable (Stirling and Smith 1975: 130). Such distributional changes would affect the regional availability of major hunting areas on and adjacent to the landfast ice. However, given the aforementioned subarctic marine environment along the south coast of Baffin Island, as well as the characteristically milder climate (Sabo and Jacobs 1980), it is likely that extremely adverse conditions such as these did not occur. Nonetheless, at least some overall increase in environmental stress affecting Thule sea ice hunting may have occurred during this period.

Species adapted to open water habitats would similarly have experienced increased stress through critical reductions in these areas. Increased expanses of landfast ice, fewer leads, and smaller open water areas would have been characteristic during winter, while extensive covers of drift ice during summer may have necessitated changes in feeding grounds still further to the south. As a result, the availability and predictability of bearded seals, walrus, beluga, and bowhead whales throughout the year would have been increasingly variable, at the

very least.

It is thus probable that both summer and winter sea mammal hunting was affected by climatic changes associated with Period III. However, since the marine environment along the south Baffin coast is a fairly stable one, the impact of these changes would have been less pronounced here than in adjacent areas (see for example Jacobs and Sabo 1978; Sabo and Jacobs 1980; Schliedermann 1976b). Even so, the overall reliability of marine species might have been somewhat reduced during particularly bad years of this latter period.

Riverine/Lacustrine Habitats

No significant changes in drainage patterns or other aspects of these habitats took place during the past one thousand years, as the geomorphology and physiography of the land have remained stable. However, climatic changes may affect primary productivity as well as the distribution of species throughout these habitats. In particular, during the coldest periods thicker and longer lasting ice in lakes, rivers, and at outlets may have inhibited winter and spring fishing. However, during the latter part of the summer, when fishing activities are most important, climatic changes do have considerably less effect. Of the three major environmental zones, changes in the exploitative potential of riverine/lacustrine habitats throughout the past one thousand years probably had the least impact upon the economy of Thule Eskimos.

Archaeological Implications

Throughout the preceding millenium climatic changes significantly affected certain seasonal characteristics of tundra and marine habitats. Of greatest consequence to Thule subsistence-settlement systems were

changes in the yearly extent of snow and ice cover on the land, and changes in the extent and duration of winter landfast sea ice and summer drift ice. Increases in the frequency, duration, and amplitude of extreme conditions also occurred especially during the period from ca. A.D. 1550-1850, which further affected the distribution, abundance, and predictability of critical animal species. As these climatic/ecological changes developed, adaptive responses within Thule subsistence-settlement systems must have been necessary.

In the preceding discussion of climatic/ecological change in the south Baffin region, it was suggested that after A.D. 1150 a general trend of climatic deterioration ensued, culminating in the Little Ice Age of ca. A.D. 1650-1850. Probably from about A.D. 1300 on, the tundra habitat became increasingly less reliable as a source of food energy and other resources primarily because of changes in the distribution and abundance of caribou populations, and their increasing unpredictability in relation to Thule procurement techniques. On the other hand, the marine habitat became increasingly more reliable due to an expansion of the landfast sea ice habitat to which ringed seals were adapted. Although increases in the amount of summer drift ice during this period would have reduced the accessibility of large sea mammals (especially bowhead whales), the overall exploitative potential of the marine environment probably remained fairly stable, even during times of most extreme climatic stress, owing to its subarctic marine characteristics.

In response to these developments we should therefore expect to find evidence of corresponding shifts in the relative importance of Thule procurement systems associated with tundra and marine exploitation. Moreover, the direction of these shifts should approximate the general

trends of changing economic potential as outlined above. Evidence of these shifts might be reflected in the faunal remains, subsistence technology, settlement patterns, or other aspects of the subsistence organization associated with successive cultural phases. However, mere identification of these shifts does not inform us as to the specific adaptive strategies with which they were associated, nor do they reveal the mechanisms and processes which might account for specific aspects of stability and change within Thule ecosystems throughout the preceding millenium. To reiterate a statement made earlier, in order to reconstruct Thule ecosystems and understand the nature of their development, we must understand the principles according to which they were organized, the mechanisms by which they were regulated, and the processes by which they were modified or changed. In relation to these latter goals, two general hypotheses are offered here. Both of these concern the adaptability of Thule subsistence-settlement systems over the long run, but each is based on a different, yet complementary, view of the nature and pattern of environmental change in the Arctic.

Adaptation to Long-Term Environmental Change

The nature of most archaeological and paleoenvironmental data is such that we must often study adaptation and change within a framework incorporating relatively long periods of time. Within this framework we assume that long-term, large-scale changes in the environment result from a cumulative, directional series of short-term, small-scale events. Although this view of environmental change has its limitations, it does approximate the nature of much environmental change as it occurs in the Arctic. We should therefore consider the implications of long-term, cumulative environmental changes in relation to Thule adaptations.

As shown in the ecosystem model, short-term climatic changes primarily influence adaptation at the procurement system level. Adaptive response at this level therefore should provide clues as to how long-term, cumulative changes were coped with in the past. We assume here that long-term adaptive developments are the result of a cumulative series of responses to short-term events.

From ethnographic data previously discussed we have seen that among the Baffinland Eskimo adaptive responses to short-term climatic/ecological changes involve one or both of two basic strategies: (1) re-scheduling alternative procurement systems; and (2) re-organizing related aspects of settlement pattern and demographic arrangements (e.g. when to move camp, what type of settlement to establish next and where, how many households will comprise the settlement, how will these households be organized into productive units, etc.). Normally, these shifts remain within the range of variation that exists within the annual cycle. These strategies are made possible by two very important aspects of social organization: the annucleate organization of local bands, and flexibility of domestic group integration. This flexibility criterion makes it possible to adjust cooperative domestic groups so as to obtain, process, and use or consume critical resources in the most effective and efficient manner. Independent archaeological evidence (e.g. Schledermann 1976a, 1976b) supports the view that aspects of social organization such as these may also have been important adaptive mechanisms within the prehistoric Thule culture. With this perspective on Inuit socioeconomic organization in mind, we may state the following hypothesis:

The primary adaptive strategies of Thule populations in response to climatic/ecological changes affecting subsistence resources will be (1) re-scheduling of resource procurement

systems, and (2) re-organization of associated aspects of the settlement pattern and demographic arrangement.

These adaptive strategies can only be effective, however, if there are higher-order mechanisms which permit the resulting organizational changes to be efficiently incorporated into the on-going subsistence-settlement system. Among the Baffinland Eskimo we have seen that flexibility in domestic group organization and an anucleate band structure function in this capacity. Therefore, archaeological evidence supporting the hypothesis would also support the conclusion that higher level mechanisms such as these were also part of the Thule cultural system.

In relation to this hypothesis we should expect to find evidence for:

(1) periodic re-scheduling of procurement systems, rather than the replacement of some systems with other, new systems. Re-scheduling implies continuity within a basic set of alternative procurement systems, although any of these systems may become more or less important at any particular time. The emergence of entirely new or different procurement systems, as well as the cessation of previously existing systems, must therefore be identified as the result of different processes, such as diffusion or deviation-amplification of minor innovations. Re-scheduling would involve primarily shifts in seasonal duration and/or intensity of specific procurement systems over time. These shifts would be represented archaeologically by changes in the relative proportions of important species or species groups through time. As mentioned above, the direction of these changes should also correspond to hypothesized changes in the economic potential of species or habitats resulting from climatic/ecological change.

Subsistence technology might also reflect re-scheduling through changing frequencies of items associated with specific procurement systems. However, since many Thule subsistence artifacts are used in a variety of systemic contexts, and since usually only a few examples of any particular item are found at Thule sites, meaningful changes in the relative frequency of specific weapons and implements will probably not be possible to identify.

Both the faunal and artifactual evidence should, however, reflect continuity in the range of habitat/species configurations utilized, as well as in the techniques by which resources were procured. That is, although the relative importance of particular habitat/species configurations may change over time, the range of exploitative possibilities and the basic techniques of procurement should not.

(2) We may also find evidence for re-organization of the annual settlement pattern in relation to the re-scheduling of procurement systems. To facilitate the re-scheduling of procurement systems, it may have been necessary for Thule populations to shift the timing of movement from one settlement type to another, or shift the duration of particular settlement occupations, or even shift the location of some settlement types in relation to the habitats now more intensively utilized. These shifts might be represented archaeologically only by rather subtle indicators of seasonality (as determined by faunal remains, representative procurement systems, etc.), or duration of occupation episodes (extent and depth of midden, etc.). However, shifts in the locations of various settlement types through time should be more easily discerned.

(3) Finally, we may also find evidence of shifts in demographic

arrangement. Also in order to facilitate re-scheduling of procurement systems, change in certain aspects of the demographic arrangement of the band may have been necessary. For example, a change in the number of hunters required at different settlement types could result in a modification of the annual pattern of aggregation and dispersal.

However, short of complete excavation of Thule village and camp sites within a region, and careful delineation of the occupational sequences represented at each site, such demographic shifts would be extremely difficult to reconstruct. Nevertheless, some aspects of the archaeological record may be at least partially informative; for example, Schledermann's work on Baffin Island and Labrador (Schledermann 1975, 1976a, 1976b) has shown that changes in the size and configuration of Thule winter houses is one useful indicator of changing demographic arrangements.

To summarize, the major implication of this first hypothesis is that rescheduling of extant procurement systems was the primary means by which Thule Eskimos responded to climatic/ecological changes along the south coast of Baffin Island. Archaeological evidence should indicate the maintenance of flexibility in procurement scheduling and related aspects of settlement and demography. Conversely, evidence of significant techno-economic change would compel us to seek alternative models of the Thule ecosystem, or test alternative hypotheses which address other possibilities.

Adaptation to Short-Term, Severe Environmental Change

In certain situations the preceding view of cumulative environmental change is insufficient. During periods of extreme climatic/

ecological perturbation, large scale changes may occur within a relatively short period of time, the effects of which on human populations may be profound. Conditions such as these probably occurred during Period III, especially during the Little Ice Age. During this period adaptive mechanisms regulating Thule ecosystems must have permitted rapid response commensurate with the magnitude of ensuing environmental fluctuations. In physically-controlled environments like the Arctic, typical adaptive mechanisms include rapid population increase after decimation, and broad spectrum utilization of energy resources (Yellen 1977: 265; cf. Slobodkin and Sanders 1969: 85). While the latter may have obtained among south Baffin Thule populations, according to Maxwell (1979) there is no evidence of population decline--in fact, the population along at least a portion of that coast seem to have been remarkably stable for more than four thousand years! Therefore, some alternative mechanism(s) for regulating the Thule ecosystem in the face of severe environmental perturbation is implied. Stated as the second hypothesis:

Thule Eskimos created a complex and stable ecosystem through exploitation of a wide variety of habitats and resources, coupled with the maintenance of a heterogeneous distribution of local populations along with mechanisms enabling these populations to re-distribute themselves in response to environmental stress.

(1) An initial and major implication of this hypothesis is that we should expect to find evidence of continued exploitation of a wide variety of distinctive habitat/species configurations throughout the Thule/Historic era. This exploitative diversification might also be coupled with elaborate food storage systems, food sharing or exchange networks, and other such mechanisms which provide further alternatives allowing Thule populations to maintain a minimally sufficient flow of

food energy even during times of severe privation and stress. Obviously not all aspects of this system are equally susceptible to archaeological confirmation. We can identify the various resource procurement systems that were important during specific periods of time, and we can also study Thule food storage systems on the basis of archaeological data. Less will be discovered in the archaeological record pertaining to regional patterns of food sharing and exchange, however.

(2) A second implication is that major settlement types (i.e. base camps or villages) should be situated in areas which offer access to a wide variety of distinct habitats and resource procurement areas. Conversely, in places where few or no potential resource procurement areas exist, we should expect to find few or no sites. Hence, regional analysis of environmental diversity in relation to exploitative potential will be an important adjunct to the analysis of archaeological settlement data.

Settlement distribution at the regional level should portray a roughly continuous spread of major sites, representing areas inhabited and utilized by contiguous local groups or bands. Through time some of these local areas may have been abandoned temporarily or they may have harbored extra populations in relation to changing exploitative potentials, but this should not be the case overall, and throughout the region at large continuity and stability in population size and productive efficiency should be represented. Maxwell's preliminary surveys of a portion of the south coast of Baffin Island, carried out in 1974 and 1976 and summarized in a subsequent article (Maxwell 1979), reveals that such a distributional pattern is indeed evident. However, we do not know very much about the periods of occupation and subsistence

patterns represented at these sites. Therefore, to test this implication fully, a regionally-scoped research effort of far greater ambition than that carried out during 1977 and 1978 will be required. At present, we can only partially test this second hypothesis, and hope that further research along the south coast of Baffin Island will provide the data necessary for further testing and evaluation.

(3) However, for the more specific, local areas within the larger region, a further implication may be stated. As noted above, the North Bay area is characterized by a milder local climate which in part is related to a variety of local environmental characteristics such as topography, coastal configuration, ocean currents, and sea ice patterns. We may therefore predict that the most severe climatic perturbations of the Little Ice Age would have been somewhat buffered in this area by these local characteristics, and therefore abandonment even temporarily would have been unnecessary. The archaeological record should therefore indicate continuity and stability in the local population and in levels of resource procurement throughout this period of time. As with the first hypothesis, evidence to the contrary will force us to consider either alternative models of the Thule ecosystem in this region, or propose alternative hypotheses to account for these observations.

CHAPTER SEVEN

ARCHAEOLOGICAL ANALYSIS OF
CULTURAL COMPONENTS

In order to reconstruct the temporal framework and cultural systems of Thule populations formerly inhabiting the south coast of Baffin Island, the stratigraphic, architectural, faunal, and artifactual data recovered from excavated components are analyzed in this chapter. A complete description of the excavations is presented in Appendix A. Individual components are discussed in this chapter in chronological order, and major cultural phases are defined and summarized. Major features of the subsistence-settlement system represented during each cultural phase are identified. The resulting culture historical framework provides the basis for the following chapter, in which the previously discussed hypotheses are tested and the results evaluated.

Methods

Artifact Classification

Most contemporary archaeologists working with Thule artifacts classify these materials according to the schemes originally developed by Mathiassen (1927a) and Holtved (1944), in which the majority of artifact types are defined in relation to specific activities. As seen in the previous chapter on Baffinland Eskimo ethnography, many of the hunting weapons and related implements are in fact associated with quite specific subsistence activities.

In classifying the artifact assemblages from Okivilialuk, Talaguak, and Itinapik, I have followed Stanford's (1976) general outline, modified somewhat to accommodate the kinds of artifacts that are found in the eastern Arctic. The major classes and subclasses are as follows:

I. Hunting and Fishing Equipment

- A. Harpoon and Lance Parts
- B. Dart Gear
- C. Seal Float Gear
- D. Ice Hunting Gear
- E. Bow and Arrow Equipment
- F. Fishing Equipment
- G. Miscellaneous Hunting Equipment

II. Transportation Equipment

- A. Boat Parts and Equipment
- B. Sled Parts and Equipment

III. Maintenance, Manufacturing, and Processing Equipment

- A. Men's Knives
- B. Drill and Fire-Making Equipment
- C. House Building Equipment
- D. Tools (Men's and Women's)
- E. Household Equipment

IV. Community Activity and Personal Items

V. Miscellaneous and Unclassified Artifacts

Two further categories which transcend these classes have been added: "Artifacts Modified by Contact" and "Imported Artifacts." Artifacts belonging to either of these categories provide information on the nature and effects of contact with Europeans from a material culture perspective (see e.g. Nooter 1972; Oswalt and Van Stone 1967; Quimby and Spoehr 1951; Sabo 1979).

The artifacts found at the Okivilialuk, Talaguak, and Itinapik sites during 1977 and 1978 are summarized in Tables 1-8 in this chapter. Complete descriptions and illustrations of these items are presented in

Table 1

Hunting and Fishing Equipment
(Class A: Thule/Traditional Artifacts)

	Cultural Phase Component										Totals
	Historic				Developed Thule			Classical Thule			
	Okivillialuk H. 9	Okivillialuk H. 8-U	Okivillialuk H. 2-U	Talaguak H. 7	Talaguak H. 5	Talaguak H. 11	Itinapik H. 1	Okivillialuk H. 8-L	Talaguak H. 2-L	Talaguak H. 9	
Harpoon & Lance Gear											
Harpoon Heads	-	-	1	-	1	-	1	1	5	3	12
Loose Lance Heads	-	-	-	1	-	-	-	-	-	-	1
Endblades	-	3	7	1	2	2	-	4	5	15	39
Fixed Foreshafts	-	-	2	-	-	1	-	-	-	-	3
Moveable Foreshafts	-	-	1	1	-	1	-	-	-	1	4
Foreshaft Fragments	-	-	5	4	-	2	-	2	-	-	13
Fixed Lance Heads	-	-	-	-	1	-	-	-	-	-	1
Moveable Lance Heads	-	-	-	1	-	-	-	-	1	1	3
Foreshaft Sockets	-	-	-	-	1	-	-	-	2	3	6
Finger Rests	-	-	2	-	-	1	-	1	-	-	4
Ice Picks	-	-	-	-	-	1	-	1	3	4	9
Dart Gear											
Harpoon Dart Heads	-	-	-	-	-	-	-	1	-	1	2
Bird Dart Side Prongs	1	-	1	-	-	-	-	-	1	4	7
Dart Butt Ferrules	-	-	1	-	-	-	1	-	-	-	2
Bladder Inflation Nozzles	-	-	1	-	-	-	-	-	-	-	1
Seal Float Gear											
Float Bars	-	1	3	-	2	2	-	4	4	1	17
Float Mouthpieces	-	-	2	1	-	-	-	-	-	-	3

Table 1 (continued)

	Cultural Phase Component									
	Historic				Developed Thule			Classical Thule		
	Okivillialuk H. 9	Okivillialuk H. 8-U	Okivillialuk H. 2-U	Talaguak H. 7	Talaguak H. 5	Talaguak H. 11	Itinapik H. 1	Okivillialuk H. 8-L	Talaguak H. 2-L	Talaguak H. 9
										Totals
Seal Float Gear (continued)										
Mending Disks	-	-	-	-	1	-	-	-	-	-
Mouthpiece Stoppers	-	1	4	-	-	-	-	1	1	-
Ice Hunting Gear										
Wound Plugs & Pins	-	1	-	-	1	2	-	1	1	2
Seal Drag Handles	-	-	-	-	-	-	-	-	-	1
Seal Drag Toggles	-	-	-	-	1	-	-	-	6	1
Bow & Arrow Equipment										
Bow Parts	1	3	2	-	-	-	-	3	1	1
Marline Spikes	-	-	1	-	-	-	-	-	-	-
Arrowshafts	-	-	4	-	-	-	-	-	4	1
Feather-Cutting Boards	-	-	1	-	-	-	-	-	-	-
Arrowheads	-	-	3	-	2	-	-	-	5	-
Quiver Handles	-	-	1	-	-	-	-	-	-	1
Fishing Equipment										
Leister Side Prongs	-	-	-	-	-	1	-	-	-	1
Leister Barbs	-	-	-	-	-	5	-	-	-	1
Cod Jigging Hooks	-	-	-	-	1	1	-	-	-	1
Gorges	-	-	-	-	-	1	-	-	-	-
Fish Lures	-	-	-	-	-	-	1	-	-	-
Miscellaneous										
Bola Balls	-	-	1	-	-	-	-	-	2	-

Table 1 (continued)

	Cultural Phase Component										Totals
	Historic				Developed Thule			Classical Thule			
	Okivillialuk H. 9	Okivillialuk H. 8-U	Okivillialuk H. 2-U	Talaguak H. 7	Talaguak H. 5	Talaguak H. 11	Itinapik H. 1	Okivillialuk H. 8-L	Talaguak H. 2-L	Talaguak H. 9	
Miscellaneous (continued)											
Gull Hooks	-	-	2	-	-	-	-	2	1	1	6
Sling Handles	-	-	1	-	-	-	-	1	1	1	4
Net Weights	-	-	1	-	-	-	-	-	-	1	2
Shaft Fragments	-	4	-	-	2	1	-	4	14	4	29
Other	-	-	-	-	2	1	-	1	-	1	5
Totals by Components	2	13	47	9	17	22	3	27	57	51	248

Table 2

Transportation Equipment
(Class A: Thule/Traditional Artifacts)

Cultural Phase Component	Boat Parts	Sled Shoe Fragments	Trace Buckles	Draught Line Toggles	Whip Handles	Totals By Components
Historic						
Okivilialuk H. 9	-	1	-	-	-	1
Okivilialuk H. 8-U	-	1	-	-	-	1
Talaguak H. 2-U	-	2	1	1	-	4
Talaguak H. 7	-	-	-	-	-	0
Developed Thule						
Talaguak H. 5	-	-	-	-	-	0
Talaguak H. 11	-	1	-	-	-	1
Itinapik H. 1	-	-	-	-	-	0
Classical Thule						
Okivilialuk H. 8-L	1	-	1	-	-	2
Talaguak H. 2-L	-	1	4	-	1	6
Talaguak H. 9	-	1	-	2	-	3
Totals	1	7	6	3	1	18

Table 3

Maintenance, Manufacturing, and Processing Equipment
(Class A: Thule/Traditional Artifacts)

	Cultural Phase Component										
	Historic				Developed Thule			Classical Thule			
	Okivillialuk H. 9	Okivillialuk H. 8-U	Talaguak H. 2-U	Talaguak H. 7	Talaguak H. 5	Talaguak H. 11	Itinapik H. 1	Okivillialuk H. 8-L	Talaguak H. 2-L	Talaguak H. 9	Totals
Men's Knives											
Bone Hunting Knives	-	-	-	-	-	-	-	1	-	-	1
Knife Handles	1	1	1	-	1	1	1	2	3	1	12
Polished Slate Knife Blades	-	-	3	1	-	-	-	-	3	4	11
Polished Slate Side Blades	-	2	2	-	-	-	-	-	-	-	4
Flaked Knife Blades	-	-	-	-	-	-	-	-	-	3	3
Drill & Fire-Making Equipment											
Drill Bows	-	-	-	-	-	-	-	-	1	-	1
Mouthpiece Bearings	-	-	1	-	-	-	-	-	2	1	4
Drill Shanks	-	-	-	-	-	-	-	1	-	-	1
Drill Bits	-	-	-	-	-	-	-	2	-	2	4
Hand Drills	-	-	-	-	-	-	-	-	-	2	2
Fire Drill Spindles	-	-	-	-	-	-	-	-	1	1	2
Fire Drill Boards	-	-	-	-	-	-	-	-	1	-	1
House Building											
Whale Rib Mattocks	-	-	-	-	-	-	-	-	1	-	1
Snow Knife Handles	-	-	-	-	-	-	-	-	-	1	1
Snow Knife Blades	-	-	-	-	-	-	-	-	-	1	1
Snow Probe Ferrules	-	1	-	-	-	-	-	1	-	-	2

Table 3 (continued)

[illegible]

Table 3 (continued)

Cultural Phase Component											
	Historic				Developed Thule			Classical Thule			
	Okivillialuk H. 9	Okivillialuk H. 8-U	Talaguak H. 2-U	Talaguak H. 7	Talaguak H. 5	Talaguak H. 11	Itinapik H. 1	Okivillialuk H. 8-L	Talaguak H. 2-L	Talaguak H. 9	Totals
Tools (continued)											
Thimbles	-	-	2	-	-	-	-	-	-	-	2
Wood Stakes	-	5	2	1	-	-	-	5	2	-	15
Household Equipment											
Ladles, Spoons & Scoops	-	1	3	-	-	1	-	4	-	2	11
Marrow Spatulas	-	-	-	-	-	-	-	-	1	-	1
Meat Forks	-	-	-	-	-	-	-	1	-	-	1
Sucking Tubes	-	-	-	-	-	-	-	-	1	-	1
Cup Bottoms	-	1	3	-	-	-	-	4	3	1	12
Bowls & Bowl Bottoms	-	-	-	-	-	1	-	-	2	-	3
Platters & Trays	-	-	-	1	-	1	-	-	-	1	3
Pail Handles	-	-	2	-	-	-	-	2	1	-	5
Soapstone Cooking Vessels	-	1	4	3	3	3	1	2	7	4	28
Soapstone Lamps	-	1	-	-	2	2	-	-	1	1	7
Wick Trimmers	1	2	4	1	-	2	-	3	5	3	21
Totals By Component	2	20	40	21	12	22	5	36	52	52	262

Table 4

Community Activity and Personal Items
(Class A: Thule/Traditional Artifacts)

Cultural Phase Component	Pendants	Beads	Buttons	Tingmiujang	Amulet Boxes	Bear Mandibles	Toys & Gaming Pieces	Totals by Component
Historic								
Okivilialuk H. 9	-	-	-	-	-	-	-	0
Okivilialuk H. 8-U	-	-	-	-	1	-	1	2
Talaguak H. 2-U	1	-	1	1	-	-	3	6
Talaguak H. 7	-	-	-	-	-	-	2	2
Developed Thule								
Talaguak H. 5	-	-	-	-	-	-	2	2
Talaguak H. 11	2	-	-	-	-	1	3	6
Itinapik H. 1	-	-	-	-	-	-	-	0
Classical Thule								
Okivilialuk H. 8-L	1	1	-	-	-	-	1	3
Talaguak H. 2-L	1	-	-	-	-	-	8	9
Talaguak H. 9	3	1	-	-	3	1	2	10
Totals	8	2	1	1	4	2	22	40

Table 5

Miscellaneous and Unclassified Artifacts
(Class A: Thule/Traditional Artifacts)

Cultural Phase Component	Antler	Baleen	Bone	Ivory	Mica	Skin	Slate	Soapstone	Stone (Other)	Tooth	Whale Bone	Wood	Other	Totals By Components
Historic														
Okivilialuk H. 9	-	-	1	-	-	-	-	-	-	-	-	1	-	2
Okivilialuk H. 8-U	10	3	5	-	-	8	1	1	-	-	3	11	1	43
Talaguak H. 2-U	4	-	4	2	1	2	3	-	-	1	-	8	-	25
Talaguak H. 7	1	1	2	-	1	1	-	-	-	-	1	7	-	14
Developed Thule														
Talaguak H. 5	1	-	5	2	2	-	-	1	1	1	1	4	-	18
Talaguak H. 11	2	5	3	2	-	4	1	-	3	-	2	12	-	34
Itinapik H. 1	2	2	-	-	-	1	-	-	-	-	-	3	1	9
Classical Thule														
Okivilialuk H. 8-L	2	14	15	3	-	2	3	-	-	-	2	8	1	50
Talaguak H. 2-L	7	6	5	2	-	-	8	-	1	2	2	17	-	50
Talaguak H. 9	4	-	1	3	-	1	2	-	2	2	-	18	-	33
Totals	33	31	41	14	4	19	18	2	7	6	11	89	3	278

Table 6

Class B: Artifacts Modified by Contact

Cultural Phase Component	Hunting & Fishing Equipment	Maintenance, Manufacturing, & Processing Equipment	Community Activity, Etc.	Miscellaneous	Totals By Component
Historic					
Okivilialuk H. 9	-	-	-	-	0
Okivilialuk H. 8-U	-	1	1	3	5
Talaguak H. 2-U	-	3	1	-	4
Talaguak H. 7	1	1	-	-	2
Developed Thule					
Talaguak H. 5	-	-	-	-	0
Talaguak H. 11	-	-	-	-	0
Itinapik H. 1	-	-	-	-	0
Classical Thule					
Okivilialuk H. 8-L	-	-	1	-	1
Talaguak H. 2-L	-	1	-	-	1
Talagual H. 9	-	-	-	-	0
Totals	1	6	3	3	13

Table 7

Class C: Imported Artifacts From
Historic Components

Cultural Phase Component	Firearms	Maintenance, Manufacturing, & Processing				Community Activity, Etc.	Miscellaneous	Totals By Components
		Knives	Tools	Hardware	Household Items			
Historic								
Okivilialuk H. 9	-	-	-	-	-	2	-	2
Okivilialuk H. 8-U	5	5	-	30	18	18	25	101
Talaguak H. 2-U	6	-	1	6	4	37	4	58
Talaguak H. 7	-	-	-	-	-	2	1	3
Totals	11	5	1	36	22	59	30	164

Table 8

Total Artifacts Per Cultural Component
and Cultural Phase

Cultural Phase Component	Thule-Traditional Artifacts	Artifacts Modified By Contact	Imported Artifacts	Totals By Components	Totals By Phase
Historic					
Okivilialuk H. 9	7	-	2	9	
Okivilialuk H. 8-U	79	5	101	185	
Talaguak H. 2-U	122	4	58	184	429 (41.94%)
Talaguak H. 7	46	2	3	51	
Developed Thule					
Talaguak H. 5	49	-	-	49	
Talaguak H. 11	85	-	-	85	151 (14.76%)
Itinapik H. 1	17	-	-	17	
Classical Thule					
Okivilialuk H. 8-L	118	1	-	119	
Talaguak H. 2-L	174	1	-	175	443 (43.30%)
Talaguak H. 9	149	-	-	149	
Totals	846	13	164	1023	

Appendix B.

Comparative Dating

Earlier studies of the Thule culture relied heavily on extensive intersite comparisons of material traits to demonstrate similarities and differences through time and from one region to another. During the earlier decades of this century, when little was known about Thule culture prehistory and excavated sites were relatively few and located great distances apart, this approach was generally successful in establishing a working cultural sequence. However, as the number of excavated sites and collections increased, the usefulness of the trait list approach began to decline (see e.g. Taylor 1963). Traits once considered distinctive of presumed Thule cultural manifestations were increasingly found at sites dating from a variety of time periods within the preceding millenium. The evidence now indicates that for at least the past one thousand years, if not longer, a basic material inventory persisted. Only a few artifacts, such as harpoon heads and antler arrowheads, are currently recognized as exhibiting attributes which pertain either directly or indirectly to chronological considerations. Fortunately, there have been numerous instances where Thule harpoon heads have been found in radiocarbon dated contexts (e.g. McCartney 1977; McGhee 1969/1970, 1972; Schledermann 1975; Stanford 1976; Taylor 1963, 1972), facilitating their usefulness in establishing chronological frameworks.

Harpoon heads and a few other artifact types are thus useful for chronological ordering of archaeological components based upon cross-assemblage comparison in the absence of independent radiocarbon dates for those components. Recently, Stanford (1976) has chronologically ordered Thule sites in Canada and Greenland based primarily upon

comparisons of harpoon heads and arrowheads from these sites with specimens from well dated, stratified contexts at the Walakpa site in Alaska. The chronological sequence developed in this chapter for the Okivilialuk, Talaguak, and Itinapik components relies heavily on Stanford's correlations.

Several writers have also discussed the significance of architectural variability in Thule winter houses (see e.g. Holtved 1944, 1954; Mathiassen 1927b: 132-57; McCartney 1977: 207-17; Schledermann 1975: 260-71, 1976a, 1976b; Taylor 1960). Several aspects of Thule architecture apparently do reflect chronological development.

The most typical style of winter dwelling found throughout the Central and Eastern Arctic is the round, semi-subterranean structure incorporating sod, stone, driftwood and whale bone into its construction. These dwellings have long, narrow entrance tunnels incorporating a cold trap just outside of the threshold. Internal structural features typically include a rear sleeping platform and side benches or lamp platforms, all constructed of rocks and stone slabs. Schledermann (1975: 260-61) believes that this small, single family type dwelling is characteristic of the early Thule period in Canada and Greenland. Although bilobate and trilobate semisubterranean structures do occur at Naujan, Malerualik, and Silumiut, Schledermann believes there is little evidence to suggest these structures are actually associated with the early components at those sites (Schledermann 1975: 44-45).

An interesting variant of the Thule winter house occurs among the earliest Thule sites in northwestern Greenland. At Ruin Island and Nugdlit, Holtved (1944, 1954) found large, squarish to rectangular semi-subterranean structures with internal kitchen "offshoots" as well as

storage annexes extending from the entrance tunnels. These houses generally lack well-defined sleeping platforms. These houses are associated with the earliest archaeological components at sites where they are found, as indicated by artifact styles and since corroborated by radiocarbon dating (Jordan 1979). Structures similar to the Ruin Island and Nugdlit examples also occur at Inuarfigsuaq, again associated with early artifact assemblages, at Cape Kent, and at Cape Russel (Holtved 1944). Schledermann (1979) has recently reported similar structures associated with typologically very early Thule assemblages on the Bache Peninsula of Ellesmere Island.

In the Central and Eastern Arctic Schledermann has traced the emergence of winter dwelling lacking substantial sod, stone, and Whale bone walls and roofs from the typical winter houses of the early Thule period. These temporary winter dwellings, or garimat, are thought to have been occupied primarily during the early winter prior to the establishment of snow house villages out on the sea ice (Schledermann 1975, 1976b), although sometimes they were occupied throughout the winter (Boas 1888: 547-50; Mathiassen 1927b: 133-34, 1928: 136-138). Occasionally, Thule winter houses were later refurbished and used as garimat dwellings. It is not known when the construction of snow houses by Thule Eskimos began, but Schledermann believes that this dwelling type became important only after the use of semi-subterranean houses declined.

During the Little Ice Age the development of large rectangular communal houses occurs in Greenland (Holtved 1944) and in Labrador (Schledermann 1971, 1976a). In the Cumberland Sound region of Baffin Island, a similar shift to communal living occurs, although in this

area the large rectangular houses do not appear. Instead, cloverleaf shaped garimat with common entrances develop. Schledermann attributes this local development to the lack of suitable building material, particularly driftwood (Schledermann 1976b: 44).

It is thus apparent from the preceding discussion that the structural characteristics of Thule winter houses underwent developmental changes through time and across space which may be significant with respect to the chronological position of associated artifact assemblages. Therefore, house types along with harpoon heads may be used as chronological indicators. Schledermann (1975: 271) provides a chronological seriation of house styles and harpoon heads for the Cumberland Sound, Baffin Island region which will be used in this study.

Reconstruction of Cultural Characteristics

A major concern of this study is the reconstruction of Thule-Inuit subsistence-settlement systems along the south coast of Baffin Island. To do this it is necessary to piece together the interrelationships among several cultural and environmental variables as they were articulated at various times throughout this period. Three classes of archaeological data which pertain to this reconstruction are (1) settlement data (dwelling types and locations), (2) artifactual data (both stylistic and functional), and (3) subsistence data (faunal remains).

As discussed previously, three types of settlements may be given archaeological definition for the southern Baffin region. The largest and most permanent is the base camp or village site, occupied by the largest number of people from fall through spring, although a few people may linger on at these settlements during other seasons. The base camp is central to the yearly settlement pattern, and to this

settlement type all others are ultimately connected. The maximal aggregation of the local band may occur at this site, and throughout the rest of the year members of the local band are known in reference to this site. The location is traditional and the site is usually reoccupied for many years.

The second settlement type includes the smaller, less permanent camps at which some portion or segment of the local band resides for anywhere from several days to a few months. The locations of these settlements are variable according to the seasonal distribution of animal resources. Hence, over a period of years a single locality may or may not be reoccupied during a particular season.

The third type of settlement includes temporary hunting and fishing camps. These sites represent very transitory resource procurement activities involving relatively few people. Consequently, artifactual and faunal data are frequently lacking. Along the south coast of Baffin Island these sites are most often represented by one or more stone tent rings with no associated cultural material. One possibly interesting exception to this settlement type occurs deep within Shaftsbury Inlet (southeast of Lake Harbour) at the site of a weir that has been used for generations. Here, about 10-12 miles inland from the coast, stand at least two Thule semi-subterranean houses. M. S. Maxwell (personal communication) notes that winter occupants could have fished for char through the lake ice, and the location also provides good access to caribou hunting grounds.

In the cultural reconstruction attempted here the interpretations of settlement types represented by each archaeological component are derived from consideration of dwelling types and associated artifacts

and faunal remains.

The classification of artifacts described above is essentially a functional one, therefore identification of important tool kits is facilitated. Of primary interest to this study are those items associated with specific resource procurement systems as shown in Chapter Five. Other artifacts may also be useful for indicating seasonality relevant to the determination of settlement types. Stanford (1976: 89) has suggested that "environmental protection" tool kits (e.g. house building implements, etc.), transportation related artifacts, and certain community activity items may be useful as seasonal indicators.

In deriving seasonality from these artifacts, however, it is important to keep in mind the fact that Thule winter houses were often used as storage places for equipment, so that we are likely to find many artifacts in these houses that are not representative of the activities actually performed during occupation. Similarly, certain foods were also stored during some seasons for consumption at other times. Caution must therefore always be exerted when we are attempting to interpret the seasonality of sites from artifacts and faunal remains.

Faunal remains from archaeological components are nonetheless critical to the reconstruction and interpretation of seasonal economic activities. The distribution of species within a component as well as the composition of age classes as determined by epiphyseal closure, tooth eruption and wear, and growth ring patterns of teeth and claws all indicate the nature and importance of specific resource procurement activities. The distribution of particular skeletal elements is often informative as to processing and utilization procedures.

A total of 14,427 faunal elements comprised the sample analyzed

as part of this study. Part of this sample was identified in the field while the remainder was identified at the Michigan State University Museum. To facilitate identification in the field, a skeleton of a ringed seal, Phoca hispida, was obtained. All of the phocid seal bones from Okivilialuk, Talaguak, and Itinapik were identified with reference to this specimen except for the seal bones from House 2 at Talaguak. The entire sample from this house was analyzed at Michigan State University. All long bones, pelves, scapulae and cranial elements were identified only to the genus level (Phoca sp.). Mandibles and maxillae were returned to Michigan State University for specific identification, using comparative specimens available there. Phocid seal vertebrae and ribs were placed in a separate category labeled "Seal Unidentified," since it was not possible to identify these elements without a large number of comparative specimens. Phalanges, tarsals, and carpal bones from all species were combined into another category labeled "Unidentified Phalanges, Etc.," since again it is difficult to accurately identify these elements without extensive reference collections.

Larger seal mammal bones were identified in the field as bearded seal, Erignathus barbatus; walrus, Odobenus rosmarus; beluga, Delphinapterus leucas; and bowhead whale, Balaena mysticetus. Size was the primary criterion upon which these identifications were made, although our assistant Pitsula Padluk and other Inuit were frequently consulted, who either confirmed or corrected our identifications.

Finally, some of the caribou bones, particularly shattered long bone fragments and ribs, were counted in the field and discarded.

The remaining faunal elements were shipped back to the Michigan State University Museum, including as previously mentioned the entire

faunal sample from House 2 at Talaguak. Comparative specimens available at the Museum were ringed seal, Phoca hispida; harbour seal, Phoca vitulina; caribou, Rangifer tarandus; wolf, Canis lupus; red fox, Vulpes fulva fulva; snowshoe rabbit, Lepus americanus phaeonotus; and polar bear, Thalarctos maritimus.

The bird bones were kindly identified by Mr. Terry Martin of the Michigan State University Museum, whose efforts are gratefully acknowledged. A fairly complete range of specimens to at least the Order level was available at the Museum for his analysis.

The faunal samples had been recovered in the field by 2 meter excavation units; each unit dug in natural stratigraphic levels. The initial identifications of the faunal elements were recorded for each of these provenience units; faunal lists were broken down by species, and within each species the elements were identified as to specific skeletal position, including left or right side and proximal, distal, or medial fragment, if applicable. The state of epiphyseal closure on long bones and fragments was recorded as fully closed, partially fused, or fully open.

The individual lists for each provenience unit were then combined for each discrete archaeological component, and minimal numbers for each species were computed, using the single most frequent element represented in each component. If anything, this method of estimation errs on the conservative side. When consistently applied, however, it should provide an adequate basis for comparing relative proportions of species represented in the archaeological components.

Age groups of seals were established in a similar manner for each component. Lists were compiled for all complete long bone elements,

indicating whether they were fully closed, partially closed, or fully open. These three groups were taken on advice of local Inuit to correspond roughly to adult (7 years or older), juvenile (1-7 years), and young seals (one year or less), respectively. The minimal number of each of these age classes was computed on the basis of the single element with the greatest representation. No analyses of the dentition of claws have been carried out as yet.

Following determination of minimal number of individuals for each species, the amount of potentially available meat represented (in kilograms) in each component was computed. These computations were based on White's (1953) formulae with the following changes:

(1) Phocid seal meat weights were calculated by age class. Young seals (0-1 years) were computed at 15.9 kilograms each (22.7 kg. ave. wt. x 70%); juvenile seals (1-7 years) at 31.8 kilograms each (45.4 kg. ave. wt. x 70%); and adult seals at 63.6 kilograms each (90.8 kg. ave. wt. x 70%). Individuals from each component not previously ascribed to an age class (because of missing data) were counted as adults for these computations.

(2) Walrus exhibit considerable sexual dimorphism, with adult males averaging 908 kilograms in weight and females about 635.6 kilograms. Using the figure of 70% potentially useable meat per individual, White estimates 635.6 kilograms useable meat for males and 444.9 kilograms of useable meat for females. Sex determinations were not possible on the limited sample of walrus bones recovered from components used in this analysis. Therefore, an average figure of 544.8 kilograms of potentially useable meat per individual walrus was used. One exception to this was the estimation of useable meat represented by the young

walrus identified in the faunal sample from Itinapik House 1. In this instance a figure of 238.4 kilograms was used (340.5 kg. total wt. x 70%).

(3) White does not present figures for the beluga whale. Since adults weigh about 454 kilograms each, by using the 70% figure we estimate 317.8 kilograms of potentially useable meat per individual.

It should be pointed out that White's formulae have been criticized for overestimating the actual potential useable meat yield of wild species since this technique is based upon Euroamerican patterns of domestic animal utilization (Stewart and Stahl 1977). Others e.g. Lyman 1979) have also pointed out that actual patterns of consumption may have varied considerably from the total available meat represented by the species captured by a prehistoric population due to a variety of cultural factors, such as concepts regarding what animals, or parts of animals, are desirable sources of food for humans. While these points are acknowledged, it must be noted that the purpose for making the calculations described above is simply to provide a general measure by which the overall subsistence organization of successive Thule cultural phases may be compared: Did the proportional utilization of sea mammals and land mammals change through time, and if so to what extent did this occur and what species were most critically involved in these changes? Since we are interested in determining only the relative proportions of species as an indicator of the importance of specific procurement systems during each cultural phase, calculation of potentially available meat weights as described above should be sufficient for this purpose.

The following species and species groups were thus identified in the analysis: Phoca sp.; Large Seal and Walrus; Beluga; Caribou;

Polar Bear; Canid; Fox; Hare; and Small Land Mammal. The birds were grouped as follows: Charadriiformes (gulls); Anseriformes (waterfowl); Galliformes (ptarmigan); and Gaviformes (loons). The remaining two categories are Unidentified Phalanges, Etc., and Unidentifiable Fragments. These latter categories included 4,342 elements, or 30.1% of the entire sample. The results of the faunal analysis are summarized on Tables 9-14 in this chapter.

In addition to the preceding classes of archaeological data, the density of faunal bones and artifacts per unit of excavated fill (given in cubic meters) was computed for each component (Table 15). We felt this measure would be useful for determining the intensity of occupation within a Thule house, which might in turn facilitate identification of settlement types represented by the various components. Although we recognize the fact that it is often impossible to determine whether a house was occupied once for a very long period of time or on several different occasions of less duration, it was felt that the density measure might at least indicate potential differences in the relative intensity of house utilization within or between cultural phases. Obviously, this measure should only be used as a supplement to more specific data bearing upon questions of settlement type and pattern.

The Classical Thule Phase

Okivilialuk House 8-Lower Component

The bottom level of House 8 at Okivilialuk consisted of a thin, sandy layer containing artifacts and a small amount of faunal bone. This layer was directly on top of the interior floor and right side bench and extended into the entrance passage, separated from the upper deposits within the house by a buried sod horizon. In the entrance

Table 9
Number and Percent of Faunal Elements
By Cultural Component

	Cultural Stage Component																
	Historic		Developed Thule						Classical Thule								
	Okvillalik, H. 9		Talagusk, H. 2-UC		Talagusk, H. 7		Talagusk, H. 5		Talagusk, H. 11		Iktinapik, H. 1		Talagusk, H. 2-LC		Talagusk, H. 9		Total
Phocid Seal	172 (28.9)		750 (22.1)	138 (19.9)	756 (29.2)	423 (22.6)	201 (28.4)	222 (6.4)	262 (23.4)	2924 (20.3)							
Seal, Unidentified	187 (31.4)		1148 (33.8)	247 (35.6)	853 (32.9)	618 (32.9)	265 (37.5)	582 (16.8)	285 (25.5)	4185 (29.0)							
Large Seal & Walrus	22 (3.7)		62 (1.8)	15 (2.2)	41 (1.6)	31 (1.7)	7 (1.0)	29 (0.8)	30 (2.7)	237 (1.6)							
Beluga	--	--	--	--	--	3 (0.2)	--	--	1 (0.1)	4 (0.1)							
Caribou	59 (9.9)		307 (9.0)	106 (15.3)	112 (4.3)	187 (10.0)	77 (10.9)	1202 (34.8)	245 (21.9)	2295 (15.9)							
Polar Bear	--	--	2 (0.1)	--	2 (0.1)	1 (0.1)	1 (0.1)	5 (0.1)	2 (0.2)	13 (0.1)							
Canid	9 (1.5)		24 (0.7)	2 (0.3)	21 (0.8)	13 (0.7)	9 (1.3)	4 (0.1)	12 (1.1)	94 (0.7)							
Fox	1 (0.2)		13 (0.4)	6 (0.9)	12 (0.5)	10 (0.5)	1 (0.1)	6 (0.2)	14 (1.3)	63 (0.4)							
Rabbit	--	--	--	1 (0.1)	--	1 (0.1)	--	--	--	3 (0.1)							

Table 9 (continued)

	Cultural Stage Component					
	Historic		Developed Thule		Classical Thule	
	Okvillialuk, H. 9	Talaguk, H. 2-UC	Talaguk, H. 7	Talaguk, H. 5	Talaguk, H. 11	Itinapik, H. 1
						Talaguk, H. 2-LC
						Talaguk, H. 9
						Total
Small Mammal	--	67 (2.0)	10 (1.4)	7 (0.3)	44 (2.4)	--
Bird	--	16 (0.5)	3 (0.4)	10 (0.4)	15 (0.1)	--
Phalanges, Etc.	57 (9.6)	484 (14.3)	90 (13.0)	403 (15.6)	367 (19.6)	111 (15.7)
Unidentified	88 (14.8)	522 (15.4)	75 (10.8)	369 (14.3)	163 (8.7)	35 (5.0)
Totals by Component	595	3395	693	2586	1876	707
						3456
						1119
						14427

Table 10

**Minimal Number of Individuals of Species
by Cultural Component**

Cultural Phase Component									
	Historic		Developed Thule				Classical Thule		
	Oktivillialuk, H. 9	Talagvak, H. 2-U	Talagvak, H. 7	Talagvak, H. 5	Talagvak, H. 11	Itinapik, H. 1	Talagvak, H. 2-L	Talagvak, H. 9	Totals
Phocid Seal	17 (68.0)	48 (67.6)	12 (52.2)	33 (62.3)	28 (62.2)	17 (68.0)	15 (40.5)	19 (52.8)	189 (60.0)
Bearded Seal	2 (8.0)	5 (7.0)	2 (8.7)	5 (9.4)	1 (2.2)	1 (4.0)	1 (2.7)	2 (5.6)	19 (6.0)
Walrus	1 (4.0)	1 (1.4)	1 (4.3)	1 (1.9)	1 (2.2)	2 (8.0)	1 (2.7)	1 (2.8)	9 (2.9)
Beluga	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.2)	0 (0.0)	0 (0.0)	1 (2.8)	2 (0.6)
Caribou	2 (8.0)	7 (9.9)	4 (17.4)	4 (7.5)	4 (8.9)	2 (0.8)	12 (32.4)	6 (16.7)	41 (13.0)
Polar Bear	0 (0.0)	1 (1.4)	0 (0.0)	1 (1.9)	1 (2.2)	1 (0.4)	1 (2.7)	1 (2.8)	6 (1.9)
Canid	2 (8.0)	3 (4.2)	1 (4.3)	5 (9.4)	3 (6.7)	1 (4.0)	1 (2.7)	2 (5.6)	18 (5.7)

Table 10 (continued)

Cultural Phase Component

Historic		Developed Thule		Classical Thule					
OKIIVIIIAIUK, H. 9	TALAGUAK, H. 2-U	TALAGUAL, H. 7	TALAGUAK, H. 5	TALAGUAK, H. 11	ITINAPIK, H. 1				
					TALAGUAK, H. 2-L				
					TALAGUAK, H. 9				
Totals									
Fox	1 (4.0)	3 (4.2)	1 (4.3)	2 (3.8)	2 (4.4)	1 (4.0)	2 (5.4)	1 (2.8)	13 (4.1)
Rabbit	0 (0.0)	0 (0.0)	1 (4.3)	0 (0.0)	1 (2.2)	0 (0.0)	0 (0.0)	1 (2.8)	3 (1.0)
Bird	0 (0.0)	3 (4.2)	1 (4.3)	2 (3.8)	3 (6.7)	0 (0.0)	4 (10.8)	2 (5.6)	15 (4.8)
Totals by Component	25	71	23	53	45	25	37	36	315

Totals

Table 11

MNI Estimates of Phocid Seals (Phoca sp.)
By Age Class

Component	Total	Yearling	Juvenile	Adult
Historic				
Okivilialuk, H. 9	17	5	2	3
Talaguak, H. 2-U.C.	48	9	5	18
Talaguak, H. 7	12	7	2	3
Developed Thule				
Talaguak, H. 5	33	8	6	8
Talaguak, H. 11	28	9	5	8
Itinapik, H. 1	17	4	2	3
Classical Thule				
Talaguak, H. 2-L.C.	15	6	4	4
Talaguak, H. 9	19	5	2	6
Total MNI	189	53	28	53

Table 12

Summary of MNI and Potential Available Meat
Weights of Animal Species in Classical
Thule Phase Components

Species	MNI	Available Meat (in kg.)	% Available Meat
Phocid Seals	34	1446.0	27.6
Bearded Seals	3	762.7	14.6
Walrus	2	1089.6	20.8
Beluga	1	317.8	6.1
Caribou	18	1021.5	19.5
Polar Bear	2	544.8	10.4
Canid	3	40.9	0.8
Fox	3	6.1	0.1
Hare	<u>1</u>	<u>2.0</u>	<u>0.1</u>
Total	67	5231.4	100.0

Table 13

Summary of MNI and Potential Available Meat
Weights of Animal Species in Developed
Thule Phase Components

Species	MNI	Available Meat (in kg.)	% Available Meat
Phocid Seals	78	3543.5	39.4
Bearded Seals	7	1779.7	19.8
Walrus	4	1872.8	20.8
Beluga	1	317.8	3.5
Caribou	10	522.1	5.8
Polar Bear	3	817.2	9.1
Canid	9	122.6	1.4
Fox	5	10.2	0.1
Hare	<u>1</u>	<u>2.0</u>	<u>0.1</u>
Total	118	8987.9	100.0

Table 14

Summary of MNI and Potential Available Meat
Weights of Animal Species in Historic
Phase Components

Species	MNI	Available Meat (in kg.)	% Available Meat
Phocid Seals	77	3933.9	43.9
Bearded Seals	9	2288.2	25.5
Walrus	3	1634.4	18.2
Beluga	0	--	--
Caribou	13	737.8	8.2
Polar Bear	1	272.4	3.0
Canid	6	81.7	0.9
Fox	5	10.2	0.1
Hare	<u>1</u>	<u>2.0</u>	<u>0.1</u>
Total	115	8960.6	99.9

Table 15

Bone and Artifact Density By Cultural Component

Component	Volume Excav. (m ³)	Number of Artifacts	Number of Bones	Artifacts Per m ³	Bones Per m ³
Historic					
Okivilialuk, H. 9	1.6	9	595	5.6	371.9
Okivilialuk, H. 8-UC	4.6	185	--	40.2	--
Talaguak, H. 2-UC	3.02	184	3395	60.9	1124.2
Talaguak, H. 7	3.96	51	693	12.9	175.0
Developed Thule					
Talaguak, H. 5	4.12	49	2586	11.9	627.7
Talaguak, H. 11	5.85	85	1876	14.5	320.7
Itinapik, H. 1	3.88	17	707	4.4	182.2
Classical Thule					
Okivilialuk, H. 8-LC	0.875	119	--	136.0	--
Talaguak, H. 2-LC	2.9	175	3456	60.3	1191.7
Talaguak, H. 9	4.8	149	1119	31.0	233.1

tunnel, an organic soil layer beneath the buried sod horizon was associated with the lower deposit in House 8. The lower deposit in the entrance tunnel contained artifacts and great quantities of faunal bone and baleen. These lower deposits comprise the Lower Component of House 8 as described and illustrated in Appendix I.

In all, 119 artifacts were recovered from this component (Table 8). The distribution of these artifacts by type is shown in Tables 1-7. The majority of these items are typical of the Thule culture in Canada and Greenland, and are duplicated at sites dating to several time periods throughout the preceding millenium.

Dating

The single harpoon head recovered from this component is a Thule type II specimen (KeDq-7:311, Figure 34: c) made of antler, with a prominent, angle cut basal spur, lashing slots on either side of a rectangular open foreshaft socket, and grooved lateral edges along the basal element which terminate at squared shoulders at the juncture of the base and midsection. Specimens quite similar to this have been recovered at the Jackson Site (Taylor 1972: Plate IIa) and at the Levesque Harbour Site (Van Stone 1962: Plate I, 14). Other slotted Thule type II harpoon heads have been found at Herschel Island (MacNeish 1951); Vaughn, Lady Franklin Point, and Jackson (Taylor 1972); Memorana (McGhee 1972); Learmonth (Taylor and McGhee 1979); Naujan (Mathiassen 1927a); Silumiut (McCartney 1977); Crystal II (Collins 1950); M-1 (Collins 1951b, 1952); Qilalukan (Mathiassen 1927a); and Bache Peninsula, Ellesmere Island (Schledermann 1978) in Canada and Inuarfigsuaq, Cape Kent, Ruin Island, and Thule (Holtved 1944, 1954) in Greenland. Based upon radiocarbon dates from some of these sites along with Stanford's

assessment of the Canadian and Greenlandic Thule assemblages (Stanford 1976: 104-07), these sites seem to fall into two temporally distinct groups.

The first group consists of Herschel Island, Vaughn, Lady Franklin Point, Jackson, Memorana, M-1, Skraeling Island, Naujan, and the northwest Greenland sites. These sites along with the Pembroke site (Taylor 1972) represent the earliest Thule migration from Alaska into Canada and Greenland. The dates from these sites as most consistently interpreted seem to cluster around A.D. 1000-1100 (Stanford 1976: 122; cf. Schledermann 1979). In addition to the slotted Thule type II harpoon heads, these sites also typically contain harpoon heads found in earlier Birnirk sites in Alaska, including the Natchuk, Sicco, Alilu, and Nuwuk types. Birnirk Curvilinear pottery fragments are also sometimes found at these sites.

Other early Thule sites in the Canadian Arctic, such as Silumiut, Cape Smith, Crystal II and Qilalukan all lack these Birnirk-derived harpoon heads, and hence are considered somewhat younger. McCartney's radiocarbon dates from Silumiut cluster around A.D. 1205, which is a reasonably good upper limit for these sites (McCartney 1977: 221).

Since the Birnirk-derived harpoon heads of the earliest Thule sites in Canada were not found at Okivillialuk, this component would more appropriately fit in with the 13th century sites. However, a wedge-tanged harpoon dart or lance head was recovered from this component (KaDq-7:49, Figure 36); this artifact type is not known from 13th century or later sites in Canada but does occur at the Memorana Site (McGhee 1972: Plate 1, n). This suggests that the Lower Component of

House 8 at Okivilialuk may in fact be slightly older than other Naujan age sites, probably dating to around A.D. 1100.

Undoubtedly the most spectacular find of the 1977 season was the discovery of a little carved wooden figurine, made by a Thule Eskimo, which depicts a figure dressed in what clearly appears to be typical Norse costume (KeDq-7:325, Figure 35). This artifact was found by my wife Deborah R. Sabo, on the bottom of a small storage compartment in the Lower Component of House 8. A full description and discussion of this intriguing artifact has been published elsewhere (Sabo and Sabo 1978). On the basis of comparative archaeological and historical evidence, it was concluded that the costume depicted on the figurine closely resembles Norse styles popular between A.D. 1100 and 1500, with a best guess estimate of the actual date being around A.D. 1200. This is entirely consistent with the harpoon head comparisons discussed above.

The structural characteristics of House 8 are also consistent with a 12th-13th century assessment of the chronological position of this component. As described in Appendix I, House 8 was a single-sleeping platform structure with substantial sod and stone walls. The arrangement of side benches and the storage compartment along the front of the sleeping platform are common Thule house features. Large pieces of wood and whale on the floor of the structure attest to the utilization of these materials, probably to support a roof structure.

Cultural Reconstruction

In this and subsequent discussions of tool kits the primary emphasis is on those artifacts used in the context of resource procurement systems along with those items related in some way to the seasonality

of the component. The remaining tools, household equipment, and other artifacts representing generalized activities and not related to any particular season, settlement, or activity, are omitted in this part of the study. They are, however, described in Appendix B.

Resource Procurement Artifacts

The single harpoon head, four endblades, and two harpoon fore-shaft fragments all belong to the generalized harpoon/lance complex. However, since the type of weapon indicated by these artifacts cannot be specifically determined, we are unable to draw further conclusions regarding specific hunting activities or the habitats in which they were carried out.

The single ice pick recovered from this component is typically a part of the winter harpoon. This weapon is associated with breathing hole seal hunting and floe edge sea mammal hunting in winter and basking seal hunting in spring.

The dart head represents the bladder dart harpoon, used during the summer and fall for open water sea mammal hunting from kayaks. Usually smaller game such as ringed seal is pursued with this weapon.

Four float bars and one float mouthpiece stopper are parts belonging to the seal skin float which is used in conjunction with the large summer harpoon for hunting larger sea mammals in the open water. Seal skin float are sometimes attached to the whaling harpoon as well.

One wound plug fragment is part of the accessory kit used during winter breathing hole and floe edge hunting.

The three lashing braces were used to bind together the pieces of compound bows. The bow and arrow is used for a variety of hunting pursuits: in summer and fall for onshore small game and caribou hunting,

and also during winter caribou hunts.

Two gull hook fragments and a wood sling fragment represent summer or fall onshore bird and small game hunting.

Transportation Artifacts

Two artifacts classified as transportation gear may represent several seasonally specific activities. One whale bone kayak paddle tip was found. Kayaks are used for transportation during the open water seasons of summer and fall. In addition, several hunting activities include the use of kayaks: in spring there is occasional floe edge hunting from kayaks; in summer open water sea mammal hunting, bird hunting on lakes, and inland caribou hunting on lakes; and in fall open water sea mammal hunting, onshore walrus hunting, and inland caribou hunting.

One dog harness trace buckle was used to attach dogs to the komatik, or sled, during the winter. Although komatiks are not used directly in the context of any winter hunting activity, they are necessary at least most of the time for transporting the hunter from his camp to the hunting grounds and back.

Maintenance, Manufacturing, and Processing Artifacts

One worked walrus molar was identified as a snow probe ferrule. Snow probes are used to test the depth and compactedness of snow to determine if it is suitable for snow house construction. If correctly identified, this artifact is significant in that it indicates the knowledge and practice of snow house construction among the earliest Thule occupants of southern Baffin Island.

Faunal Remains

For reasons discussed in Appendix A, the faunal sample from House 8 was not included in this analysis. However, all of the recovered faunal remains were identified, and we may note here the presence in this component of phocid seal, bearded seal, walrus, caribou, canid, unidentified small mammal, and unidentified birds. The amount of bone found in this house is roughly comparable to the amount recovered from the Lower Component of House 2 at Talaguak.

Settlement Type

In terms of its structural characteristics, House 8 at Okivilialuk is a typical Thule winter house with massive sod and stone walls, a long "cold trap" tunnel entrance, and interior features including lamp platforms, a rear sleeping platform and storage compartments. These features in addition to a cultural midden with a very dense deposit of artifacts (Table 15), baleen, and bone attest to a considerable intensity and duration of occupation. Of the three settlement types discussed in the introduction of this chapter, this component clearly represents a base camp settlement occupied throughout the winter.

Most of the artifacts discussed in the preceding section do represent winter season procurement systems. However, some of these could have been used during other seasons as well. Furthermore, some of the artifacts (i.e. the harpoon dart head, seal float bars and mouth-piece stopper, gull hooks and sling handle) are associated not with winter procurement systems but with spring, summer or fall subsistence pursuits. As noted previously, it is quite possible that these items were stored at the winter base camp but not actually used during the occupation of that settlement. On the other hand, these artifacts could

represent intermittent occupation during the warm season by some members of the local band. This latter possibility is supported in part by the presence of small mammal and bird bones in the faunal refuse. These species are generally consumed shortly after they are caught and are not usually stored for consumption during later seasons.

Thus in addition to serving as a residence associated with a winter base camp settlement, House 8 may also have been occupied intermittently during other seasons during the Classical Thule phase. Presumably the number of persons residing at Okivilialuk during these other seasons would have been less than during the winter season.

Summary

The artifactual and faunal evidence from this component support the following interpretations:

(1) House 8 was first occupied by Thule Eskimos around A.D. 1100. The artifacts deposited at that time closely resemble contemporaneous assemblages from Thule sites elsewhere in Canada and Greenland.

(2) The following resource procurement systems are represented:

- (a) Breathing Hole Seal Hunting (winter)
- (b) Floe-Edge Sea Mammal Hunting (winter, spring?)
- (c) Basking Seal Hunting ? (spring)
- (d) Open Water Sea Mammal Hunting (summer, fall)
- (e) Caribou Hunting (late summer, fall, winter)
- (f) Onshore Small Game and Bird Hunting (summer, fall)
- (g) Onshore Collecting (summer, fall)

(3) House 8 was primarily occupied during the winter as part of a base camp settlement, at which at least part of the local band aggregated. There is also some evidence of intermittent occupation by

fewer persons during other seasons of the year.

Talaguak House 2--Lower Component

House 2 at Talaguak had two stratigraphically well separated components (Appendix A). The Lower Component consisted of a dense cultural midden extending over a paved flagstone floor and adjacent side benches in the front part of the house interior, as well as over a paved and natural bedrock entrance tunnel. A refuse deposit extending out from the end of the entrance tunnel also contained stratified deposits, the lower levels of which were associated with the Lower Component.

A total of 175 artifacts (Table 8) and 3,456 faunal elements (Table 9) was recovered from this component. As with the other excavated assemblages, the typical range of items commonly found at Thule sites in Canada and Greenland is represented here.

Dating

Five harpoon heads, two complete and three fragmentary, are associated with this component. These represent the Thule types I, II, and III. The single type I specimen (KeDq-2:663, Figure 59: b) has a rectangular open foreshaft socket with drilled holes for lashing on either side. There is also a prominent, angle cut spur on the left side of the base, and there is a raised or relief design extending from the line hole toward the distal tip. While no identical specimen could be found in the literature, this type of harpoon head is known from the Jackson Site (Taylor 1972: Plate II, f), Levesque Harbour (Van Stone 1962: Plate 1, 15), Naujan (Mathiassen 1927a: Plate 1, 1), Crystal II (Collins 1950: Plate V, 17), and Comer's Midden A (Holtved 1944: Plate

4, 2 & 3).

One medial harpoon head fragment, probably of a Type II, has an incised "Y" design extending from the round line hole toward the distal end. There are also indications of lashing grooves along both lateral edges adjacent to the line hole (KeDq-2:539, Plate 25: h). Other type II harpoon heads with this combination of features have been found at the Pembroke Site (Taylor 1972: Plate VIII, u), the Lake Site (Collins 1951: Plate XIV, 5), Naujan (Mathiassen 1927a: Plate 1, 2-4), and at Inuarfigsuaq in Greenland (Holtved 1944: Plate 3, 2, 7 & 15). The other probable type II harpoon head from this component is a blade fragment with symmetric barbs and a wedge-shaped, pointed distal tip (KeDq-2:639, Fig. 75: f). Type II harpoon heads with this blade shape have been found at the Vaughn Site (Taylor 1972: Plate VI, d), the Lady Franklin Point Site (Taylor 1972: Plate VI, a), the Memorana Site (McGhee 1972: Plate I, f), the Learmonth Site (Taylor and McGhee 1979: Plate 2, f), at Levesque Harbour (Van Stone 1962: Plate I, 13), and at Naujan (Mathiassen 1927a: Plate 1, 2-3).

A very fine example of a Thule type III harpoon head made of ivory was recovered from the lower levels of the trash midden just beyond the entrance tunnel in front of House 2 (KeDq-2:517, Fig. 56: b). This specimen has a strong spur on the right side of the base, an open rectangular foreshaft socket with lashing slots and a carved lashing bed, and an endblade slot in the distal tip that is parallel to the axis of the line hole. Nearly identical specimens have been found at Inuarfigsuaq (Holtved 1944: Plate 3, 12) and Thule (Holtved 1944, Plate 4, 4) in Greenland, and at Naujan (Mathiassen 1927a: Plate 1, 6-7). Other similar examples are known from the Jackson Site (Taylor 1972:

Plate II, b), the Lake and M-1 Sites (Collins 1951: Plate XIV, 1-3), the Kuk Site on Southhampton Island (Mathiassen 1927a: Plate 73, 12), Silumiut (McCartney 1977: Plate 2, B), Crystal II (Collins 1950: Plate V, 11-13), Skraeling Island (Schledermann 1978: Plate 4, D) and at Turnstone Beach (Lethbridge 1939: Fig. 9, 4). The other type III specimen, although broken, has a broad lashing groove adjacent the open foreshaft socket and an endblade slot paralleled to the line hole, with a rivet hole drilled perpendicular to the endblade slot (KeDq-2:543, Fig. 58: g). A similar specimen, from Inuarfigsuaq, has an iron endblade fragment still attached (Holtved 1944: Plate 3, 11). Another example of this type was found at the Learmonth Site (Taylor and McGhee 1979: Plate 1, e).

One arrowhead from this component has squared shoulders at the junction of the shank and the tang. The tang is conical shaped and knobbed (KeDq-2:545, Fig. 58: a). Similar antler arrowheads have been found at the Vaughn Site (Taylor 1972: Plate I, f) and the Jackson Site (Taylor 1972: 18).

These comparisons clearly support an early date for the Lower Component of House 2 at Talaguak. However, since no Birnirk-derived harpoon heads were found, this component is probably somewhat younger than the earliest sites with which comparisons have here been made (i.e. Jackson, Pembroke, Vaughn, Lady Franklin Point, Memorana, M-1, Skraeling Island, Inuarfigsuaq and Thule). On the other hand, the sharing of so many discrete attributes of harpoon head styles between these sites suggests that this component at Talaguak might be earlier than other 13th century sites in Canada. A date of circa A.D. 1100 is suggested.

Although this house was not completely excavated, it unquestionably

represents the typical semi-subterranean, single sleeping platform winter house with slab side benches and a wood and whale bone roof framework. As noted above, this type of winter dwelling is characteristic of early Thule sites in the eastern Arctic.

Cultural Reconstruction

Resource Procurement Artifacts

The harpoon heads described above along with five harpoon/lance endblades recovered from this component are part of the generalized harpoon/lance complex, although they cannot be ascribed to any more specific weapon.

One moveable lance head closely resembles one illustrated by Boas (1888: Fig. 432) which is described as an anguvigang, used primarily for walrus hunting during the late summer and fall.

Two harpoon foreshaft sockets are both parts of the moveable foreshaft summer harpoon. This kind of harpoon is sometimes used for sea mammal hunting in open water off the floe edge in late spring, but more commonly is used for open water sea mammal hunting from kayaks in the summer and fall.

Three harpoon ice picks were attached to the butt ends of the winter ice hunting harpoons used for breathing hole seal hunting and floe edge hunting and also for basking seal hunting in spring. The wound pin and six seal drag toggles are also part of the accessory kit used in winter sea ice hunting.

One bird dart side prong, four wooden float bars, and one float mouthpiece stopper all represent open water hunting from kayaks. The side prong, of course, is associated with summer waterfowl procurement, whereas the float gear is associated with the capture of large sea

mammals.

Several artifacts are associated with the bow and arrow complex: one wood bow midsection piece, four wood arrowshaft fragments, and five bone and antler arrowheads. The bow and arrow is used occasionally for winter caribou hunting, but more frequently for late summer and fall caribou hunting, as well as for small game hunting during these seasons.

No fishing equipment was recovered from this component, but several items associated with the capture of small game and birds were found; these include two antler bola balls, one wood gull hook, and one wood sling handle fragment.

Transportation Artifacts

Several artifacts were associated with winter travel over the snow and ice. These include one whale bone sled shoe fragment, four dog harness trace buckles made of ivory, and one possible dog whip handle made of wood. As previously discussed, the dog-drawn komatik was essential for many winter and spring hunting activities, although not normally associated directly with any procurement system as defined in the model. The komatik is also the major means of transportation for winter and spring visiting between villages.

Maintenance, Manufacturing, and Processing Artifacts

In addition to artifacts associated more generally with year-round tasks and activities, a few were identified which function in more seasonally specific contexts. The whale bone sod mattock, used to cut sod blocks for the construction of Thule sod and stone walled winter houses, can be used only during summer when the ground is thawed. Needless to say, this is doubtless the time of year when these types of

dwellings were constructed.

The caribou scapula scrapers, awls and bodkins, and the needle case are items associated with skin working activities and the fabrication of skin clothing. Uluks, although used for a variety of other tasks, are also important skin working tools. Skin working activities are performed by women throughout the year, but the most important time for this activity is during the fall, when skins from the caribou hunt are made into winter clothing. The high proportion of caribou bones associated with this component (see below) indicates that this may have been an important domestic activity.

Faunal Remains

The faunal assemblage from this component contains a wide variety of species, including phocid seals, bearded seals, walrus, caribou, polar bear, canid, fox, and birds (Tables 9 and 10).

A minimum of 15 phocid seals are represented; of these six are identified as yearlings, four as juveniles, and four as adults (Table 11). Examinations of the mandibles resulted in the identification of 7 left and 8 right mandibles of the ringed seal, Phoca hispida. Three additional mandibles are too eroded or fragmentary to identify to the specific level. One right mandible of a bearded seal, Erignathus barbatus, was also identified.

Several ribs and jaw fragments of bowhead whale not listed in the faunal tables were uncovered during the excavations. These all seem to be structural elements of the house, although at the same time these may indicate the utilization of bowhead whales as a food resource. Additional evidence of bowhead whale hunting may be represented by the considerable amounts of baleen found in this component. In places

several layers of cut baleen slabs were found lying on top of the floor of House 2. Schledermann (1975, 1979) has argued that such concentrations of baleen in Thule sites indicate the economic importance of whale hunting.

Turning to the land mammals, one particularly notable finding is the presence of at least 12 caribou in the faunal sample. This is far greater than the number represented in other components. Most caribou bones we found had been broken into small pieces to extract the marrow, so this figure is indeed a minimal estimate, based on what few whole bones and articulatory ends remained intact. No attempt is made to quantify the age classes represented, although a few immature bones are included along with the majority of bones from adult individuals. Most of the identifiable elements are long bones (i.e. humeri, ulnas, radii, femurs, metapodials). In addition to these there are ribs, vertebrae, scapulae, and mandible fragments. There are a few fragments of antler but no cranial pieces.

These remains in addition to the well-represented bow and arrow complex in House 2 indicate that caribou hunting was an important activity during Classical Thule times. In recent times McKellar Bay, in which the Talaguak Site is situated, has been a traditional access point to caribou hunting grounds in the adjacent interior uplands.

The additional land mammals identified in the faunal sample include one polar bear, one canid, and two fox, along with several unidentified small mammal bones.

The bird bones belong to the following families: two Anseriformes (waterfowl), one Charadriiformes (gull), and one Gaviformes (Gavia arctica or G. stella; i.e. Arctic or Red Throated Loon). With the

exception of the ivory gull, all of the species represented here are migratory. However, eider ducks sometimes remain through the winter in the Arctic if open water is available (Bent 1962: 94).

Settlement Type

Like House 8 at Okivillialuk, this structure is a typical semi-subterranean Thule winter house, and the artifacts and faunal bone recovered from this component are consistent with its interpretation as part of a winter base camp settlement at which members of the local band assembled. The large proportion of yearling and juvenile seals identified in the faunal sample were probably obtained by hunting at the floe edge during the winter, where seals of these age classes congregate. However, the large number of caribou present in the faunal sample also suggests that this site was also occupied during the late summer or fall. It may be that this site was occupied continuously from fall through winter, given its strategic location with respect to both interior caribou hunting grounds and the fast ice floe and floe edge in North Bay. The very high densities of bones and artifacts recovered from the midden within House 2 (Table 15) lend further support to the interpretation of an intensive occupation during the Classical Thule phase.

The presence of additional artifacts associated with warm season procurement systems (moveable lance head, harpoon foreshaft sockets, float gear, dart gear, small game hunting gear) along with small game and migratory bird bones attests to some utilization of House 2 during the warmer seasons as well. We may again surmise that if this is the case, this occupation would have been associated with only a few individuals and probably only for short periods of time.

Summary

The following conclusions are indicated by the archaeological data from this component:

(1) House 2 at Talaguak was first occupied around A.D. 1100, during roughly the same period of time that Okivilialuk was initially settled. The artifact assemblage from the Lower Component here is comparable to that recovered at Okivilialuk, as well as to other contemporaneous assemblages from Canada and Greenland.

(2) The following procurement systems are represented:

- (a) Breathing Hole Seal Hunting (winter)
- (b) Floe Edge Sea Mammal Hunting (winter, spring?)
- (c) Basking Seal Hunting ? (spring)
- (d) Open Water Sea Mammal Hunting (summer, fall)
- (e) Caribou Hunting (late summer, fall, winter?)
- (f) Polar Bear Hunting (winter?, spring?)
- (g) Onshore Small Game and Bird Hunting (summer, fall)
- (h) Open Water Bird Hunting (summer, fall)
- (i) Onshore Collecting (summer, fall)

(3) This component represents part of a fall/winter base camp settlement of the local band. Intermittent occupation at the site during other seasons, presumably by fewer numbers of people, is also indicated.

Talaguak House 9

This structure is a very large, deep, semi-subterranean house with a complex internal structural configuration consisting of a narrow sleeping platform confined to one corner, benches, hearths, kitchen areas, and storage areas (Maxwell, n.d.). The storage annexes are

situated along the outer front walls, accessible only from the inside of the entrance tunnel. During the excavation of this house it became apparent that a series of internal structural modifications had occurred, indicating possibly two or three separate occupational episodes had taken place. Subsequent to its use as a dwelling House 9 had also been converted into a storehouse.

All but a few of the Thule artifacts and faunal remains recovered from this house were found in the bottom layers of the accumulated fill, associated with the earliest occupations of the house during which time the majority of internal structural modifications were made. The homogeneity of the artifact assemblage strongly suggests that if two or three separate occupations are indeed represented, then these occurred within a relatively short period of time. In other words, there is no evidence to suggest that more than one cultural phase is represented for the time during which House 9 was used as a dwelling.

A total of 149 artifacts (Table 8) and 1,119 faunal bones (Table 9) was found in the occupational layer of House 9.

Dating

Three very poorly preserved harpoon heads were recovered from House 9. Two Thule type II specimens have strong, angle cut basal spurs and rectangular open foreshaft sockets with lashing slots (KeDq-2: 956 & 957, Fig. 92: a, b). The distal portions of these harpoon heads are highly eroded, but it appears that both specimens are unilaterally barbed. As mentioned in the preceding discussions, the Thule type II harpoon head occurs on almost every Thule site dating to the 12th and 13th centuries from westernmost Canada to northwest Greenland.

The third harpoon head is a type III specimen with drilled lashing holes along one side of an open foreshaft socket (KeDq-2:951, Fig. 92: c). It also exhibits an endblade slot parallel to the line hole, with a rivet hole below and parallel to the endblade slot. This type occurs frequently with early Thule assemblages (see for example Schledermann 1975: Plate 2, a). Little more can be said due to the fragmentary condition of this specimen.

The architectural features of House 9 are possibly more revealing of the time period during which it was initially constructed. Significant features include its subrectangular shape, large size, and most importantly the two kitchen areas on the inside of the front wall and the two storage annexes on the outside. The distinctive kitchen areas have been constructed so that the entrance tunnel terminates well inside the house interior; these kitchen areas have definite walls on the sides adjacent to the entrance so that they must be entered from the interior of the house rather than directly from the entrance tunnel. The two storage annexes on the outer side of the front walls are accessible from the entrance tunnel.

These features are quite similar to architectural characteristics of houses excavated by Holtved at several sites in northwestern Greenland, particularly at Cape Kent (Holtved 1944: 17-29), Cape Russel (Holtved 1944: 30-32), Inuarfigsuaq (Holtved 1944: 33-68), Thule (Holtved 1944: 112-44), and Nugdlit (Holtved 1954). Schledermann also excavated similar houses on the Bache Peninsula of Ellesmere Island. Stanford has suggested that Ruin Island, Thule and Nugdlit are all very early Thule sites, representing the initial migration to and settlement of Greenland by Thule Eskimos (Stanford 1976: 106). McGhee has suggested

on the basis of radiocarbon dates that Nugdlit was occupied from as early as the 10th century A.D. (McGhee 1969/70: 187). More recently, Jordan (1979) has reassessed available evidence and has confirmed an early date for Nugdlit and Ruin Island.

Based upon the evidence presented here it is likely that this component is roughly contemporaneous with Okivilialuk House 8--Lower Component and Talaguak House 2--Lower Component, dating roughly to A.D. 1100.

Cultural Reconstruction

Resource Procurement Artifacts

In addition to the three harpoon heads, a total of 15 endblades was recovered from House 9. This is by far the largest number of endblades found in any single component, indicating the considerable importance of the harpoon/lance complex during the Classical Thule phase. We also found a small but finely made toy harpoon head, easily identifiable as a Thule type II (KeDq-2:995; Fig. 101: d).

One moveable foreshaft and three foreshaft sockets attest to the utilization of the summer harpoon, presumably for late spring through fall open water sea mammal hunting.

Four ice pick fragments represent the winter ice hunting harpoon.

One large moveable lance head made of antler is similar to one found by Mathiassen at Naujan (Mathiassen 1927b: Plate 2, 7). Although specific ethnographic examples of this weapon could not be found, it is probably functionally analogous to the moveable foreshaft harpoon and thus used in the context of open water sea mammal hunting. The large size of the specimen we found indicates that it could have been effective against larger quarry such as walrus, beluga, or possibly even

bowhead whales.

One harpoon dart head represents the bladder dart harpoon. This weapon is propelled by means of a throwing board and is part of the kayak gear used to hunt smaller seals. Also included in the kayak hunting gear are four bird dart side prongs. Finally, a wood float bar completes the list of items associated with open water hunting.

Two wound plugs, a seal drag handle and a seal drag toggle all are included in the accessory kit used in winter sea ice hunting.

A wooden bow fragment, a wood arrowshaft fragment, and an ivory quiver handle are associated with the bow and arrow complex, generally used for terrestrial hunting in the summer, fall and winter.

A side prong and a side barb from a kakivak, or fish leister, represent fishing activity. An additional item associated with fishing is a small cod jigging hook made of a seal bone and three tiny, sharp bird beaks. One possible net weight was also found. The kakivak is sometimes used for winter lake ice fishing but more commonly is used at the mouths of rivers during the late summer char runs. Jigging hooks are used in winter to fish through holes in lake ice and in winter and spring to fish through cracks and leads in the near shore fast ice. Nets are sometimes set below the ice of lakes and are also set in shallow water in bays at rivermouths during the open water season.

One gull hook and a wood sling handle were also found, indicating that birds were hunted as well.

Transportation Artifacts

A single whale bone sled shoe fragment and two draught line toggles represent the dog-drawn komatik.

Maintenance, Manufacturing, and Processing Artifacts

Two particularly significant items are an ivory snow knife blade and a possible bone snow knife handle. These artifacts indicate the knowledge of snow house construction during the Classical Thule phase occupation of southern Baffin Island.

Nine whetstones may be associated with the large number of slate endblades also found in this component, further supporting the suggestion that the harpoon/lance complex figured importantly in the subsistence technology during the Classical Thule phase.

Faunal Remains

Several species of sea mammals, land mammals, and birds are represented in the faunal assemblage from this component. These include: phocid seals, bearded seal, walrus, beluga, caribou, polar bear, canid, fox, rabbit, and two families of birds (Tables 9 and 10).

A minimum of nineteen phocid seals was identified. Six left and seven right mandibles were identified as ringed seal, Phoca hispida. Six additional mandibles are either too eroded or too fragmentary to positively identify as to species. Of the 19 seals, at least six are yearlings, two are juveniles, and six are adults (Table 11). All parts of the seal skeleton, including cranial elements were found in the house. Other sea mammals identified included a minimum of two bearded seals, and one walrus and one beluga whale.

Several bowhead whale rib fragments were uncovered, all apparently part of the house structure. In addition to these we found two bowhead whale scapulae, one left and one right, which appear to be from the same whale. One of these has been carved into a meat tray and was found in one of the kitchen areas inside House 9. It is again difficult to say

whether these represent definite evidence of whale hunting on part of the Thule Eskimo occupants of this house. However, in support of this interpretation, it is noteworthy that as in House 2 considerable amounts of baleen were found in the midden of this house.

A minimum of six caribou were identified, at least one of which is immature. As with the caribou bones in House 2, these were all broken to get at the marrow; hence the figure for minimum number of individuals should be regarded as a very conservative estimate. The distribution of skeletal elements in House 9 indicates that butchering took place at the kill site, and primarily forequarters and hindquarters were brought back to camp.

Other land mammals represented in the faunal sample include at least one polar bear, two canids, one fox, one rabbit, and additional unidentified small mammals. Two families of birds were identified, the Anseriformes (waterfowl) and the Charadriiformes (gulls). The Anseriformes, at least, represent migratory species.

Settlement Type

Based upon the artifacts and faunal bones found in this structure, House 9 is best interpreted as a fall/winter base camp settlement. The massiveness of the house, and its numerous hearths, lamp platforms, and kitchen areas are especially indicative of a cold season occupation. The procurement systems represented by the artifacts and faunal remains are primarily representative of fall and winter season subsistence activities. Finally, the density of artifacts and bones comprising the midden (Table 15), while perhaps not as high as in House 2 at Talaguak, nevertheless suggest an intensive utilization of this structure during the Classical Thule phase.

As with many of the other Thule winter houses, however, there is some evidence to suggest intermittent warm season occupation by a few individuals.

Since House 9 and House 2 at Talaguak both seem to have been occupied during the same part of the Classical Thule phase, around A.D. 1100, and since both also seem to represent fall/winter settlements, it is possible that both were occupied simultaneously as part of the same local base camp.

Summary

(1) House 9 was occupied by Thule Eskimos around A.D. 1100. It may have been occupied at the same time as House 2 at Talaguak as well as House 8 at Okivilialuk. The artifact assemblage from this component is quite similar to these other two components as well as to contemporaneous assemblages from elsewhere in Canada and Greenland.

(2) The following resource procurement systems may be reconstructed for this component:

- (a) Breathing Hole Seal Hunting (winter)
- (b) Floe Edge Sea Mammal Hunting (winter, spring?)
- (c) Basking Seal Hunting ? (spring)
- (d) Open Water Sea Mammal Hunting (summer, fall)
- (e) Polar Bear Hunting (winter?, spring?)
- (f) Caribou Hunting (late summer, fall, winter?)
- (g) Onshore Small Game and Bird Hunting (summer, fall)
- (h) Open Water Bird Hunting (summer, fall)
- (i) Fishing (spring?, summer?, fall?, winter?)
- (j) Onshore Collecting (summer, fall)

(3) House 9 represents primarily a fall/winter base camp settlement, possibly the same one represented by House 2. Intermittent occupation during other seasons is also indicated.

Summary: Classical Thule Phase

The earliest Thule components at Okivillialuk and Talaguak are intermediate in age between those sites thought to represent the earliest Thule migrants from Alaska and the somewhat younger "classic" Thule sites in the Canadian Arctic. Based upon harpoon head comparisons and radiocarbon dates from several sites in Canada and Greenland, it is estimated that the earliest components at Okivillialuk and Talaguak date to circa A.D. 1100, certainly no later than A.D. 1200. These components are probably contemporaneous with the Crystal II Site in Frobisher Bay. On a broader level, they are representative of the homogeneous and generalized cultural stratum of Thule whale hunters entering into the Canadian and Greenlandic Arctic from Alaska and persisting in some areas until the 14th century A.D. (cf. McGhee 1975). Hence, these components and the cultural systems they represent are referred to in this study as the Classical Thule phase.

Given the estimated age of these components, Thule Eskimos first occupying the south coast of Baffin Island lived during the Neo-Atlantic climatic episode, or Period I of the climatic scheme used in this study. At that time annual temperatures were somewhat warmer than at present, and probably more extensive open water conditions prevailed.

The artifacts recovered from these Classical Thule phase components represent a wide variety of resource procurement weapons and implements: the winter harpoon and its associated ice hunting gear, the summer harpoon and skin float complex, moveable foreshaft lances, the

bladder dart harpoon, the bird dart, the bow and arrow, leisters, fish hooks, bolas, gull hooks, and slings. One possible net weight may also indicate the use of gill nets during this early period. When these artifacts are considered along with the faunal remains found in these components, it is possible to reconstruct virtually all of the seasonal procurement systems represented in the ecosystem model in Chapter Five.

Breathing hole seal hunting and floe edge seal mammal hunting are both identified on the basis of artifacts representing the winter harpoon and its associated ice hunting gear, as well as the age class distribution of seals (Table 11). Although some of the seals represented in the faunal sample were doubtless obtained during the course of open water hunting in summer or fall, it is likely that most were not, given the difficulty of hunting seals in open water using the traditional technology, in addition to the far greater energetic potential represented by larger seal mammals which can be taken more easily in the open water due to their slower movements and gregarious habits. It is interesting, therefore, that of the minimal number of 34 phocid seals identified in the Classical Thule phase components, at least 17 (63%) of these were sub-adults while only 10 (37%) could positively be identified as adults. This may indicate a preference or greater reliance on hunting at the floe edge during winter where younger seals tend to congregate. I mentioned previously that historic Baffinland Eskimos preferred to hunt at the floe edge during winter because this activity was more comfortable than waiting motionless for hours over a breathing hole in sub-zero temperatures. Moreover, the possibility of getting a bearded seal or other large sea mammal at the floe edge undoubtedly increased the attractiveness of this alternative when conditions permitted.

Another possible explanation for the high proportion of sub-adult seals in the faunal sample is that basking seal hunting in spring may have been important. This activity, carried out on the fast ice during the warmer and sunnier days of the spring season, tends to result in a sizeable catch of newborn pups. However, basking seal procurement systems are difficult to distinguish archaeologically because the same weapons are used for this as for breathing hole and floe edge hunting. Possibly the best indicator would be the presence of yearling seals, which do comprise about 41% of the sample identified by age group (i.e. 11 seals exhibiting fully open epiphyses). The identification of basking seal hunting is of course not mutually exclusive to the above suggestion of an emphasis on winter floe edge hunting.

Artifacts associated with the summer harpoon and seal skin float complex indicate the importance of open water sea mammal hunting. This activity was primarily directed toward the procurement of larger sea mammals such as walrus, beluga, and bowhead whales during aboriginal times. Walrus and beluga bones are found in the Classical Thule phase components, although the fact that few skeletal elements were recovered indicates that the butchering and processing of these animals took place elsewhere, probably at or near the "kill site," and only the choice pieces of meat, blubber, skin, and bones were brought back to the settlement. It is likely that some of the meat from these animals was used for dog food, as was often done historically. Despite these factors, it is nonetheless true that the few walrus and beluga identified in the faunal sample represent almost as much potentially available food energy as do the far more numerous seals and caribou. However, the extent to which these larger sea mammals actually contributed to

subsistence, given factors such as food preferences, etc., cannot be determined at this time.

The presence of whale bone in the Classical Thule phase components in addition to the considerable amounts of baleen also found have been discussed with respect to their possible indication of whale hunting and the use of the bowhead whale as a food source. As with other large sea mammals, the potential amount of food energy represented by this species is so great that it completely overshadows the importance of other subsistence activities, save for the variety they might contribute to the diet. However, until we are better able to measure the actual contribution of bowhead whales and other large sea mammals to the Thule subsistence economy the relative importance of these species as compared to others must remain in question.

The presence in House 2--Lower Component and House 9 at Talaguak of the large, moveable foreshaft lance heads, in addition to the artifacts representing seal skin float gear, lend support to the suggestion that whales and other large sea mammals were hunted. Unfortunately, no whaling harpoon heads were found in any of the Classical Thule phase components.

The bladder dart harpoon and bird dart pieces are associated with hunting small seals and sea birds from kayaks during the open water seasons. In aboriginal times these activities were often carried out by (usually older) men who remained at the coastal settlements during summer while others trekked inland in pursuit of caribou.

The leister and cod-jigging hook and the possible net weight indicate that fishing had some importance to the subsistence economy. That fish bones were not found in the faunal samples is hardly surprising

due to the common practice of cleaning and filleting the fish and drying them so that they can be stored for later consumption. Fish are sometimes frozen whole during winter, however. Only a small proportion is usually consumed shortly after they are caught in late summer, and most of the catch is processed and stored for later use. It is not possible to infer from the evidence at hand the season(s) during which fishing was most important to Classical Thule phase Eskimos on southern Baffin Island. However, the cod-jigging hook probably represents winter or spring fishing. We can also probably assume that the late summer char runs were as important then as they are today.

The bow and arrow complex primarily represents caribou hunting, although small game is often hunted with this weapon as well. The faunal evidence indicates that caribou hunting was of considerable importance during the Classical Thule phase, accounting for nearly 20% of the total available meat (Table 12). Although most of this hunting seems to have taken place in late summer and fall, it is not unlikely that occasional winter caribou hunting also occurred along the coast.

Finally, the bola balls, gull hooks, and sling handles all indicate that birds and other small game were caught, probably during the warmer months of the year. The frequent strips of baleen and sticks of wood encountered in the midden deposits suggest also that snares were used to catch these small prey. Today small game is sought primarily to add variety to the diet; this was doubtless the case in prehistoric times as well.

The only procurement system for which we do not have evidence during the Classical Thule phase is intertidal or beach zone collecting. No clam shells were found in the Classical Thule phase components,

possibly indicating that these were not collected during the warmer months. However, soil chemists at Michigan State University have suggested to M. S. Maxwell that the humic acid and tannic acid in pre-historic Eskimo midden deposits could disintegrate these shells in as little as one or two years. Therefore, the apparent lack of evidence for utilization of this resource may well be due to preservation factors. Artifacts made of driftwood, slate, chert, and soapstone indicate that onshore collecting was indeed a necessary activity.

In summary, the general economic orientation of the Classical Thule phase on southern Baffin Island exhibits a mixed reliance on both marine and terrestrial mammals; to a lesser extent fish, birds, and other minor food resources (e.g., plants) were also utilized. Excluding bowhead whales from calculations of potentially available amounts of meat represented by these resources we see that sea mammals constitute the major food source, accounting for roughly 69% of the total available meat. Land mammals contribute the remaining 31%, and of these species caribou is by far the most important.

All three components assigned to the Classical Thule phase are interpreted as representing primary winter base camp settlements, although the faunal evidence also indicates that some intermittent warm season occupation of these sites probably took place. The Talaguak and Okivillialuk sites are both situated favorably with respect to access to the North Bay landfast ice floe and floe edge in winter. These sites also provide access to the interior uplands east of McKellar Bay which during more recent times have been traditional caribou hunting grounds. Finally, the topographic diversity of the areas in which these sites are situated, including such factors as high land adjacent to the settlement

areas, complex coastlines with offshore islands, bays, and opposite shorelines, provides a significant measure of protection against adverse weather conditions (cf. Jacobs and Sabo 1978). Together these factors account for the selection of these sites for settlement by Thule Eskimos.

Snow knife and snow probe parts indicate the knowledge and use of snow block houses and/or shelters. We cannot at this time say whether snow house villages were an important settlement type during the Classical Thule phase, or whether these structures were merely used as temporary shelters during hunting trips or travel excursions. There is no compelling evidence, however, for the existence of winter snow house villages since the semi-subterranean winter houses seem to have been occupied throughout the fall and winter seasons.

Like their more recent Inuit descendants, prehistoric Thule Eskimos probably dispersed into smaller groups during the warmer seasons, establishing small tent camps in areas where seasonally available resources were sufficiently abundant and accessible. Figure 15 illustrates the reconstructed annual settlement system of the Classical Thule phase.

The Developed Thule Phase

Talaguak House 5

House 5 at Talaguak appeared initially as a bilobate semi-subterranean Thule house. Upon excavation it was discovered that a second room had been added on to an earlier single-roomed structure, with the newer paved floor partially overlapping the original one where the two rooms adjoined. At the time of rebuilding, an interior storage alcove had been constructed which partially blocked the original

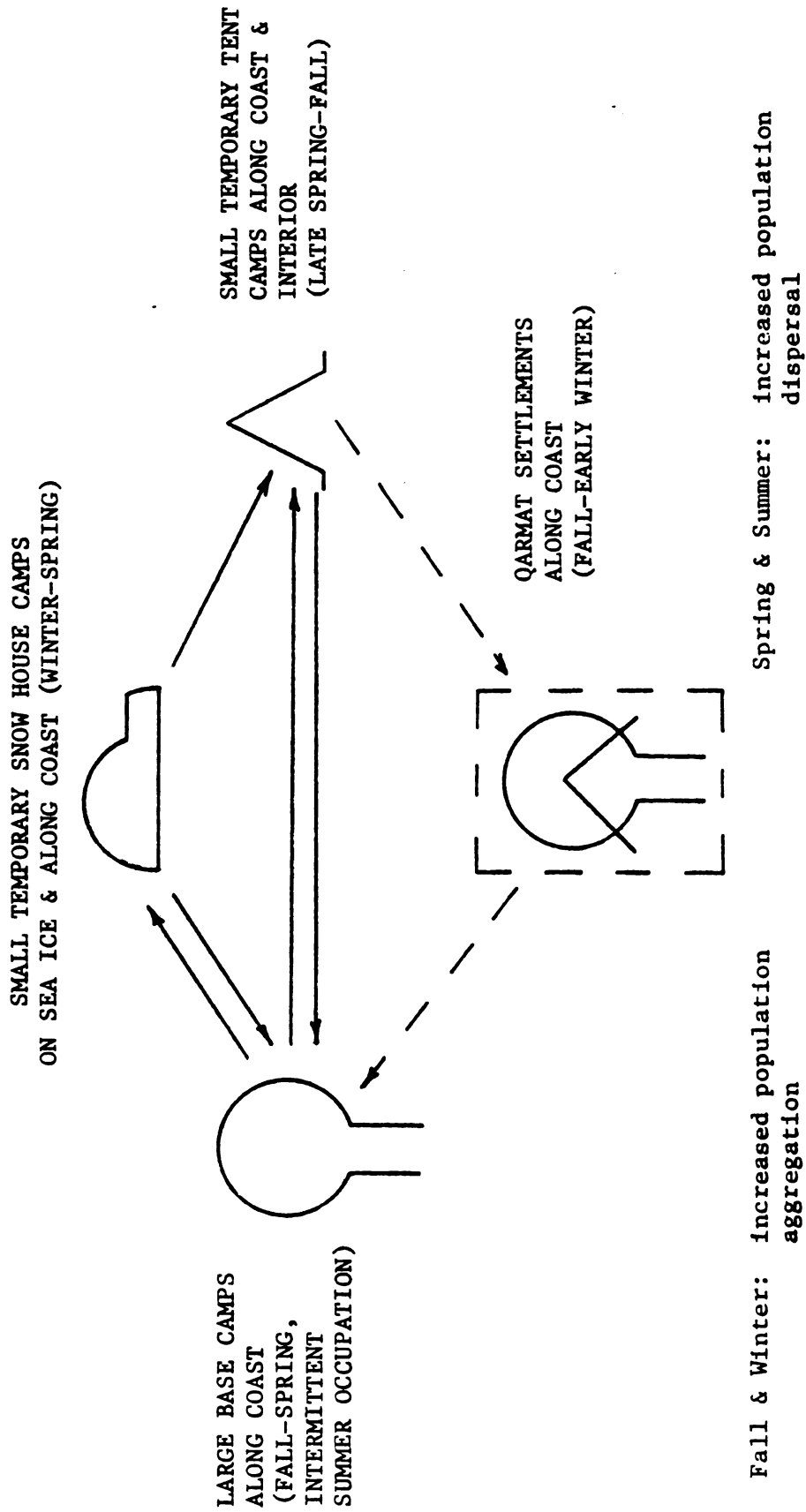


Figure 15: Classical Thule Phase Settlement Pattern

entrance tunnel. A thin but homogeneous cultural midden containing bones and artifacts extended over the floor area in the interior of the structure; this midden extended out beyond the entrance tunnel in the front of the house where it became considerably thicker and contained greater amounts of artifacts and bones. In all, 49 artifacts (Table 8) and 2,586 faunal bones (Table 9) were collected from this deposit. These materials are interpreted as representing a single general period of occupation by Thule Eskimos, during which several different episodes of occupation may have occurred. In addition to these materials, two historic artifacts and other related samples were recovered from the upper sod zone. These items may represent a brief historic period utilization of House 5, perhaps over which a tent was pitched. These items are not included with the sample of Thule artifacts from the buried cultural layer.

Dating

The single diagnostic artifact from House 5 is an antler harpoon head of the Thule type II, exhibiting two sets of slightly asymmetric blade barbs and an endblade slot at the distal end (KeDq-2:329, Fig. 84: a). The endblade slot is perpendicular to the line hole and has a drilled rivet hole for securing the endblade. The base of the harpoon head has a curved rather than an angle cut basal spur, and exhibits a rounded, open foreshaft socket with drilled lashing holes on either side. These attributes are also exhibited on harpoon heads from the Anarnitung and B-1 Sites in Cumberland Sound (Schledermann 1975: Plate 1, a & c), and at Quilalukan on northern Baffin Island (Mathiassen 1927a: Plate 39, 3 & 4).

Mathiassen considered the Quilalukan Site somewhat younger than

Naujan (Mathiassen 1927a: 221), and Schledermann has also argued that the Cumberland Sound sites are contemporaneous with or only slightly later than Mitimitalik and Quilalukan, dating to the mid-14th century (Schledermann 1975: 244). This estimate is supported by a radiocarbon date from B-1 of 780 ± 90 years, A.D. 1170, which Schledermann has reduced by 200 years to A.D. 1370 (Schledermann 1975: 85-86).

One complete antler arrowhead was also found which has squared shoulders and a conical tang with symmetrically placed lateral spurs on the tang (KeDq-2:554, Fig. 86: b). This style of arrowhead is widely represented at Naujan age and later Thule sites throughout Canada and Greenland.

The bilobate shape of House 5, with its double room layout, may be correlated with the mid-14th century date indicated by the harpoon head. If, as Schledermann has asserted, the single-roomed structure is characteristic of the earlier Thule period in the central and eastern Arctic, then a later date for the House 5 occupation would support a slightly more recent development of bilobate semi-subterranean houses by Thule Eskimos.

Cultural Reconstruction

Resource Procurement Artifacts

The harpoon head described above and two small slate endblades represent only the generalized harpoon/lance complex. One foreshaft socket more specifically indicates the summer harpoon, and two wood float bars and a possible seal skin float mending disk are associated with the float gear used along with the summer harpoon in pursuit of large sea mammals.

One fixed foreshaft lance head was most likely used for thrusting,

rather than throwing, and hence is probably associated with terrestrial hunting.

One wound plug fragment and a seal drag toggle are both included in the winter ice hunting kit. Two antler arrowheads represent the bow and arrow complex. One cod-jigging hook was also found.

Among the other artifacts are two toys worth noting here. One is a tiny wooden arrowshaft, and the other is a small replica of a leister, made of three pieces of wood bound together with baleen filament.

Faunal Remains

A sizeable collection of faunal remains was collected from House 5, somewhat surprising in view of the fact that so few artifacts were found. Represented in this faunal sample are phocid seals, bearded seals, walrus, caribou, polar bear, canid, fox, and birds (Tables 9 and 10).

In contrast to the Classical Thule phase components, sea mammals are by far the most frequent species represented in the faunal sample from House 5. This is due to the presence of at least 33 phocid seals. Identification of the mandibles resulted in the following breakdown: 12 left and 15 right mandibles of ringed seal, Phoca hispida; 1 left mandible of a harbour seal, Erignathus barbatus; and 9 fragments of phocid seal mandibles unassigned. Among the phocid seals eight are classed as yearlings, six as juveniles and eight as adults (Table 11). Two of the bearded seals are immature. All skeletal parts of both phocid and bearded seals are present in the sample.

The partial remains of at least one walrus was identified, presumably brought to the house in the form of a butchered meat packet.

Several small pieces of whale bone were uncovered during the excavation of House 5, but all are quite fragmentary and we are not able to determine whether these elements were part of the house structure. It may be that these are all that remain after larger pieces were salvaged for use elsewhere. Some baleen was found in the midden, but it was not present in the amounts found in the Classical Thule phase components.

Four caribou were identified in this component, two adults and two immature. As elsewhere the caribou long bones are the most frequent elements and these are generally quite fragmentary. In addition to long bones, ribs, vertebrae, scapulae, pelvae, and a few cranial fragments were found.

Among the canid remains are two left and five right mandibles. One left mandible is too eroded for identification but the others are identifiable as domestic dog, Canis familiaris. Two fox complete the list of terrestrial species represented in this component.

At least two birds are present in the faunal sample. One of these belongs to the family Anseriformes (waterfowl), and the other to the Charadriiformes (gulls).

Several fragments of clam shells occur in this component. Clams favor shallow, sandy-bottomed areas along the coastline that are exposed at low tide. Considerable numbers of clams may be collected with relative ease at low tide during the warmer months of the year, and provide a tasty addition to the diet.

Settlement Type

Interpretation of the settlement type represented by this component is hampered by the paucity of artifacts recovered in our

excavations. Given the extensive faunal remains deposited (Table 15), one wonders why so few artifacts found their way into the midden. In terms of the structural attributes of the house and the associated faunal remains, there would be little question in inferring a winter base camp settlement. As with other components, the presence of birds and other small game indicate the possibility of intermittent occupation during other seasons. Although the resource procurement artifacts found support this interpretation, their relative scarceness could indicate a less permanent settlement resulting in fewer artifacts entering the archaeological record. This may indicate that there were other winter settlements as well, possibly other base camps or more likely other settlement types such as snow house villages on the sea ice.

Summary

(1) The Thule occupation of House 5 dates to a time period after A.D. 1200 but prior to extensive contact with Europeans. The single harpoon head found in this component is similar to others found in Cumberland Sound in contexts firmly dated to the 14th century A.D. In general, the assemblage from this component is similar to Thule assemblages in Canada and Greenland that are roughly contemporaneous to or younger than the Naujan Site.

(2) The following resource procurement systems are represented at this component:

- (a) Breathing Hole Seal Hunting (winter)
- (b) Floe Edge Sea Mammal Hunting (winter, spring?)
- (c) Basking Seal Hunting ? (spring)
- (d) Open Water Sea Mammal Hunting (summer?, fall)

- (e) Polar Bear Hunting (winter?, spring?)
- (f) Caribou Hunting (fall, winter?)
- (g) Onshore Small Game and Bird Hunting (summer, fall)
- (h) Open Water Bird Hunting (summer, fall)
- (i) Fishing (spring?, summer?, fall?, winter?)
- (j) Onshore Collecting (summer, fall)
- (k) Beach Zone Collecting (summer, fall)

(3) House 5 most likely represents a winter base camp settlement although the paucity of artifacts associated with this component may indicate less permanent occupation. There is also evidence of intermittent seasonal use at other times. Since this house was only partially excavated it may be that additional artifacts, more clearly revealing the nature of the occupation, remain in unexcavated areas.

Talaguak House 11

This house was a very large, bilobate structure with one main room and one side room or annex. Although the house had been initially constructed with both rooms, subsequent interior modifications were made. Two small lamp platforms or hearths were added, one along the front wall adjacent to the entrance passage, and one at the juncture of the rear sleeping platform in the main room and the side room or annex. Both of these platforms were built on top of the flagstone floor pavement. We could not determine whether these additions had been built just after the floor had been laid, or at a later time. However, the homogeneous nature of the cultural deposit throughout the house strongly suggests that a single period of occupation is represented. As with House 5, it is likely that within this single period of occupation several episodes of utilization did take place.

A total of 85 Thule artifacts (Table 8) and 1,876 faunal bones (Table 9) was collected from this component. Not included in these totals are several Dorset artifacts recovered from remnants of undisturbed Dorset middens within the Thule house (see Appendixes A and B). Three historic artifacts were found in contexts suggesting that these too were later intrusions.

Dating

Unfortunately, no harpoon heads were found in House 11, nor were there any arrowheads or other artifacts that might reliably indicate the chronological position of this component. Therefore, our estimate of the age of this component must rely on less satisfactory evidence.

One toy harpoon head made of wood provides one means of estimating the age of House 11 (KeDq-2:746, Fig. 116: a). Although diminutive, this specimen clearly depicts the Thule type II style. The lateral edges of this specimen form smooth, curving shoulders at the junction of the base and the midsection. The junction of the spur and basal edge is also curved. The basal element is too small to contain either lashing holes or slots adjacent to the tiny open foreshaft socket, but rounded notched along the lateral edges of the base are suggestive of drilled holes. These features are common in the latter varieties of the type II harpoon head found at post-Naujan age Thule sites (e.g. Talaguak House 5 and Itinapik House 1 in this report; Schledermann 1975: Plate 1, a, c, d, f). Archaeological sites in Cumberland Sound that are presumably the same age as House 11 have been estimated by Schledermann to date between A.D. 1350-1650 (Schledermann 1975: 84-95; 240-44).

The semi-subterranean sod, stone, and whalebone construction of House 11 is typical of Thule dwellings in general through the eastern

Arctic during this period of time. The bilobate shape, as previously discussed, may be a feature indicating a post-Naujan age.

Cultural Reconstruction

Resource Procurement Artifacts

Two slate endblades, two miscellaneous foreshaft fragments, and a single harpoon finger rest are associated with the general harpoon/lance complex. One broken lance head fragment is also related to this complex.

One fixed harpoon foreshaft along with an ice pick, a wound plug, and a wound pin are evidence of the ice hunting harpoon and accessory kit used to hunt on the landfast sea ice during winter and early spring.

A moveable harpoon foreshaft plus two wood float bars represent the summer harpoon and seal skin float complex, associated with the procurement of sea mammals from kayaks during the open water season.

Several items associated with fishing include a leister side prong, five leister barbs, one cod-jigging hook, and a fish gorge. This latter item, however, may be a Dorset culture artifact.

Transportation Gear

Only a single sled shoe fragment was found in House 11, part of the dog-drawn komatik used in winter and spring for travel over the ice and snow.

Maintenance, Manufacturing and Processing Artifacts

While none of the artifacts in this category has any particular bearing on the seasonality of this component, there are several items associated with skin working that should be mentioned. Included here are

two ulu blades, a caribou scapula scraper, a skin softener, and two "boot creasers." These items are usually associated with the preparation of caribou skin clothing, an activity typically carried out during the fall season. However, the absence of any other sewing equipment, if not the result of sampling error, admittedly does not lend much support to this argument.

Faunal Remains

A wide variety of species was identified in the faunal assemblage from House 11, including phocid seals, bearded seal, walrus, beluga, caribou, polar bear, canid, fox, rabbit, and birds (Table 9).

By far the most frequently occurring species are phocid seals, with a minimum of 28 individuals represented (Table 10). At least nine of these are yearlings, five were classed as juveniles, and eight were positively identified as adults (Table 11). Among the seal mandibles are eight left and eight right mandibles of ringed seal, Phoca hispida; four additional mandibles cannot be assigned to any particular phocid species. All major skeletal elements of seals are represented in the sample.

A few bones of bearded seal, walrus, and beluga were also identified, representing at least one individual each although it is apparent that only portions of the carcasses of these animals were brought into the house.

As in House 5 we found only a few whale bone pieces in House 11, all presumably from bowhead whales. These are very fragmentary, and it is difficult to determine whether or not they formed part of the house structure. However, several rib fragments found in the entrance passage clearly were part of the roof framework of the tunnel entrance. Only a

small amount of baleen was found, primarily in the lamp platform areas.

Four caribou were identified, one of which is immature. Most of the caribou bones found in this house are in poor condition. Most of the long bones had been shattered to get at the marrow.

Five canid mandibles were found; three were identified as domestic dog, Canis familiaris. Two fox and one rabbit are also represented.

Three families of birds were identified. These are Anseriformes (waterfowl), Charadriiformes (gulls), and Galliformes (Lagopus sp., ptarmigan).

A few clam shells were also collected from this component. These indicate intertidal or beach zone food collecting during the warmer months of the year.

Settlement Type

Structurally, House 11 is an example of the bilobate shaped Thule winter house. Its massive size and construction suggest utilization as a winter dwelling. However, the artifactual and faunal data indicate that several late summer and fall procurement systems were important to its occupants, including caribou hunting, fishing, walrus and beluga hunting, and small game and bird hunting. Also, the density of bones and artifacts found in this structure are not as high as the densities observed in the Classical Thule phase winter dwellings (Table 15). Therefore, House 11 most likely was occupied as part of a late summer to early winter settlement; and the occupants of this site presumably moved on to another winter settlement, possibly a snow house village on the sea ice, later in the season.

Summary

(1) Estimation of the age of this component is hindered by the lack of suitable artifacts, such as harpoon heads, for comparative dating. A small toy harpoon head, the structural attributes of the house, and a subjective assessment of the artifact assemblage as a whole suggest that this component is probably coeval to House 5 at Talaguak and thus dates sometime between A.D. 1350-1650.

(2) The procurement systems reconstructed from the artifacts and faunal remains are:

- (a) Breathing Hole Seal Hunting (winter)
- (b) Floe Edge Sea Mammal Hunting (winter, spring?)
- (c) Basking Seal Hunting ? (spring)
- (d) Open Water Sea Mammal Hunting (summer, fall)
- (e) Caribou Hunting (late summer, fall, winter?)
- (f) Polar Bear Hunting (winter?, spring?)
- (g) Onshore Small Game and Bird Hunting (summer, fall)
- (h) Open Water Bird Hunting (summer, fall)
- (i) Fishing (spring?, summer?, fall?, winter?)
- (j) Onshore Collecting (summer, fall)
- (k) Beach Zone Collecting (summer, fall)

(3) House 11 most likely represents a late summer to early winter hunting camp; presumably its occupants moved on to another site later in winter.

Itinapik House 1

The single Thule house excavated at the Itinapik Site is a small, single sleeping platform, semi-subterranean structure with sod

and stone walls but little evidence of the use of whale bone in its construction. A very thin cultural deposit was found beneath the sod growing over this house. The midden contained only 18 artifacts (Table 8) and 707 faunal bones (Table 9). These materials are considered the product of a single, relatively short-term occupation of the house. One iron nail fragment found in between two upper wall rocks above the sod growth is considered a later intrusion.

Dating

A single harpoon head was found in this house between two wall rocks at the bottom of the entrance passage into the interior. This specimen, made of ivory, is an example of a Thule type II harpoon head (KeDr-13:18, Fig. 117: a). It has two sets of symmetric blade barbs, a rounded open foreshaft socket, and drilled lashing holes on either side of the socket. The short basal spur forms an angle with the edge of the basal element, but the lateral edges of the base and midsection are smoothly curved, lacking distinct shoulders. A harpoon head similar to this was found at the B-1 Site in Cumberland Sound (Schledermann 1975: Plate 1, b). Other similar specimens are known from Nugdlit (Holtved 1954) and Mitimitalik (Mathiasen 1927a). On the basis of this single harpoon head, we may infer a late Thule date for this component. Following Schledermann's dating of the Cumberland Sound sites, an estimate of A.D. 1350-1650 is appropriate.

Cultural Reconstruction

Resource Procurement Artifacts

The paucity of artifacts from Itinapik severely restricts our abilities to reconstruct subsistence activities carried out from this

site. The single harpoon head represents the generalized harpoon/lance complex. A walrus tooth dart butt ferrule is indicative of open water kayak hunting. However, whether this artifact represents the bladder dart harpoon or the bird dart cannot presently be determined. A drilled polar bear canine, possibly used as a fish lure, was also found. The remaining artifacts collected from House 1 are all generalized maintenance, manufacturing, or processing artifacts and are not associated with any particular seasonal activity.

Faunal Remains

Despite a relatively small sample size of only 707 faunal bones, a wide variety of marine and terrestrial species and species groups is represented (Table 10).

The phocid seals are the most abundant species group, accounting for at least 17 individuals. A minimum of four were identified as yearlings, two as juveniles, and at least three were fully grown adults (Table 11). Three mandibles (two right and one left) were identified as ringed seal, Phoca hispida. In addition, one bearded seal and two walrus were identified. One of the walrus, represented by a nearly complete cranium, died a very young individual.

Two small fragments of whale ribs were found, the significance of which could not be ascertained. Very little baleen was collected from the midden.

At least two caribou, both adults, are present in the faunal sample. As was the case with the other components so far discussed, most of the long bones we found are in very fragmentary condition. In addition to these, scapulae, pelves, and a mandible were collected along with a few ribs and vertebrae.

The partial remains of at least one polar bear, one canid, and one fox were also identified.

Settlement Type

The small size of this structure, the lack of any substantial internal structural features, and the lack of a thick cultural deposit (Table 15) all indicate that House 1 was occupied for only a brief period of time. The faunal remains suggest a late summer to early winter occupation. Therefore, this component was probably occupied as part of a garimat settlement, prior to a move to another settlement such as a snow house village on the sea ice or a larger base camp.

Summary

The following interpretations can be made on the basis of the evidence presented above:

(1) House 1 was occupied sometime between A.D. 1350-1650, judging from the single harpoon head found within the structure. Too few other artifacts were collected to permit broader comparisons with other, similarly dated, components.

(2) The limited sample of artifacts prevents identification of specific resource procurement systems. However, open water kayak hunting and fishing may be inferred from three of the artifacts found. The faunal remains further indicate that seal hunting, walrus hunting, caribou hunting, polar bear hunting, and small game hunting was carried out.

(3) House 1 was occupied between late summer and early winter, probably as part of a garimat settlement. This occupation was brief, perhaps for only a few weeks, prior to a move to another settlement.

Summary: Developed Thule Phase

Following the initial Neo-Eskimo settlement of the south coast of Baffin Island by whale hunting Eskimos of the Classical Thule phase, adaptive re-organization of subsistence-settlement systems appears to have occurred in the context of changing ecological conditions. Three components at Talaguak and Itinapik provide evidence of the cultural pattern which emerged after ca. A.D. 1250, during what has been referred to as the Developed Thule phase along the south coast of Baffin Island.

Harpoon heads recovered from the Developed Thule phase components are of the Thule type II variety exhibiting double-barbed blades, endblade slots at the distal tip, and rounded open foreshaft sockets with drilled lashing holes. These attributes are common on harpoon heads from post-Naujan age sites in the eastern Arctic, including sites in Cumberland Sound, Baffin Island dated by Schledermann to the A.D. 1350-1650 era. Other artifacts found in the Talaguak and Itinapik components are also similar to Thule assemblages dating from this general time period. As demonstrated below, these assemblages represent Thule culture populations who have begun adaptive adjustments on a specific, regional level, in contrast to the more generalized expression of the earlier Thule migrants. Regional archaeological manifestations comparable to these Developed Thule phase components on southern Baffin include McGhee's "Thule Period" sites in the Copper Eskimo area (McGhee 1972), the proto-Netsilik Eskimo collections from the Boothia Peninsula region analyzed by Van Stone (1963), the previously mentioned sites in Cumberland Sound (Schledermann 1975), and the Inugsuk culture in western Greenland (Mathiassen 1930; cf. Jordan 1979) and related sites on Ellesmere Island (Maxwell 1960).

The Developed Thule phase along southern Baffin Island coincides with the waning of the Neo-Atlantic climatic episode and the onset of deteriorating conditions associated with Period II. Toward the end of the Developed Thule phase, the Neo-Boreal climatic episode, or Little Ice Age, was underway.

The subsistence technology of the Developed Thule phase is essentially the same as that of the preceding Classical Thule phase. Aside from stylistic changes in harpoon heads, these items maintain their earlier forms. The basic hunting and fishing technology continues to consist of the two types of harpoons and lances (fixed foreshaft and moveable foreshaft) and their associated ice and open water hunting gear, the bladder dart and bird dart, the bow and arrow, the leister, and presumably a variety of small game hunting equipment. These artifacts and the faunal remains associated with Developed Thule phase components permit reconstruction of the various resource procurement systems characterizing the economic organization of this cultural phase.

Artifacts representing the winter ice hunting harpoon and its associated gear identify breathing hole seal hunting, floe edge sea mammal hunting, and possibly basking seal hunting. The phocid seal distribution by age class is quite similar to that observed for the Classical Thule phase (Table 11): of a minimum 53 seals assignable to age classes (out of 78 total seals), at least 34 (64%) are sub-adults while only 19 (36%) can definitely be classed as adults. As argued previously, this high percentage of sub-adults probably indicates an emphasis on floe edge hunting during the winter and early spring. In addition, the presence of yearling seals may indicate basking seal hunting in spring.

Although present in the artifact sample, the summer harpoon and skin float complex is represented by only a few artifacts. The presence of walrus and beluga bones in the faunal samples indicate that spring floe edge hunting and summer open water hunting continued to have at least some importance. The remaining kayak hunting gear--the bladder dart harpoon and the bird dart--are represented by only a single dart butt ferrule. Again the faunal remains lend support to the identification of procurement systems associated with these weapons, but still the relative infrequency of these items is bewildering since they occur in greater numbers in both the preceding Classical Thule phase and in the following Historic phase (see below). One possible explanation may be related to sampling error, since the Developed Thule components contained far fewer artifacts in general than either the Classical Thule or Historic phases (Table 8). However, this explanation only begs the question of why are there so few artifacts in the Developed Thule components? I will attempt to argue instead that the paucity of artifacts in these components may itself be indicative of adaptive adjustments, in which case sampling error may not account for the infrequency of open water hunting equipment.

An alternative explanation may be that open water hunting declined somewhat in importance, perhaps because of increasing amounts of drift ice remaining throughout summer in the Hudson Strait waters during this period of time. In relation to this possibility, it does appear that at least bowhead whale hunting underwent a significant decline during the Developed Thule phase. In contrast to the Classical Thule phase components, far less baleen was found in the Developed Thule phase components, and the pieces of whale bone uncovered in these

components were also fewer in number and broken into smaller pieces.

If the amount of baleen and whale bone in these archaeological components is indeed indicative of the relative importance of bowhead whale hunting, then it appears without question that this activity was far less important to Developed Thule phase Eskimos than it was to their predecessors.

Despite a possible decrease in the amount of food energy obtained by means of open water sea mammal hunting, there is an overall increase in the importance of sea mammals over land mammals as sources of food energy during the Developed Thule phase. Looking once again at the potentially available pounds of meat represented by the minimal number of individuals identified for each species, we see that sea mammals could have provided up to 7,513.8 kg of meat, or 83.6% of the total amount of meat (8,987.9 kg) represented by both sea and land mammals (Table 13). This is an increase of about 15% in the contribution of sea mammals to the diet, with a corresponding decrease in the importance of land mammals. Specifically, the proportion of ringed seals (and to a lesser extent bearded seals) increases during the Developed Thule phase, while that of caribou declines.

This apparent change in economic orientation indicates that a re-scheduling of procurement systems took place during the Developed Thule phase. As suggested above, open water sea mammal hunting may have become less important, perhaps in relation to an increase in the amount of summer drift ice in the Hudson Strait. The evidence for a decline in bowhead whale hunting is even more persuasive. In contrast, the productivity of breathing hole seal hunting, floe edge hunting, and possibly basking seal hunting, appear to have increased, so much so that the proportion of available meat from sea mammals as compared to land mammals

jumps from a 69%:31% ratio in the Classical Thule phase to 84%:16% in the Developed Thule phase (cf. Tables 12 and 13). This apparent re-scheduling of winter and spring seal procurement systems makes sense in relation to climatic/ecological developments occurring at this time, in which the ringed seal habitat expanded because of earlier formation and later breakup of landfast sea ice. The deteriorating climate responsible for this change in the annual sea ice regime also must have affected the tundra habitat, bringing about an increase in the amount of snow and ice cover over the interior of Baffin Island. The adverse effects this undoubtedly had on caribou populations probably accounts for the decrease in their economic importance during the Developed Thule phase.

Despite the reduction in potential food energy provided by caribou hunting during the Developed Thule phase, it is nonetheless evident that this species continued to be an important resource. Two antler arrowheads and possibly the fixed harpoon foreshaft from House 5 at Talaguak provide material evidence of the caribou hunting procurement system. The faunal remains indicated that at least the late summer-fall hunt continued to be important, necessitated in part by the continued need for caribou skins for winter clothing.

Several artifacts representing fishing equipment were found in the Developed Thule components, particularly in House 11. The leister parts found there, in conjunction with the interpretation of that component as primarily a late summer/fall settlement, may indicate that fishing for char at the time of their migratory runs, possibly using weirs at coastal rivermouths, was an important activity. The cod jigging hooks, lure and gorge may also represent winter or spring fishing through cracks or leads in the sea ice or through lake ice.

No small game or bird hunting equipment was found in the Developed Thule components. However, the presence of fox, hare, and birds in the faunal samples indicates that small mammal and bird procurement systems were indeed still part of the subsistence economy.

The clam shells found in Houses 5 and 11 at Talaguak indicate that at least some food collecting activity was carried out in the intertidal zone. Since this procurement system has no particularly distinctive technology, its identification must rely solely on the presence of its products in the archaeological record. We may likewise infer that onshore collection of at least certain raw materials, such as slate, soapstone, and driftwood, was also an important activity. Plants for use as food or other purposes were undoubtedly collected as well.

As mentioned previously, the general infrequency of artifacts in the Developed Thule components may be significant. That these components represent more than just transitory camps is evident, judging from the amount of faunal remains, which is roughly equal to that found in the earlier and later components. The abundance of faunal remains also suggests that poor preservation cannot be the reason we find so few artifacts, for if that were the case we would expect to find fewer preserved faunal bones as well. Nor can sampling error be the reason, since roughly the same volume of fill was excavated in Developed Thule components as in Classical Thule and Historic phase components (Table 15), and the same collection methods were used. (However, it is possible that sampling error at the regional level might have occurred: perhaps unexcavated Developed Thule components at these or possibly other sites in the area contain larger artifact samples.)

An alternative explanation is that the smaller number of

artifacts associated with these components is because of the fact that at least two of the components represent a different settlement type than the winter base camp. All of the Classical Thule phase components were interpreted as winter base camp settlements. As such these settlements were primary components of the annual settlement pattern, and much of the equipment not in use during other seasons was stored at these sites. However, Talaguak House 11 and Itinapik House 1, both occupied during the Developed Thule phase, were interpreted as primarily late summer-fall settlements, and probably not occupied throughout the winter. If this was the case, we would therefore expect to find fewer artifacts at these sites.

If such a settlement shift did occur, how might we account for it? One possibility is that during the Developed Thule phase there was an increase in the importance of winter snow house villages out on the sea ice. Movement out onto the sea ice for certain periods during this season would increase accessibility of the winter seal hunting grounds, which as we have seen were more intensively utilized during this period of time. According to historical sources, the winter snow house village was an important winter settlement during the 19th and early 20 centuries (Boas 1888; Bilby 1923). Perhaps the shift to greater utilization of snow house villages on the sea ice took place during the Developed Thule phase, at which time the re-scheduling of procurement systems resulted in a greater reliance on breathing hole and floe edge hunting.

Beyond this possible modification of winter settlement types, however, there were few other changes in the annual settlement pattern. Dispersal of the local band from spring until fall undoubtedly continued to occur, with individual households or small groups of households

establishing temporary camps in places determined by the particular socio-economic activities engaged in by these families. In fact, despite the increasing importance of this winter settlement locational option and dwelling type, the basic annual dichotomy involving winter aggregation and summer dispersal remained unchanged. These interpretations of the Developed Thule phase settlement pattern are illustrated in Figure 16.

The Historic Phase

Okivilialuk House 9

A small and rather indistinct house structure at Okivilialuk was test excavated during the summer of 1977. This structure had low sod and stone walls, a low rear sleeping platform (unexcavated), and a "hearth area" along one interior side wall indicated by an oil-stained midden deposit. The house had been built directly on top of a rotting bedrock/pea gravel matrix which contained Dorset artifacts. Nine other artifacts (Table 8) and 595 faunal bones (Table 9) were recovered from a thin cultural layer above the gravel base. These items represent a brief historic period occupation.

Dating

All of the non-Dorset "traditional" artifacts (i.e. artifacts manufactured locally on local materials) were non-diagnostic items offering no clue as to the age of this component. Associated with these items in House 9 were also two European artifacts: a tin can fragment and a kaolin clay pipe stem. The can fragment was imprinted with the following words: "ROYAL BATH POWDER . . . Full Weight--1/2 lb. PURE." The tapered pipe stem fragment was undecorated.

Ross (1975: 133) notes that regular, dependable trade along the

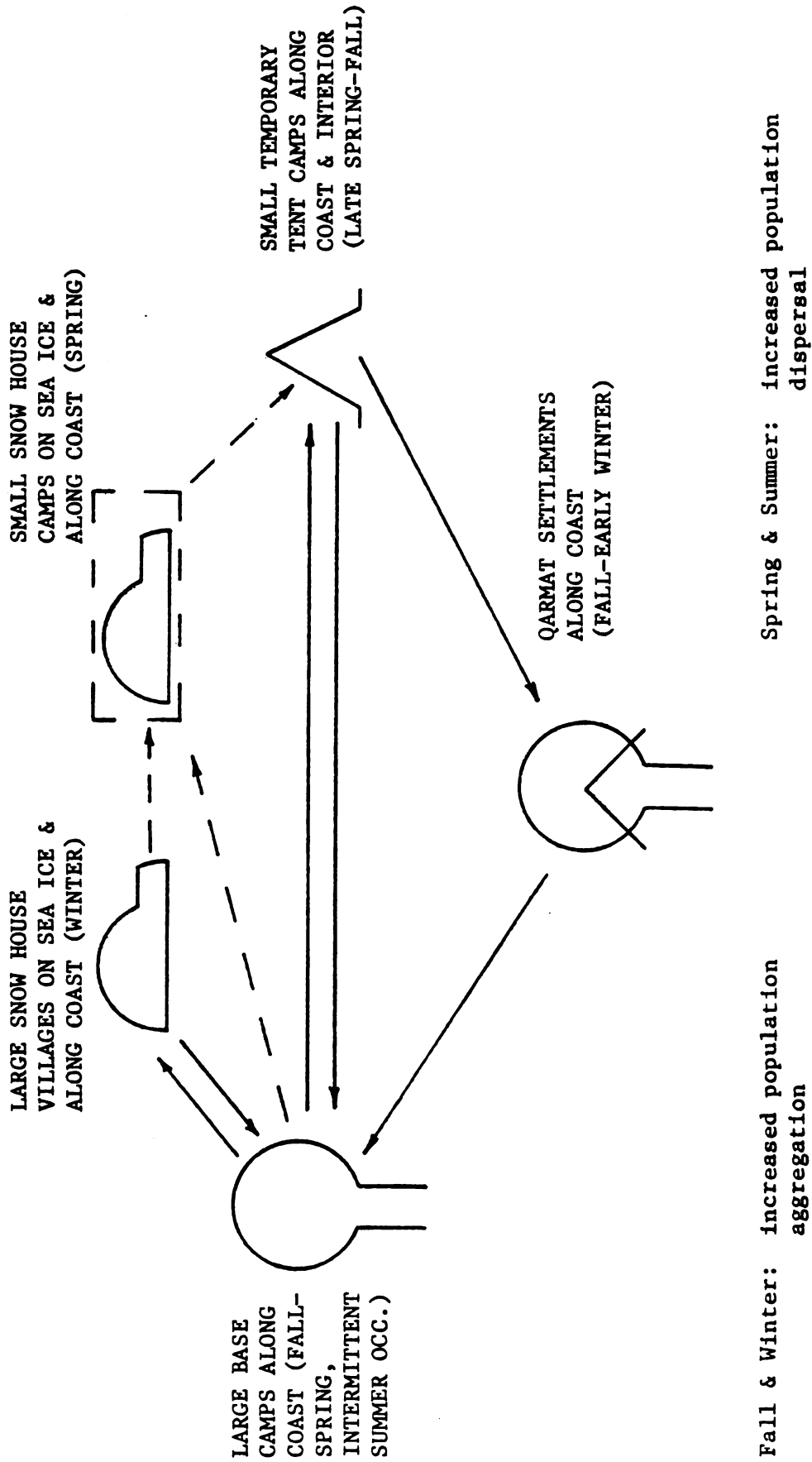


Figure 16: Developed Thule Phase Settlement Pattern

south coast of Baffin Island did not really begin until the establishment of the Spicer Island whaling station around 1880 and the Hudson's Bay post at Lake Harbour in 1909. Bilby (1923: 24) mentions both pipes and scented soaps as being popular in Lake Harbour in the first decade of the present century. While the kaolin pipe stem fragment is not particularly diagnostic, the tin can is probably not earlier than the late nineteenth century. The materials associated with House 9 therefore probably represent a late 19th-early 20th century occupation.

Cultural Reconstruction

Resource Procurement Artifacts

Only two resource procurement artifacts were found in this component. These were an ivory bird dart side prong and an end fragment of a wood bow.

Transportation Artifacts

A single whale bone sled shoe fragment was also found. None of the other artifacts was indicative of subsistence activities or seasonality.

Faunal Remains

A small faunal sample was collected from this house, in which phocid seals, bearded seals, walrus, caribou, canid, and fox were identified (Table 9). A few clam shells were also found.

Despite the small size of the faunal sample, quite a few phocid seals are represented. A minimum of 17 individuals was counted, and of these there are at least five yearlings, two juveniles, and three adults (Table 11).

Two caribou were also identified; one is an adult and the other

a sub-adult.

With the exception of the seals, all of the species identified in this sample are represented by only a few bones each. It is difficult to reconstruct procurement systems on the basis of the limited faunal data and even scantier artifact data recovered from this component. However, the age classes represented by the seal and caribou remains are most suggestive of late spring or summer hunting activities.

Settlement Type

House 9 was without question a tent-covered qarmat structure. As noted above, its brief occupation probably took place during the late spring or summer. Since other structures similar to this one were noted at Okivilialuk, it may have been that a few families camped at this site for a time during the early summer. In any case, the settlement was undoubtedly small and of relatively short duration.

Summary

(1) Based on the historic artifacts and the items they represent (scented soaps, tobacco pipes), a late 19th or early 20th century date may be inferred.

(2) Because of the limited number of artifacts and faunal remains recovered from this component, only the following procurement systems can be identified:

- (a) Caribou Hunting (late summer, fall?, winter?)
- (b) Onshore Small Game (and Bird?) Hunting (summer, fall?)
- (c) Open Water Bird Hunting (summer, fall?)
- (d) Onshore Collecting (summer, fall)
- (e) Beach Zone Collecting (summer, fall)

In addition to these, seal hunting and walrus hunting were also carried out.

(3) House 9 represents a tent-covered qarmat dwelling, probably associated with a short-term late spring or summer occupation at the site.

Okivillialuk House 8--Upper Component

House 8 at Okivillialuk contained two cultural components extending throughout the interior of the house and the entrance tunnel. The upper deposit, extending from just below the modern sod cover to the buried sod zone overlying and sealing the Thule component, was a thick, heterogeneous layer of rocks and soil which contained both traditional as well as historic artifacts. Among the European artifacts it appeared that both very recent as well as earlier historic items were found. This in addition to the heterogeneous nature of the deposit suggests that House 8 was occupied on several occasions throughout the historic era. In all, 185 artifacts were found (Table 8).

Dating

None of the traditional artifacts are useful for determining the age of this component, although all of them are generally characteristic of a typical late Thule-historic period assemblage. However, several Euro-Canadian artifacts shed light on the chronological position of this component.

One broken prismatic blade gunflint was found. This specimen is made on honey colored or "beeswax" flint, and exhibits parallel top and bottom surfaces. This type of gunflint most likely dates to the 19th century (Witthoft 1966). Ross (1975: 97) notes that the introduction of

firearms into the Hudson Bay-Hudson Strait area coincided with the establishment of trading posts in the area during the first half of the 19th century. Interestingly, Ross also points out that flintlock rifles were popular in the Arctic until the 1890s when breech loading rifles first became available. Although the development of percussion cap rifles preceded the breech loading guns, the former were never popular in the Arctic because they were far more troublesome to prepare for firing than the flintlock rifles.

Three brass cartridge shell casings were also found; these are all short with cylindrical sides and an unmarked, flat bottom. Standardized cartridges such as these were not manufactured until the last quarter of the 19th century (Lewis 1972: 1-2).

Four machine made nails with square shanks, and eleven machine made wire nails were found. The square nails post-date the mid-19th century while the wire nails are probably fairly recent (Nelson 1963).

A variety of historic ceramics was recovered. Almost all of these are white glazed, fine earthenwares representing cups, bowls and plates. Some have monochrome or polychrome transfer print designs. One bowl has a gaudy pink glaze with a red, white, gold and silver floral design. These ceramics probably date to the early part of the present century, and were doubtless obtained from the Hudson's Bay company store in Lake Harbour.

A few additional items found in the Upper Component of House 8 are more recent in age. These include a primus stove burner plate support, a cast iron frying pan fragment, and a piece of a hard rubber comb.

Most of the Euro-Canadian artifacts date to a period no earlier

than the mid-19th century and extending into the earlier part of the present century. Several items not specifically discussed above, including various pieces of hardware, utensils, window glass and bottle glass fragments, a kaolin pipe fragment, beads, and various scraps of metal, would all easily fit within this general period of time. Since many of these items were found even in the lowest levels of the Upper Component deposit, it is likely that the traditional artifacts also found were used during this historic period, rather than representing an earlier Thule occupation. This is further supported by the presence of a few items, such as a bow drill bit fashioned out of a nail, which indicate some continuity of form and function in the material culture despite the introduction of new materials.

A few items indicate a more recent utilization of House 8, perhaps as a temporary seasonal tent foundation. Since these items were so few, no attempt is made to separate earlier and more recent historic occupations in this component.

Cultural Reconstruction

Resource Procurement Artifacts

Several artifacts from this component reflect the persistence of traditional hunting technology into the historic era.

Three slate endblades were found, two relatively small but one large enough to have fit a large harpoon or a lance. These items represent the harpoon/lance complex. One wood float bar and a float mouthpiece stopper are more specifically related to the seal skin float gear associated with the procurement of large sea mammals in the open water. A single wound pin, on the other hand, is associated with sea ice hunting.

Three pieces representing the bow include two antler lashing braces used to bind together the pieces of a compound bow, and a wood bow end fragment.

Important historic period additions to the hunting technology from Euro-Canadian contact include the gunflint, cartridge casing, and a shotgun stock brace. Firearms are used in a wide variety of hunting activities, potentially replacing the numerous species- and habitat-specific weapons comprising the traditional hunting technology. Such technological changes have broader implications regarding the actual techniques of resource procurement and the requisite skills and knowledge a hunter must possess in order to successfully employ those techniques. Thus the replacement of the traditional subsistence technology by firearms necessitates major changes in many aspects of traditional procurement systems. Perhaps it is because of this that we see the persistence of traditional technology and techniques for a considerable length of time subsequent to the introduction of firearms in this region.

Transportation Artifacts

A single whale bone sled shoe fragment was found in this component, indicating travel by means of the komatik during the colder seasons.

Maintenance, Manufacturing, and Processing Artifacts

One snow probe ferrule is associated with the construction of snow block shelters and houses during the winter and early spring. Snow houses were the major winter dwelling of the historic era (Boas 1888, Bilby 1923) until they were replaced by timber-framed, canvas covered qarmats as the materials necessary for building these structures

became increasingly available. Since that time, snow houses have been used primarily as temporary overnight shelters during hunting trips and travel excursions.

Faunal Remains

As previously mentioned, the faunal sample from this component is not included in the present analysis. However, we may note that there were quite abundant remains in the midden, and phocid seal, bearded seal, walrus, caribou, canid, unidentified small mammals, and unidentified birds are represented in the collection.

Settlement Type

The cultural midden associated with this component contained a large number of artifacts and faunal bones, indicating that House 8 was occupied for more than just a short period of time during the historic era. As noted above, the historic artifacts also indicate that a considerable length of time is represented, from the mid-19th century well into the 20th century. Therefore, a series of several sequential occupations may be represented. This suggestion is supported by the heterogenous nature of the deposit found in this component. Multiple hearth layers and several discontinuous areas of horizontal stone slabs found at various levels within the upper midden deposit all indicate periodic refurbishing and intermittent occupation of House 8, probably as a garmat.

The artifacts are not particularly revealing as to the nature of the historic period utilization of House 8, but they are consistent with an interpretation of this as a temporary fall-early winter garmat settlement.

Summary

(1) The imported Euro-Canadian artifacts suggest primarily a mid-19th century to early 20th century date for the utilization of House 8 during the historic period. Also, several artifacts indicate even more recent utilization, probably within the past few decades.

(2) Despite the introduction of a variety of new items to the material inventory of Baffinland Eskimos as a result of contact with Euro-Canadians, much of the traditional subsistence technology remains in use well into the historic period. From these items we may reconstruct the following procurement systems:

- (a) Breathing Hole Seal Hunting ? (winter)
- (b) Floe Edge Sea Mammal Hunting ? (winter, spring)
- (c) Open Water Sea Mammal Hunting (summer, fall)
- (d) Caribou Hunting (late summer, fall, winter)
- (e) Onshore Small Game and Bird Hunting (summer, fall)
- (f) Onshore Collecting (summer, fall)

(3) The Upper Component of House 8 at Okivilialuk was most likely occupied as a tent covered qarmat, probably for several weeks during the fall or early winter.

Talaguak House 2--Upper Component

As with House 8 at Okivilialuk, in House 2 at Talaguak there were also two stratigraphically separated occupational components. Each of these components was clearly associated with a separate flagstone floor in the interior portion of the structure. In the entrance tunnel no separate floors were found but a buried sod horizon separated the Lower and Upper Components. A total of 184 artifacts (Table 8) and 3,395 faunal bones (Table 9) was associated with the Upper Component. Both

traditional and imported Euro-Canadian artifacts were found, indicating that the period of deposition occurred during the historic period.

Dating

One ivory harpoon head was found in this component. It is flat with a V-shaped base, a partially closed, rounded socket with drilled lashing holes, and a transverse line hole (KeDq-2:596, Fig. 75: e). The distal tip is broken but there is a portion of the endblade slot remaining, which was out parallel to the line hole. This specimen resembles in part both the "flat toggle harpoon head" described by Holtved (1944: 191 and Plate 4, 27-31) and the Thule type V described by Mathiasen (1927a: 148 and Plate 2, 3). These harpoon heads appear rather late in the Thule culture sequence of the eastern Arctic, and continue in use well into the historic era. A similar example was found by Schledermann at the Anarnitung Site in Cumberland Sound, at a level dating to the recent end of the A.D. 1350-1650 period of occupation (Schledermann 1975: 91-95 and Plate 3, 1).

Several imported Euro-Canadian artifacts were collected from this component, some of which provide information on the age of this component. Five brass cartridge shells were found which closely resemble those from Okivillialuk House 8. As noted previously, these must date after 1875. A .22 calibre shell also found is not different from shells that can be purchased today in Lake Harbour.

Two square shank, machine cut spikes were found; these would post-date the mid-19th century (Nelson 1963). A third spike has a diamond shaped, hand-hammered head. This specimen may be earlier, dating to the first quarter of the 19th century (Nelson 1963).

Relatively few historic ceramics were found in this component.

One white glazed ironstone rim fragment with a green transfer print design is probably no earlier than the late 19th century.

Quite a few kaolin pipe fragments were recovered, but unfortunately most are plain and of those that do bear decorations most of these are too obscured to permit identification. One bowl fragment has a single roulette just below the rim. All of the bowl-stem junctions exhibit a 90° angle. The stem fragments vary from round to oval in cross-section, and all have holes about 2 mm in diameter. Based upon a very subjective assessment, these fragments probably date no earlier than the mid-19th century.

To summarize, the historic artifacts found in the Upper Component of House 2 all fall within the period beginning in the early 19th century and extending into the present century. Most of the items pre-date the 20th century, however, and only a few could not have been used during the 19th century (e.g. the .22 calibre shell). The traditional artifacts comprise a much larger proportion of the artifact sample from this component than do the historic items. This along with the presence of the Thule harpoon head suggests that the major period of occupation represented in this component may be a few years earlier than at Okivillialuk, perhaps dating to the mid- or late 19th century.

Cultural Reconstruction

Resource Procurement Artifacts

As in the historic component of House 8 at Okivillialuk, the traditional artifacts found in this component illustrate the continued importance of several resource procurement implements well into the historic era.

The harpoon head, seven slate endblades, five foreshaft fragments,

and two finger rests all belong to the generalized harpoon/lance complex. Two fixed foreshafts are associated with the ice hunting harpoon characteristically used during the winter and early spring. A moveable harpoon foreshaft, three wood float bars, two float mouthpieces, and four mouthpiece stoppers all are associated with the summer harpoon/seal skin float complex used during the open water season to hunt large sea mammals from kayaks.

A bird dart side prong, a dart butt ferrule, and an inflation nozzle for a harpoon dart bladder float all represent additional items used in open water kayak hunting.

Quite a few items were found representing the bow and arrow complex. These include a lashing support and a bow end fragment, a possible marline spike, a feather-cutting board, three arrowheads, and a quiver handle.

Miscellaneous hunting items associated with the procurement of birds include a bola ball, two gull hooks, and a sling handle fragment. A possible net weight may represent fishing.

The addition of firearms to the traditional subsistence technology is also represented by the presence of the cartridge shell casings.

Transportation Artifacts

Four artifacts associated with komatik travel include a dog harness trace buckle, a draught line toggle, and two whale bone sled shoe fragments.

Maintenance, Manufacturing, and Processing Artifacts

None of the artifacts classified in this category are necessarily indicative of seasonally specific activities. However, several skin

working artifacts were found, including a caribou scapula scraper, a skin softener, three awls or bodkins, two skin thimbles, a brass thimble, a steel ulu blade, and an ivory needle case containing a steel needle. These items may indicate that the preparation of winter caribou skin clothing was an important activity during the time this component was occupied. This is supported by the large number of caribou bones that were found (see below).

Faunal Remains

A very large sample of faunal bones was collected from this component. In this sample we identified phocid seals, bearded seals, walrus, caribou, polar bear, canid, fox, and various birds (Table 9 and 10).

At least 48 individual phocid seals are represented in the faunal collection. Nine of these were classed as yearling, five as juvenile, and eighteen as adult (Table 11). Examination of the mandibles revealed the presence of at least two species: ringed seal, Phoca hispida (18 left, 10 right), and harbour seal, Phoca vitulina (1 right). Three additional phocid mandibles were too eroded for specific identification. One left mandible of a bearded seal, Erignathus barbatus, was also identified.

The large number of adult seals positively identified in this sample is somewhat surprising in view of the fact that in most other components sub-adult seals are in the majority. With traditional technology and procurement systems we might suspect a heavier emphasis on breathing hole seal hunting in winter. However, far more open water hunting artifacts were found in this component. Alternatively, these data may reflect the effects of the introduction of firearms, which

greatly increase the potential number of seals that can be obtained during the open water season.

In addition to all of the phocid seals identified in this sample, there are at least five bearded seals and one walrus; these represent considerable additional amounts of meat. It may also be important to note here that while the introduction of firearms may have had significant impact on open water phocid seal hunting, the procurement of large sea mammals, especially walrus, still requires the use of the summer harpoon and seal skin float complex (Beubier 1972).

A minimum of seven caribou were identified in the faunal sample from this component, which is more than were found in any other component except for the Lower Component (Classical Thule phase) of this house. At least one sub-adult is represented. The importance of caribou hunting as is suggested by these remains is further supported by the significant number of artifacts found representing the bow and arrow complex.

Other land mammals identified in the faunal sample include at least one polar bear, three canids, and three foxes, in addition to an unspecified number of unidentified small mammals.

Three families of birds are represented: Anseriformes (waterfowl), Charadriiformes (gulls), and Galliformes (Lagopus sp., ptarmigan).

Finally, quite a few clam shells were found in this component.

Settlement Type

Even during the historic period the structural configuration of House 2 seems to have been fairly substantial and typical of the Thule semi-subterranean winter house. The artifactual and faunal evidence indicate an occupation beginning perhaps in late summer and extending into the winter. The density of artifacts and bones in this component

also suggest an occupation of some duration and intensity (Table 15). Therefore, this component most likely represents a base camp settlement occupied for several months beginning in the late summer or fall.

Summary

(1) The imported Euro-Canadian artifacts found in this component indicate a mid- to late 19th century occupation. This component is probably somewhat earlier than the Upper Component of House 8 at Okivilialuk. Most of the traditional material culture seems to have remained intact despite the introduction of firearms and other important items.

(2) The following resource procurement systems have been identified:

- (a) Breathing Hole Seal Hunting (winter)
- (b) Floe Edge Sea Mammal Hunting (winter, spring)
- (c) Basking Seal Hunting ? (spring)
- (d) Open Water Sea Mammal Hunting (summer, fall)
- (e) Polar Bear Hunting (winter?, spring?)
- (f) Caribou Hunting (late summer, fall, winter?)
- (g) Onshore Small Game and Bird Hunting (summer, fall)
- (h) Open Water Bird Hunting (summer, fall)
- (i) Fishing (spring?, summer?, fall?, winter?)
- (j) Onshore Collecting (summer, fall)
- (k) Beach Zone Collecting (summer, fall)

(3) This component represents a base camp settlement occupied from late summer or fall through winter.

Talaguak House 7

This was a small, single sleeping platform structure situated at the edge of a large pond in the center of the Talaguak Site. Extending throughout the interior of this house and into the entrance tunnel was a homogeneous cultural deposit in which we found 51 artifacts (Table 8) and 693 faunal bones (Table 9). Both traditional and imported Euro-Canadian artifacts were associated with this deposit, indicating an occupation during the historic period.

Dating

A single harpoon head was found in House 7. This is made of ivory and was quite similar to the Thule type V, being somewhat flatter and having a foreshaft socket only partially closed (KeDq-2:1079, Fig. 88: a). This specimen also has a remnant of an iron endblade still affixed to the distal tip. This type of harpoon head has been discussed above, and is generally considered late Thule or historic in age.

Two small glass beads, a piece of sawn board, and a wick trimmer made on a piece of wood with paint on it comprise the sample of historic artifacts found in this house. None of these items is useful for determining a specific date for this component, but they do affirm that the occupation of House 7 took place during the historic period.

Cultural Reconstruction

Resource Procurement Artifacts

The harpoon head, one slate endblade, a "loose" lance head, and four foreshaft fragments represent the generalized harpoon/lance complex. The lance head may be associated with a moveable foreshaft lance. A moveable foreshaft was found, in addition to a moveable lance head

fragment. These are functionally specific to open water hunting. The ivory float mouthpiece is also associated with the open water hunting harpoon/float complex.

Maintenance, Manufacturing, and Processing Artifacts

One scapula scraper, one boot creaser, and two rubbing stones represent skin working activities. While not necessarily indicative of any particular season, the presence of caribou bones in the faunal sample suggests the possibility of caribou skin processing during fall.

Faunal Remains

This small house contained not only an interesting assemblage of artifacts but an interesting array of faunal bones as well. Phocid seal, bearded seal, walrus, caribou, canid, fox, hare and birds are represented (Tables 9 and 10).

At least twelve phocid seals are represented, most of which are sub-adults: seven are classed as yearling, two as juvenile, and only three as adult (Table 11). Three right mandibles were also found; all of these represent ringed seal, Phoca hispida. The high proportion of sub-adult seals suggests three possibilities: basking seal hunting in spring, in which newborn seals are easy prey; open water sea mammal hunting in summer, in which younger seals are also easier prey due to their inexperience and curiosity; or winter floe edge hunting, since sub-adult seals congregate at the floe edge during this season. The artifact sample is too limited in size to be of much help in determining which of these procurement systems actually is represented. However, the lack of any definite ice hunting gear, the presence of the summer harpoon and float complex, and the presence of small mammals and birds

(ptarmigan) in the faunal sample may favor a warm season, open water hunting interpretation.

The presence of at least four caribou in the faunal sample suggests late summer-fall hunting, although winter hunting is also a possibility. The presence of the skin working tools mentioned above may support the fall season interpretation.

Literally hundreds of clam shells were found on top of the sleeping platform just beneath the sod. Perhaps these represent a final meal prior to the departure of the occupants of this house to another settlement.

Settlement Type

Though small, House 7 is structurally quite typical of the Thule winter house. Yet neither the artifacts nor the faunal data strongly support a primary winter occupation. These data point instead to a late summer to fall or early winter occupation. However, the location of this house at the edge of a large pond is troublesome, since at present the pond would have to be frozen in order for the house to be livable. There is some evidence that this pond, or at least its present large size, is a more recent phenomenon, though, since several rocks from the end of the entrance tunnel extend for nearly a meter into the water. This suggests that at the time the house was built the pond did not extend in front of House 7. One possible explanation for the growth or appearance of this pond in recent times is that during the Neo-Boreal climatic episode a large sub-surface ice sheet formed on this spot, which subsequently melted.

House 7 indeed presents problems in the identification of the settlement type it represents. The most reasonable interpretation is

that this house was associated with a small garimat settlement occupied at some point between late summer and early winter.

Summary

(1) Although most of the artifacts as well as the house style represented by this structure would easily fit the later Thule era, the presence of a few imported Euro-Canadian artifacts places the time of the occupation within the historic period. Although none of the artifacts suggest a particular date, this component may be earlier than the Upper Components of Talaguak House 2 and Okivilialuk House 8.

(2) The traditional resource procurement systems represented in this component include:

- (a) Breathing Hole Seal Hunting ? (winter)
- (b) Floe Edge Sea Mammal Hunting ? (winter, spring)
- (c) Basking Seal Hunting ? (spring)
- (d) Open Water Sea Mammal Hunting (summer, fall)
- (e) Caribou Hunting (late summer, fall, winter?)
- (f) Onshore Small Game and Bird Hunting (summer, fall)
- (g) Onshore Collecting (summer, fall)
- (h) Beach Zone Collecting (summer, fall)

(3) This component is best interpreted as representing a small garimat settlement occupied during the fall or early winter.

Summary: Historic Phase

The most recent components at Okivilialuk and Talaguak contain both traditional as well as imported artifacts, the latter obtained by Inuit through contact with Euro-Canadians. Based upon several of the historic items, these components are estimated to date primarily to the

mid-19th to early 20th centuries. Despite the introduction of many new material items (in addition to a variety of other changes brought about during this period, e.g. Balikci 1964; Hughes 1965; Vallee 1967; Graburn 1969; Ross 1975) the archaeological evidence from southern Baffin Island indicates that relatively little change occurred in the subsistence-settlement system from Developed Thule to historic times.

The most important addition to the subsistence technology undoubtedly was the introduction of firearms. These weapons may be used to hunt a wide variety of land and sea mammals formerly accessible only through the use of a quite specialized technology. Consequently, one important effect firearms may have upon their introduction is to render many (but not all) of the traditional hunting implements unnecessary. Obviously, such a change in the subsistence technology would bring about other changes in hunting techniques: the processes of stalking, spotting, shooting and retrieving game all take on different dimensions when guns are used; the number of hunters required for some activities may change; and the knowledge and skills required to successfully pursue particular species under a variety of conditions may be different. These changes may in turn affect other aspects of culture. For example, rifles may increase the effectiveness of individual hunting activities, so that cooperative hunting groups may decrease in importance. This may lead to a change in the organization of domestic groups where nuclear families become increasingly independent and extended family or multi-family camps less necessary. As argued in Chapter Four, domestic groups play a particularly important role in the integration of subsistence-settlement systems in the Arctic, so any changes in this aspect of social organization may be especially profound in the long run.

Despite the potentially far-reaching effects of the introduction of firearms, however, these changes appear to have taken place only gradually on southern Baffin Island. At Okivilialuk and Talaguak practically all of the traditional hunting implements were found, demonstrating their continued use and importance well into the present century. Both the summer and winter harpoons, lances, dart gear, float gear, ice hunting gear, the bow and arrow, and a variety of small game and bird hunting equipment are represented in the artifact assemblages recovered from these historic components. It is interesting to note that a somewhat different pattern of material culture change transpired during the period along the Davis Strait coast of Baffin Island (Sabo 1979).

These artifacts along with the faunal remains permit reconstruction of all of the resource procurement systems previously identified for the Classical Thule and Developed Thule phases: breathing hole seal hunting, floe edge sea mammal hunting, basking seal hunting, open water sea mammal hunting, polar bear hunting, caribou hunting, onshore small game and bird hunting, open water bird hunting, fishing, onshore collecting, and beach zone collecting, all continued to be practiced well into the Historic era.

Calculation of the potentially available meat weights represented by the species identified in the Historic phase components demonstrates that the organization of the subsistence economy generally was quite similar to that of the Developed Thule phase. In the Historic phase components sea mammals account overall for 87.6% of the potentially available meat, whereas land mammals represent only 12.3% of the total (Table 14). Ringed seals and bearded seals were especially important; together these two species groups account for 69.4% of all potentially

available meat. Interestingly, although land mammals as a group contribute slightly less to the total subsistence economy historically than they did during Developed Thule times, the importance of caribou increases slightly, from 5.8% to 8.2% of the total amount of available meat.

These data on Historic phase subsistence are consistent with climatic/ecological conditions during this period, and the probable effects of these conditions upon critical animal resources. As discussed in Chapter Six, Little Ice Age conditions prevailed throughout much of this time period, drawing to a close only during the late 19th century. Adverse climatic conditions, characterized by periods of severe and unpredictable extremes, continued to affect tundra habitats and diminish the potential of terrestrial procurement systems such as caribou hunting. However, the slight increase in caribou hunting represented in the Historic phase components may indicate a return to somewhat more favorable conditions affecting these habitats. Another possibility is that the introduction of firearms resulted in some minor increase in the number of caribou that could be obtained by hunters during this period. Whether or not either of these explanations are sufficient to account for the slightly more abundant caribou remains found in these components, the change represented here (if indeed a change is represented) is too small to indicate any significant alteration of the resource procurement schedule established during the Developed Thule phase.

Conditions in the marine environment also seem to have changed little throughout this period of time. As in the past offshore marine habitats remained fairly stable even during periods of climatic stress, offering the most secure and reliable resource base. During the Historic phase sea mammal procurement systems continued to provide the greatest

proportion of potentially available foods, with ringed seals and bearded seals being an especially important resource. Given the climatic/ecological conditions of this period, the majority of seals probably were obtained through breathing hole seal hunting, floe edge hunting, and spring basking seal hunting, as was the case during the preceding Developed Thule phase.

In summary, the re-scheduling of procurement systems which took place during the Developed Thule phase established a subsistence organization which endured the stressful conditions of the Little Ice Age and remained relatively unchanged until well into the present century. This subsistence organization was somewhat more dependent upon sea mammals (and especially seals) than the earlier subsistence organization of the Classical Thule phase Eskimos, in which a greater reliance on land mammals is represented. It is perhaps significant that the subsistence economy of both the Developed and Historic phases as reconstructed from the evidence presented here is essentially the same as that observed by William B. Kemp among modern-day Inuit hunters of the Lake Harbour region (Kemp 1972, 1975).

The settlement pattern of the Historic phase also remained essentially unchanged from that of the Developed Thule phase. As seen in the case of House 2--Upper Component at Talaguak, the utilization of primary winter base camps situated along the coast still continued as one viable option. From historic accounts we also know that snow house villages out on the sea ice were another important winter settlement type. The continued importance of winter sea ice hunting as represented by the artifactual and faunal remains lends further support to the historic records pertaining to this aspect of the annual settlement pattern. Both

Okivillialuk House 8—Upper Component and Talaguak House 7 were interpreted as fall or early winter qarmat settlements, perhaps occupied prior to the move to the larger winter base camps and/or snow house villages along shore or out on the sea ice. Okivillialuk House 9 was interpreted as a warm season occupation, probably representing a small settlement of relatively short duration. Undoubtedly tent camps were common during the warmer seasons, as they had been for several centuries. From this settlement pattern we may also infer the same general cycle of annual demographic arrangement as exhibited during Classical Thule and Developed Thule as well as more recent Inuit populations: local band dispersal from spring to early fall, with individual household or small extended family camps most common, and aggregation during the winter at which time several households resided together at the larger settlements and cooperated closely in seasonal socio-economic activities. Figure 17 illustrates the Historic phase settlement pattern.

Summary of Thule Cultural Development on South Baffin Island

The earliest period of Thule occupation along the south coast of Baffin Island is represented by three components from Okivillialuk (House 8—Lower Component) and Talaguak (House 2—Lower Component, House 9). These components are intermediate in age between sites thought to represent the earliest migrants from Alaska into Canada and Greenland (i.e., Herschel Island, Vaughn, Jackson, Memorana, Lady Franklin Point, Bell Clare, Pembroke, M-1, Naujan, Skraeling Island, Ruin Island, Thule, Nugdlit), and the somewhat younger "classic" sites (i.e. Learmonth, Silumiut, Igluligardjuk, Karmarvik, Cape Smith, Crystal II, Mitimitalik). Based upon comparisons of harpoon head styles and associated radiocarbon

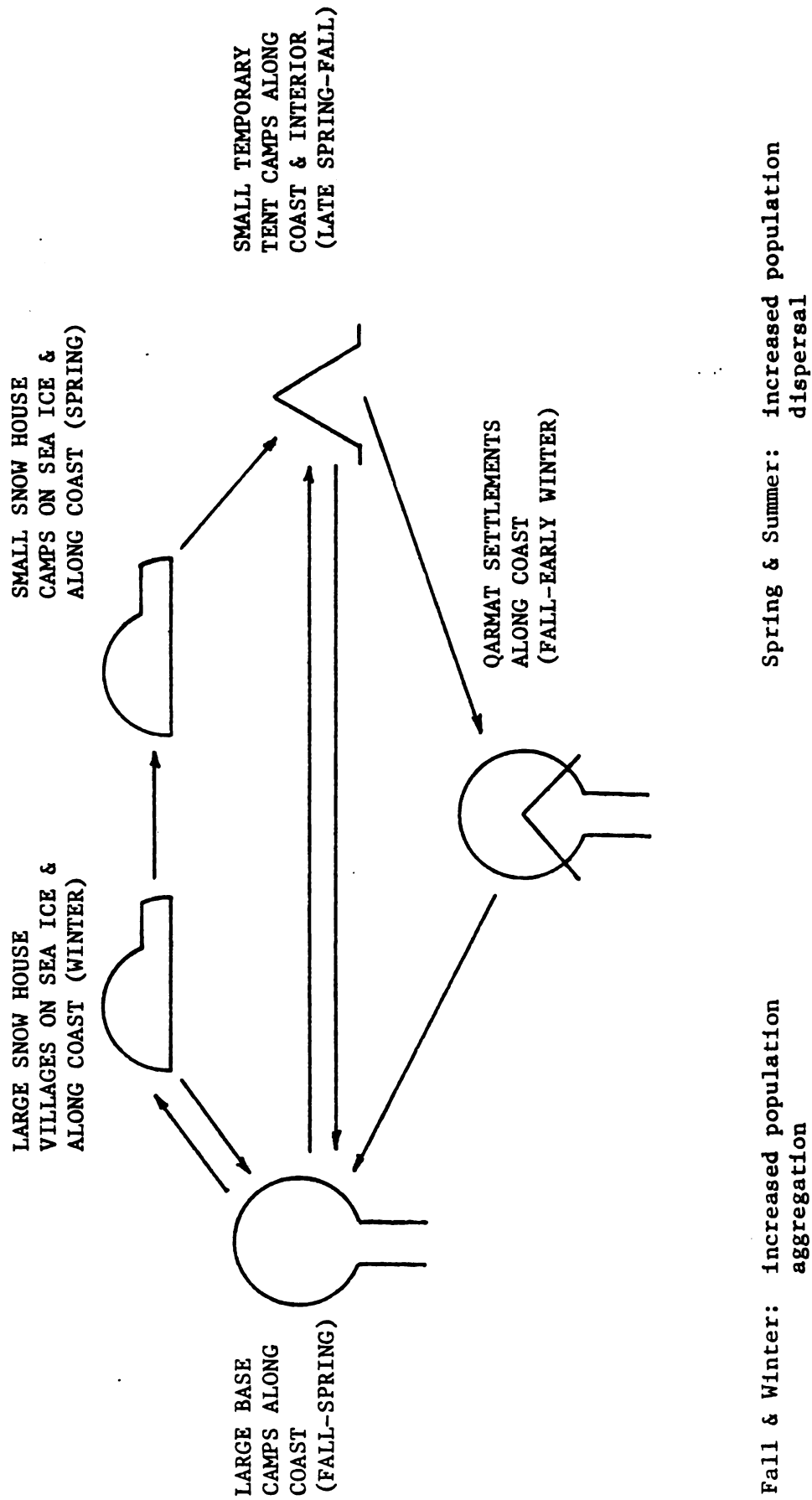


Figure 17: Historic Phase Settlement Pattern

dates, the Okivillialuk and Talaguak components representing this Classical Thule phase are estimated to date to ca. A.D. 1100. In general terms these components are similar to other early sites in Canada and Greenland which as a group represent a fairly homogeneous cultural complex.

The subsistence economy of the Classical Thule phase is based on a wide variety of resource procurement systems. These systems were organized into a seasonal order of importance or priority to provide both primary and alternative exploitative options. Seasonal scheduling placed the greatest emphasis on procurement systems which provided the most reliable returns given extant climatic/ecological conditions affecting the distribution, abundance, and predictability of critical animal species. During the Classical Thule phase, the climate was somewhat milder than at present; consequently, there was less summer drift ice, a shorter period of winter landfast sea ice, and in the tundra habitats greater ecological stability resulted from the favorable climatic conditions. The subsistence economy was based upon hunting small as well as large sea mammals (including bowhead whales) in the open waters during the summer, seals from the landfast sea ice or at the floe edge during winter and spring, and caribou and other land mammals in the interior or at places along the coast primarily during the summer and fall. Overall, sea mammals account for roughly 70% of the potentially available meat obtained by Classical Thule phase hunters, while land mammals account for the remaining 30% (Figure 18). Birds and various plant foods also contributed to the diet, but in such small amounts as to represent only a fraction of a percent of the total annual harvest. As discussed earlier in this chapter, it is exceedingly difficult to determine the

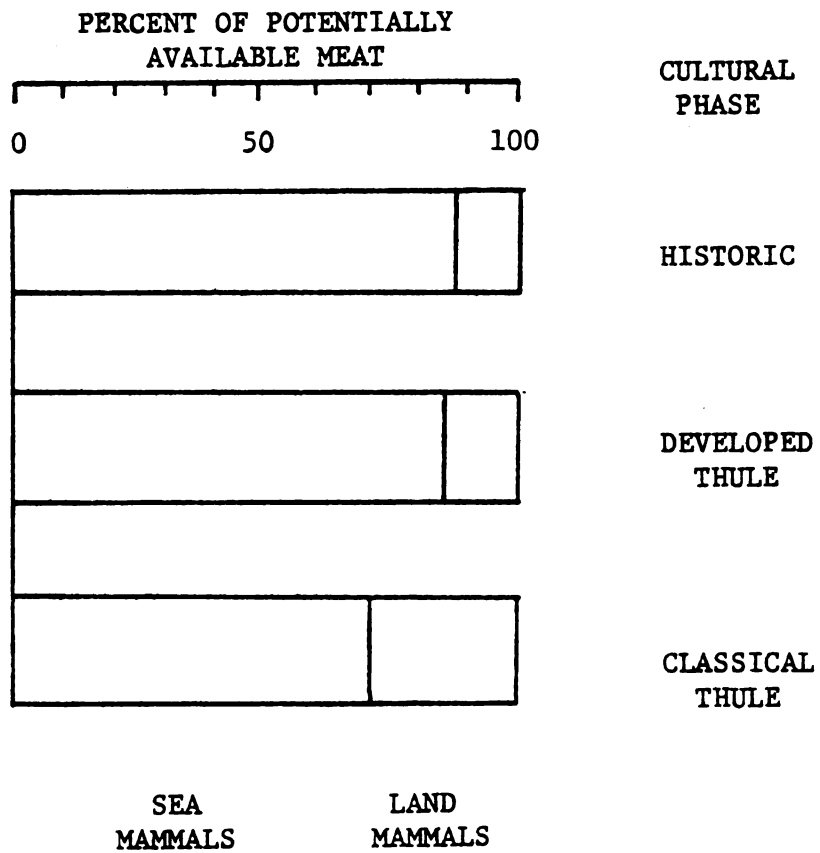


Figure 18: Comparison of Sea Mammal and Land Mammal Utilization by Cultural Phase

proportional contribution of bowhead whales to the subsistence economy. Although we cannot quantify the proportional amount of bowhead whale meat contributed to the annual food harvest, it is likely that this species was hunted during the Classical Thule phase, and therefore represents a potentially vast amount of additional food resources.

The annual settlement pattern was organized around a summer dispersal-winter aggregation dichotomy in the seasonal arrangement of the local population. Large base camps along the coast, comprised of several semi-subterranean sod, stone and whale bone houses, were the major settlement type during the winter season, at which time the largest aggregation of local band members occurred. Frequently, these sites were occupied from fall through spring, and in many instances it appears that a few people used these settlements even during the summer. Temporary snow house camps might also have been used during this period.

Small tent camps were established during summer months; these are located in various places along the coast and in the interior, the locations presumably selected in relation to situational factors affecting seasonal socio-economic activities. There may also have been fall-early winter qarmat settlements, but currently we lack specific information on this settlement type during the Classical Thule phase.

Following the initial Neo-Eskimo settlement of southern Baffin Island by the whale hunting Eskimos of the Classical Thule phase, certain adaptive adjustments in the subsistence-settlement system occurred in the context of changing ecological conditions brought about by the onset of the Little Ice Age. These adaptive adjustments are reflected in the archaeological data recovered from three components at Talaguak (Houses 5 and 11) and Itinapik (House 1). Based upon the harpoon heads found in

these components, the occupations they represent most likely took place between A.D. 1350 and A.D. 1650. Representing the Developed Thule phase along the south coast of Baffin Island, these components are roughly contemporaneous with regionally distinctive Thule manifestations in the Copper Eskimo area (McGhee 1972), the Netsilik Eskimo area (Van Stone 1962), the Baffinland Eskimo area in Cumberland Sound (Schledermann 1975), and with the Inugsuk culture in northwestern Greenland (Mathiassen 1930, Jordan 1979) and Ellesmere Island (Maxwell 1960).

The subsistence economy of the Developed Thule phase is based upon the same set of resource procurement systems identified for the preceding Classical Thule phase (Table 16). However, a re-scheduling of several procurement systems is clearly indicated. The hunting of bowhead whales appears to decline, although the pursuit of other large sea mammals during the open water season remains essentially unchanged. The procurement of phocid seals in the context of winter to spring sea ice hunting increases markedly, while the hunting of caribou declines in roughly equivalent measure. During the Developed Thule phase sea mammals now account for approximately 84% of the total amount of potentially available meat, while land mammals provide only about 16% (Figure 18). Birds are also represented in the faunal assemblages, plants undoubtedly were gathered during the warmer, snow-free seasons, and a new minor food resource may be indicated by the presence of clam shells.

The shift to an increased dependence on sea mammals, especially seals obtained during the winter and spring, is undoubtedly related to changing climatic/ecological conditions brought on by the Little Ice Age, and the effects of these changes upon critical animal resources. Increases in the amount of summer drift ice in the Hudson Strait probably

Table 16

Summary of Archaeological Evidence
For Resource Procurement Systems

System	Classical Thule Phase		Developed Thule Phase		Historic Phase	
	Artifacts	Fauna	Artifacts	Fauna	Artifacts	Fauna
Breathing Hole Seal Hunting	+	+	+	+	+	+
Floe Edge Sea Mammal Hunting	+	+	+	+	+	+
Basking Seal Hunting	+	+	+	+	+	+
Open Water Sea Mammal Hunting	+	+	+	+	+	+
Polar Bear Hunting	-	+	+	+	-	+
Caribou Hunting	+	+	+	+	+	+
Onshore Small Game & Bird Hunting	+	+	+	+	+	+
Open Water Bird Hunting	+	+	-	+	+	+
Fishing	+	-	+	-	+	-
Onshore Collecting	+	-	+	-	+	-
Beach Zone Collecting	-	-	-	+	-	+

affected the migratory patterns of bowhead whales, rendering them inaccessible to hunters stationed in the near-shore coastal waters. At the same time, decreasing annual temperatures resulted in an earlier growth of landfast sea ice in the fall and a later breakup in spring. An earlier solidification of the sea ice would allow hunters to re-schedule breathing hole and floe edge hunting to begin earlier in the season. As discussed in Chapter Three, the more extensive and longer-lasting sea ice would also have positive effects on the ringed seal population, thereby increasing the productivity of associated procurement systems. Conversely, the more severe and unpredictable climatic conditions of this period would have adversely affected tundra habitats, and species adapted to these habitats, such as caribou, would become increasingly unreliable as economic resources.

Concurrent with the re-scheduling of procurement systems during the Developed Thule phase are certain shifts in the annual settlement pattern. Winter base camp settlements along the coast continue to be important, and as before these settlements often are occupied from the late summer or fall season. However, it now appears that occupation did not always continue throughout the winter season. Instead, movement to other settlements, probably snow house villages out on the sea ice, begins to occur. Also during this period, the fall-early winter qarmat settlements are definitely represented; however, it is not known whether movement from these settlements was first to base camps or directly to snow house villages.

As previously was the case, during the summer months small groups established temporary tent camps in various places along the coast as well as in the interior. The general pattern of summer dispersal and

winter aggregation thus continues to structure the annual settlement pattern. In fact, the settlement shifts described above should not be overemphasized; the basic annual pattern is essentially the same as before with the addition of a new locational option out on the sea ice, and an increase in the utilization of snow houses.

The most recently occupied components excavated at Okivilialuk (House 8--Upper Component, House 9) and Talaguak (House 2--Upper Component, House 7) contained both traditional artifacts as well as imported items obtained by the Inuit through contact with Euro-Canadians. These Historic phase components, dated to the mid-19th to early 20th century period, represent the more recent cultural and genetic descendants of earlier local Thule populations, and reveal some of the effects of western contact not well documented in the historical literature.

One of the more significant additions to the subsistence technology seen in the artifact assemblages from these components is the introduction of firearms. However, despite the profound effects these new weapons might potentially have brought about, we see that along the south coast of Baffin Island the traditional subsistence technology, and its associated procurement systems, remain intact well into the present century. In fact, the resource procurement schedule is much the same as it had been for the preceding several hundred years. The only noticeable changes are that phocid seal and bearded seal procurement systems become slightly more important, large sea mammal procurement in the open water becomes slightly less important, and caribou hunting also increases slightly. The overall economic organization is quite similar to that of the Developed Thule phase. In the Historic phase components sea mammals represent approximately 87% of the potentially

available meat, while land mammals account for the remaining 12% (Figure 18). Birds, clams, and various plant foods continued to contribute seasonal variety to the diet.

Apparently, the re-scheduling of procurement systems which occurred during the Developed Thule phase in response to climatic/ecological changes of the Little Ice Age, provided sufficient adaptability not only during that period of time but during the succeeding Historic era as well.

Also essentially unchanged from Developed Thule times is the settlement pattern exhibited by Historic phase components. This archaeological evidence supports historic references to fall-winter settlement at coastal base camps with later movement out onto the sea ice in snow house villages for part of the winter. Qarmat settlements appear to have been occupied during the late summer and fall, and possibly during the spring or early summer as well. Summer tent camps were also occupied by smaller groups of people; these settlements are situated at various places along the coast and in the interior. As in the preceding cultural phase, the dichotomous pattern of seasonal population aggregation and dispersal continues to be the basic demographic factor around which the annual settlement pattern was organized.

CHAPTER EIGHT

THULE ADAPTATION AND CULTURAL DEVELOPMENT ON SOUTHERN BAFFIN ISLAND

The subsistence-settlement system shifts identified in the preceding chapter for the successive cultural phases follow closely the general trends of changing exploitative potential of marine and tundra species throughout the past millenium. However, several important questions remain to be answered: What were the specific adaptive strategies associated with these shifts in economic orientation? What adaptive mechanisms and processes account for the specific aspects of stability and change observed in the Thule ecosystem throughout this period of time? Finally, how does the Thule ecosystem compare, in terms of basic organizational features, with other possible adaptive systems (e.g. Dorset), and what broader implications might we derive from such comparison? In order to provide some tentative answers to these questions, we turn now to a consideration of the hypotheses initially presented in Chapter Six.

Adaptation to Long-Term Environmental Change

The first hypothesis considers long-term environmental change resulting from a cumulative, directional series of short-term, small scale events. Accordingly, this hypothesis states that flexibility in resource procurement scheduling, settlement patterns, and demographic arrangements should be anticipated in response to climatic/ecological

changes affecting the distribution, abundance, and predictability of economically important animal species. The archaeological implications of this hypothesis, given the sequence of paleoenvironmental changes outlined for the southern Baffin region, are that we should expect to find evidence of (1) periodic re-scheduling of procurement systems; (2) concomitant re-organization of the annual settlement pattern in relation to changes in the resource procurement schedule, if those changes cannot be accommodated within the extant settlement pattern; and (3) possible shifts in demographic arrangements as part of the re-organization of the annual settlement pattern.

Evidence of Procurement System Rescheduling

The rescheduling of procurement systems, as viewed in this study, involves primarily shifts in the seasonal duration and intensity of specific hunting or extractive activities. This permits the maintenance of an adequate and satisfactory harvest of critical resources in the face of ecological changes affecting those resources. Faunal remains and artifacts associated with specific resource procurement systems provide archaeological data relevant to this proposition.

The reconstruction of resource procurement systems from artifacts and faunal remains found in archaeological components in the Lake Harbour region demonstrates that throughout the period of Thule occupation the subsistence economy was based upon eleven critical resource procurement systems (Table 16). The only procurement system not identified for all cultural phases is beach zone collecting; no evidence was found for this system in Classical Thule phase components. This may simply be a matter of sampling error or preservation factors, but regardless of its actual presence or absence this is a minor subsistence

activity which provides some additional variety to the diet but can hardly be considered essential to the maintenance of an adequate resource base.

However, analysis of the faunal remains by cultural phase clearly reveals that the relative importance of some major procurement systems (i.e. those contributing considerable amounts of food resources to the annual harvest) did change through time (Tables 12-14 and Fig. 18). The harvest of ringed seals increases during each cultural phase, with the greatest increase taking place during the Developed Thule phase. Bearded seals also increase steadily in importance through time. Both of these species are taken primarily during the winter and spring, in the context of breathing hole and floe edge hunting as well as stalking on the sea ice during spring.

The hunting of walrus appears to remain stable through time, ranking equally in importance with bearded seal hunting, as measured by the total potential amount of meat represented by the minimal number of individuals per cultural component. Beluga whales account for only about 6% of the total available meat represented in the Classical Thule phase components and 3.5% in the Developed Thule phase components. No beluga were identified in the Historic components. However, since butchering of large sea mammals such as these is typically performed away from the settlements, with only the choice pieces of meat brought back to the camp, these figures are probably not very meaningful.

The significant decline of bowhead whale hunting by Developed Thule phase Eskimos, as inferred from the general lack of whale bone and baleen in those components, may indicate an important economic reorientation. Because of the potentially great amount of meat represented by

this species, a shift away from the utilization of bowhead whales would seem to carry with it profound economic consequences; however, as previously discussed, we cannot presently say how important whales ever were as a food resource. In fact, Freeman (1979) has recently argued that bowhead whale hunting may never have been important to the subsistence economy of Thule Eskimos (but see McCartney, 1980 for an alternative interpretation of the evidence). The resolution of this issue will surely place our attempts to reconstruct prehistoric Thule economies and patterns of economic change on firmer ground. In the present context, however, we can only view the evidence at hand as representing possibly one of several shifts in subsistence orientation through time.

Turning to the land mammals, we see that caribou is a major resource during the Classical Thule phase, accounting for nearly 20% of the total available meat in these components. However, caribou declines markedly as a food resource during the Developed Thule phase, and increases again only slightly during the Historic phase. None of the other land mammals is as economically important as caribou, and the level of their utilization appears to remain fairly constant through time.

In summary, the faunal remains show that throughout the preceding millenium procurement systems associated with winter-spring seal hunting, bowhead whale hunting, and caribou hunting changed in their relative importance during each major cultural phase. The overall effect of these shifts was that through time Thule Eskimos came to rely increasingly upon sea mammals, particularly seals, as the basis of their subsistence economy.

As noted in Chapter Six, such changes in the relative importance of specific procurement systems might also be reflected by changes in

the frequencies of artifacts associated with those systems. Changes in artifact frequencies are seen, but as expected the sample size is far too small for any meaningful comparisons to be made.

The evidence summarized here, then, clearly supports the proposition that the re-scheduling of procurement systems was an important adaptive strategy among Thule Eskimo populations inhabiting the south coast of Baffin Island. After the initial phase of Thule settlement in the Lake Harbour region, periodic re-scheduling of primarily winter-spring seal hunting and late summer-fall caribou hunting resulted in an ever increasing dependence upon the ecologically more stable marine environmental zone. As previously shown, these shifts in subsistence orientation are consistent with the climatic/ecological changes that occurred during this period of time, and permitted the maintenance of an adequate and satisfactory harvest of animal resources to support the local population. At the same time, the range of species that were utilized, as well as the basic technique by which these species were procured, remained essentially unchanged. It is through this maintenance of a broad range of procurement alternatives that flexibility in subsistence orientation was possible.

Evidence of Settlement Pattern Re-Organization

As argued in Chapter Two, the structure and organization of the annual settlement pattern is largely a function of the resource procurement schedule, both in relation to the location of hunting and settlement areas as well as the number of individuals required for or permitted by specific seasonal procurement activities. Therefore, changes in the resource procurement schedule may necessitate corresponding changes in the locations of settlements, the duration of particular settlement

occupations, or the timing of movement from one settlement to another. In extreme cases, the development of new settlement types may even be required.

In the Lake Harbour region, the annual settlement pattern during the Classical Thule phase included large base camps along the coast that were occupied primarily from fall through spring, and small summer tent camps presumably located at various points along the coast as well as in the interior regions where caribou, birds, and other animals could be obtained. Snow knives and snow probes found in Classical Thule phase components indicate that snow block dwellings were used, but for what purpose we are presently unable to determine. The intensity and duration of coastal base camp settlements, however, suggests that winter snow house villages on the sea ice were not a major settlement type. Although direct evidence of fall qarmat settlements along the south coast is lacking, we suspect that these also may have been part of the annual settlement pattern.

By the time of the Developed Thule phase, it appears that some changes in the annual settlement pattern had been made. Specifically, large snow house villages on the sea ice now appear to be a major winter settlement type. In addition, fall-early winter qarmat settlements are also in evidence. In some instances movement may even have proceeded directly from the qarmat settlements to the snow house villages. During Historic times we see a continuation of the basic settlement pattern established during the preceding Developed Thule phase.

These settlement shifts are consistent with changes in the resource procurement schedule noted above. The major factor affecting the settlement pattern is the increased reliance on winter-spring seal

hunting on and from the sea ice; consequently during Developed Thule times it becomes more expedient to establish winter settlements out on the sea ice, closer to the major hunting grounds. It is important, however, to recognize the nature of this settlement pattern shift in relation to the larger context of Thule cultural development in this region. What actually takes place does not represent any major change in the settlement pattern; rather, there is an increase in the importance of one locational option (the offshore sea ice) and one dwelling type (the snow house), both of which existed as available options even during the initial decades of the Classical Thule phase. Over time the trend was toward increased utilization of these options, as well as options in the timing of movements, size of settlements, etc., to provide greater adaptability in the face of changing climatic/ecological conditions.

Evidence of Shifts in Demographic Arrangement

In this study the concern with demographic arrangement has focused on the relative degree of population aggregation and dispersal which occurs at various times within the annual cycle. This aspect of demographic arrangement in part determines the structure and organization of the annual settlement pattern, but like the settlement pattern it too is largely a function of the requirements and possibilities of the resource procurement schedule. If changes in the resource procurement schedule occur, and result in concomitant changes in the annual settlement pattern, then we might anticipate additional related changes in the annual pattern of population aggregation and dispersal.

One line of archaeological evidence which may bear upon this proposition is the size and arrangement of house structures at Thule winter base camps. These may indicate changes in the size of typical

residential groups (see e.g. Schledermann 1975, 1976a, 1976b). Also, the depth of midden deposits in Thule houses and the density of refuse contained within these deposits may also reflect the intensity and duration of occupation, which in turn may be related to the actual number of people living in the houses.

The two bilobate houses excavated at Talaguak both represent occupations during the Developed Thule phase. If this is not merely the result of our limited sampling of this style of semi-subterranean dwelling, then the implication is that during the Developed Thule phase the size of the residential group increased during the winter season (although the size of the entire winter settlement may or may not have changed). As discussed in Chapter One, Schledermann has interpreted this phenomenon as an adaptive response to the deteriorating climatic/ecological conditions of the Little Ice Age and the stresses these conditions placed upon Thule populations. By increasing the size of winter residential groups (and hence the sizes of their winter dwellings), Thule Eskimos could conserve fuel for heating and cooking as well as facilitate better social conditions for food sharing (Schledermann 1976b: 45).

Evidence for a shift in Thule demographic arrangements along the south Baffin coast may also be inferred from the greater emphasis on winter seal hunting during the Developed Thule phase and the increased importance of large winter snow house villages on the sea ice. Breathing hole seal hunting is most efficiently performed by large groups of cooperating hunters; therefore, if as we suspect this activity did become increasingly important during the Developed Thule phase, then we might also expect that the winter aggregation during this period would have been larger than it previously was. Indirect support for this

interpretation is provided by the densities of artifacts and faunal bones found in the midden deposits within houses occupied during the Developed Thule phase. As shown in Table 15 and as discussed in Chapter Seven, the densities of these materials in Developed Thule phase components is on the average much less than in earlier Classical Thule phase components, suggesting a reduction in the intensity and duration of onshore winter base camps. This is the pattern we would expect if there was a shift to increased utilization of snow house villages on the sea ice; however, documentation of an increase in the actual size of these winter settlements is, unfortunately, beyond the scope of archaeological methods.

The problem of reconstructing the demographic patterns of prehistoric Thule populations is clearly one that requires a great deal of additional research. Nevertheless, to the extent that we are able to make inferences regarding shifts in the annual patterns of population aggregation and dispersal along the south coast of Baffin Island, the picture that emerges is consistent with the more reliably reconstructed developments in resource procurement scheduling and settlement pattern re-organization.

Conclusions

Despite pronounced changes in the exploitative potential of several important species throughout the preceding millenium, no major changes in Thule resource procurement systems and their associated technologies are observed; nor are there any major changes in settlement patterns, nor in demographic arrangements. Adaptive response by local Thule populations to the effects of climatic/ecological changes upon economically important animal species instead involved re-scheduling of

a few critical procurement systems along with concomitant re-organization of certain options available within the annual settlement pattern and possibly minor adjustments in the annual pattern of winter population aggregation and summer dispersal. The maintenance of adaptive flexibility in these relationships, as predicted in the initial hypothesis, is thus supported by the available evidence.

In recent times an anucleate band structure and maintenance of flexibility in the organization and integration of domestic groups have been important cultural mechanisms underlying the effectiveness of these adaptive strategies. Both of these mechanisms are in turn based on a kinship system permitting the establishment of broad networks of kin ties and obligations throughout a region. Undoubtedly this was also the case among Thule Eskimos, as discussed below.

Adaptation to Short-Term, Severe Environmental Change

The second hypothesis considers adaptive response to short-term, large scale climatic/ecological changes, as might have occurred during the Little Ice Age. Although flexibility in resource procurement scheduling, settlement patterns, and demographic arrangements might have provided some adaptability to these perturbations, higher level mechanisms must have existed to allow Thule populations to endure over the long run. Therefore, the second hypothesis proposes that Thule populations created a complex and stable ecosystem through utilization of a wide variety of species and habitats, thereby establishing a trophic network comprised of many alternative energy pathways. Associated with this pattern of "microenvironmental diversification" of extractive activities is a heterogeneous distribution of local bands throughout a region, in which

rules maintaining territorial boundaries are absent, so that the regional population may fluctuate both in terms of its spatial distribution as well as its density per unit of area.

As discussed in Chapter Six, this hypothesis must be tested using data pertaining to both local and regional population distributions. Since we do not have extensive and systematic information for the entire south Baffin region, this hypothesis can only be partially tested at present.

Evidence of Broad-Spectrum Resource Utilization

In preceding discussions we have reviewed artifactual and faunal evidence for resource procurement systems during successive Thule cultural phases on southern Baffin Island. We have seen that throughout this period seasonal configurations of procurement systems were much the same as those of historic Baffinland Eskimos. The only differences are that through time a few of these procurement systems became either more or less important than previously.

The persistence of these seasonal procurement system configurations, in which a variety of options exists at any particular time, demonstrates that adaptation to a variety of species in several distinct habitats is indeed an important feature of the Thule ecosystem. For example, during the winter season, when procurement options are fewest, we see that species may be obtained from at least four different habitats: the landfast sea ice, the floe edge, the snow-covered tundra, and frozen lakes. Moreover, in some of these habitats more than one species may be obtained. Both ringed seals and bearded seals may be hunted from the floe edge, as well as occasional walrus and beluga. Each of these species is somewhat differently adapted to this habitat

and therefore will be affected in different ways by specific environmental conditions.

During other seasons, an even greater range of resource procurement options exists. This results not only in a higher degree of economic stability during these seasons, but with the addition of food storage systems, the increased economic productivity can be carried over to the leaner seasons. In summer and fall, for example, the largest number of procurement options are available, some of which may be extremely productive (e.g. fishing at weirs, caribou hunting, walrus and beluga hunting). During these seasons enough food usually can be obtained so that a surplus may be set aside for use during the winter months. In this way, the effects of adverse environmental conditions arising during winter, when they are most likely to curtail hunting activities and thus create hardships, may be considerably alleviated.

Food storage systems have long been recognized as part of the Inuit subsistence organization. Boas (1888: 550), for example, describes "storehouses" made of stone at winter villages in Cumberland Sound during the 19th century. Caches of meat, usually covered with stones or, in winter, blocks of ice, were often left in places away from the settlement, along routes frequently traveled by hunters.

Numerous old stone caches have been observed all along the portions of coastline traversed during our archaeological surveys, and in addition many caches were found at Okivilialuk, Talaguak, and Itinapik. These attest to the importance of food storage systems, in addition to the maintenance of a variety of resource procurement options, to ensure the availability of at least some amount of food at all times.

An additional mechanism supporting a broad-spectrum utilization

of species and the maintenance of a sufficient level of available resources to support the local population is the sharing of food within and between local settlements, often in the context of various social and ceremonial occasions. From ethnographic observations we know that food sharing is an extremely important aspect of Inuit adaptation, especially during the winter months when food resources may be scarce. For example, Boas (1888: 582) notes that during the winter season a successful hunter will share his catch throughout his camp. As previously discussed, food sharing is one of the primary mechanisms which integrates the domestic group, whether this is the nuclear family or the entire winter village aggregate. Although we lack specific archaeological evidence demonstrating the importance of food sharing among Thule Eskimos, it is likely that this was as important then as it has been in more recent times.

The locational characteristics of Okivilialuk, Talaguak, and Itinapik in North Bay lend further support to the proposition that local Thule populations incorporated a diversified pattern of resource utilization into their ecological adaptations. As shown in Figure 14, all of these sites provide direct access to several distinct habitat zones. However, access to hunting areas is only secondarily related to the actual placement of these sites; of more importance is the fact that the North Bay region itself is one in which considerable environmental diversity exists. In addition, as shown in Chapter Three and as previously pointed out by Maxwell (1979), the North Bay region supports a variety of species which persist at fairly constant and predictable levels, even though these levels are not extraordinarily high. Hence, in terms of economic potential, this region is one in which a small population can be assured of a fairly constant and predictable resource

base.

This is however not the case all along the south coast of Baffin Island. Between North Bay and Markham Bay to the west, and Pritzler Harbour to the east, there are many sections along the coast that are relatively undifferentiated, and therefore contain fewer distinct habitat zones. Although our knowledge of site locations along the south coast is considerably less than thorough, it does appear that major settlements tend to be situated in areas offering access to the greatest variety of distinctive habitat zones (see e.g. Fig. 1 in Maxwell, 1979).

Evidence of Regional Population Distribution

At present we are unable to fully assess the implication that regional population distribution along the south Baffin coast should be heterogeneous, and regulated by mechanisms permitting rapid re-distribution in the face of extreme environmental perturbations. Maxwell's (1979) preliminary study of the distribution of archaeological sites along the south coast does indicate that Thule winter settlements tend to be spaced at fairly consistent intervals of 25-50 kilometers distance. This supports the proposition of a heterogeneous, or "patchy" distribution of local groups or bands. Further study will be required to determine the extent to which Thule population distributions were flexible. If occasional population re-distribution within local areas can be demonstrated, then it is likely that such re-distribution was regulated by extensive real and fictive kinship relations within an anucleated regional population, or macroband, as previously discussed. This notion, however, also requires further testing.

Evidence of Population Continuity

If the second hypothesis is at all valid, then we should expect to find evidence of continuity in the Thule occupation of southern Baffin Island. Continuity must also be examined at both local and regional levels.

In the North Bay area, the archaeological and historical evidence demonstrates a continual occupation by Thule and Inuit populations from ca. A.D. 1100 up to the present. Ecological continuity, as viewed in relation to resource procurement systems, settlement patterns, and demographic arrangements, is clearly represented. Although we cannot presently say whether or not the area was ever temporarily abandoned by local populations, it is quite apparent that Thule and more recent Inuit were able to get along in the North Bay area at any and all times during the past millenium, even when climatic/ecological conditions were at their worst.

At the regional level, we again lack the data necessary to determine conclusively whether Thule population continuity is represented. Turning again to Maxwell's previously cited study, it does appear on the strength of our preliminary survey data that Thule populations were indeed persistent along the south coast of Baffin Island:

To recapitulate, the evidence appears to support the contention that human ecology in this region has had a long history of equilibrium. This is demonstrated by relative constancy of population numbers, and settlement locations, and sources of food that are adequate and reliable. That this condition can be extended into the prehistoric past is suggested, but the hypothesis requires additional testing (Maxwell 1979: 85).

Conclusions

In addition to cumulative, small-scale ecological changes necessitating adaptive developments over relatively long periods of

time, it is certain that during some periods, particularly during the Little Ice Age, very severe and unpredictable conditions arose on Baffin Island, which resulted in rapid and large-scale environmental perturbations. In order for Thule populations to survive such extreme conditions, adaptive mechanisms would have been required to counteract or, at least, dampen the effects of these perturbations on the Thule ecosystem. Evidence of a persistent Thule occupation of the region directs our attention to the determination of what those mechanisms might have been.

The archaeological evidence discussed above demonstrates that throughout the Thule period on southern Baffin Island a wide range of resource procurement systems was maintained, each focusing on different species accessible in different habitats. During any season, there were at least several alternatives distributed across three major environmental zones. Although extreme conditions might render some species or habitats temporarily inaccessible to hunters, it is quite unlikely that all potentially available species would be similarly affected; thus, even during extreme periods it would be possible to obtain some food.

This diversification of procurement activities was augmented by an additional mechanism, food storage systems, which allowed Thule Eskimos to "carry over" to the leaner seasons (i.e. winter) food surpluses that could be obtained during highly productive seasons (i.e. summer and fall). Food sharing and exchange networks extending throughout settlements and even between separate settlements probably functioned in a similar way to dampen the effects of severe conditions upon individual groups at specific points in time.

An even higher level regulatory mechanism, for which we have only preliminary evidence, involves the re-distribution of local groups

throughout the region. Population re-distribution might function in one of several different ways: First, since local groups are "connected" to each other by frequent visits among relatives, by social and ceremonial activities, etc., information regarding the local availability of resources, hazards, or other critical aspects of the environment can be rapidly disseminated. The lack of territorial rules among these groups would permit the re-distribution of local groups in relation to rapidly changing resource distributions, and because adjacent groups are usually closely linked through primary kinship bonds, larger-than-normal aggregations may even occur if this would provide adaptive benefits. Finally, in the case of an ultimate tragedy, in which most or all of the members of a local group perished, it is unlikely that even closely neighboring groups would be adversely affected.

Although we are unable to test fully the implications of this second hypothesis, sufficient evidence has been marshalled to permit at least a tentative acceptance of the proposition that these higher level adaptive mechanisms inhere within the Thule ecosystem to maintain a complex set of cultural-environmental interrelationships. These mechanisms support diversification of seasonal resource procurement systems, the development of food storage systems and food sharing and exchange networks, and a heterogenous and flexible distribution of local groups throughout the south Baffin region.

Development of the Thule Ecosystem on Southern Baffin Island

Based upon the foregoing analysis and conclusions, we may begin now to formalize interpretations regarding the development of the Thule ecosystem along the south coast of Baffin Island. It should be stressed

at the outset, however, that these interpretations are preliminary, and their purpose is primarily to focus subsequent research along lines which the present study, hopefully, has shown to be productive ones. Additional investigation will undoubtedly prove these interpretations to be inadequate: at the very least, new variables will be identified as being critical to our understanding of this ecosystem, and the interrelationships among variables will be shown to be far more complex than they are outlined here.

The basic components of the Thule ecosystem, as outlined in this study, include the subsistence-settlement system, the human population supported by the subsistence-settlement system, biophysical environmental variables affecting species or species/habitat configurations, and other environmental factors (both natural and social) more directly affecting the local population and the ability of its members to maintain an adequate level of resource procurement.

The subsistence-settlement system is comprised of a basic set of extractive activities and relationships summarized as "resource procurement systems" (these are organized according to a particular seasonal schedule which determines the duration and intensity of specific extractive activities); a settlement pattern by which the local population is distributed throughout the local area, from one season to the next; a pattern of seasonal demographic arrangements associated with the annual settlement pattern; and, finally, a series of domestic groups within which the population of a particular settlement is organized to carry out the actual procurement, processing, sharing, and consumption or utilization of critical resources.

The human population supported by the subsistence-settlement

system on southern Baffin Island has been referred to as the local group or band. Ethnographically, this social unit consists of between 25 and 75 members. These individuals are closely related through primary kinship ties and perceive of themselves as a single coherent entity. In recent times the local group or band typically occupies two or three winter settlements within the local area, but only rarely come together in a single aggregation. Visitation, movement of individuals and families from one settlement group to another, adoption, gathering for social and ceremonial occasions, and a variety of other mechanisms served to integrate the members of the local group into a discrete social unit. It is unlikely that during Thule times local groups were similarly organized.

Important biophysical variables affecting species and species/habitat configurations include secular weather conditions; ocean currents and sea ice dynamics; and animal range shifts, natural population fluctuations, and similar biological phenomena. Other factors more directly affecting human populations include various forms of social stress, accidents and catastrophes, and culture contact and acculturation.

The interrelationships among the many variables comprising these components, to be sure, are highly complex. This study has focused on the interrelationships among several variables considered most important to the initial reconstruction and analysis of the Thule ecosystem and its development through time.

We began with the assumption that resource procurement systems and scheduling are primarily the function of economically viable species and their seasonal characteristics (assuming, of course, that the technological and behavioral prerequisites for the extraction and

utilization of these species can be met). In other words, a thorough understanding of the Thule ecosystem must begin with (1) identification of the various species (and other resources) which provide food energy and other material needs for the resident human population, along with the habits, characteristics, susceptibilities, etc., of these species; (2) identification of the habitats in which these species occur at various times of the year; and (3) the seasonal pattern of individual species/habitat configurations. Based upon these variables characterizing the south coast of Baffin Island, a basic set of resource procurement systems was identified (Figs. 10-13 in Chapter Five), and the scheduling of these systems at various times throughout the past millenium was traced (Chapter Seven).

The annual settlement pattern, demographic arrangements associated with the settlement pattern, and the organization of domestic groups within particular settlements, are in turn conditioned primarily by the resource procurement schedule and the requirements (for carrying out) and possibilities (for population support) of the various resource procurement systems. Therefore, given a change in the resource procurement schedule (in response to, for example, climatic/ecological changes affecting critical subsistence resources), it is likely that some corresponding adjustment(s) will be required in the settlement pattern, in demographic arrangements, and/or in the organization and integration of domestic groups. Hence, the degree of flexibility in these aspects of the subsistence-settlement system may be an important measure of the adaptability of that system. Also important to our understanding of the Thule ecosystem are the mechanisms and processes by which favorable relationships are maintained among these many cultural and environmental

variables, and it is to these that we now direct our attention.

In this study the effects of climatic/ecological changes upon the distribution, abundance, and predictability of animal species in marine and tundra habitats along the south Baffin coast were reconstructed for the past millenium, and some significant developments were noted. Specifically, deteriorating climatic conditions commencing after A.D. 1250 reduced the exploitative potential of bowhead whales and caribou, but at the same time there was an increase in the potential for hunting ringed seals (and, to a lesser extent, bearded seals).

Environmental changes affecting critical resources or the ability of the human population to obtain and effectively utilize these resources (regardless of whether these changes occur within the biophysical or sociocultural realms) will necessitate adjustments in the subsistence-settlement system in order to restore the proper balance between the local population and the level of resource procurement needed for support and security. In a recent paper, Amsden has pointed out that "(t)here is a limited number of ways that this may be accomplished":

- (1) Increased dependence on other resources within the same territory;
 - (2) Expansion of the territory exploited, thus increasing the total supply available;
 - (3) Adoption of more efficient techniques for exploiting the deficient resource;
 - (4) Emigration of some or all of the population from the territory;
 - (5) Adoption of other population reduction techniques.
- (Amsden 1979: 404)

Maxwell (1979) has argued that along the southern Baffin coast the extent of territorial exploitation remained constant throughout the Thule period, and that population emigration may never have occurred. In this study we have argued that the adoption of more efficient techniques for exploiting "deficient resources" (at least insofar as

technological adjustments would be involved) also probably did not occur. We have not thus far addressed the issue of population reduction techniques during the Thule period. However, it has been shown in this study that flexibility in resource dependence was indeed an important, and perhaps the major, adaptive response generated by changing climatic/ecological conditions. The next question is, then, what mechanisms and processes were involved in this adaptive orientation, that provided the necessary resilience within the Thule ecosystem to assure continuity and persistence in the face of environmental fluctuations?

Several aspects of the south Baffin Thule ecosystem have been identified as regulatory mechanisms, which served to maintain subsistence-settlement system interrelationships within an acceptable range of deviation. Perhaps the most basic and fundamental regulatory mechanism is seasonality, specifically the seasonal characteristics and patterns of the various species/habitat configurations included in this study. As we have pointed out before, these seasonal characteristics and patterns establish the basic resource procurement schedule, which is the most important single feature of the subsistence-settlement system.

The scheduling and re-scheduling of these procurement systems is another important regulatory mechanism, and one for which we have brought forth considerable archaeological evidence. However, the re-scheduling of resource procurement systems implies further adaptive adjustments in other closely related aspects of the subsistence-settlement system. Of particular importance are adjustments in the settlement pattern, in demographic arrangements, and in the organization and integration of domestic groups. Therefore, we must also recognize that flexibility in these components is an additional regulatory mechanism of

considerable importance to the maintenance of the Thule ecosystem.

The re-scheduling of procurement systems, and re-organization of options within the annual settlement pattern, demographic arrangements, and domestic groups, are all cultural mechanisms which together provide sufficient flexibility within the subsistence-settlement system so that this system can be easily adjusted in response to long-term, cumulative environmental changes affecting critical animal resources. The necessity of all of these regulatory mechanisms is a point worth emphasizing: it is likely that without the coordinated, system-wide integration provided by these interrelated mechanisms, the system probably would not be sufficiently resilient, in the long run, to ensure the maintenance of a desirable balance between population size and the appropriate level of resource procurement. Amsden is correct in identifying flexibility in resource procurement as an important regulatory mechanism. The point I wish to add here is that the rescheduling of resource procurement systems is a very complex process which depends upon several additional, related mechanisms.

Perhaps the most critical of these is the maintenance of flexibility in the organization and integration of domestic groups. Without the ability to re-organize these groups in relation to changes in the resource procurement schedule, it is highly unlikely that re-scheduling could be effective beyond very narrow limits. Flexibility in domestic group organization, in turn, is based upon two important features of Inuit social organization: (1) the extensive network of kinship relations which pervade the local group; and (2) the anucleate organization of the local group, which permits households and camp groups to merge or break apart as need be. The consequent socio-economic flexibility

provided by these aspects of social organization, therefore, is a critical feature of the Thule ecosystem, assuring adaptability in relation to long-term, cumulative environmental change.

We have also argued that short-term, large-scale environmental changes are part of the Thule ecosystem. Higher level regulatory mechanisms which serve to counteract or dampen the effects of these changes include a broad-spectrum utilization of many species and species/habitat configurations, and a heterogenous or "patchy" distribution of local groups throughout a region that can be adjusted rapidly in response to changing ecological conditions. The "microenvironmental diversification" of resource procurement systems increases the chances that some resources will always be available despite severe and unpredictable environmental perturbations. The heterogeneous distribution of local groups further reduces the chances that the entire regional population will succumb to misfortune as a result of severe ecological conditions, since it is unlikely that ecological severity will be uniformly distributed throughout a region such as the south coast of Baffin Island, where considerable local topographic diversity (and hence habitat variety) exists. Moreover, the ability to re-distribute the regional population, which is again possible because of the extensiveness of kinship ties, lack of territorial rules, and the anucleate organization of the population, provides a further means of coping with localized food shortages resulting from extreme environmental perturbations.

It has also been argued that ancillary mechanisms, such as elaborate food storage systems and extensive food sharing and exchange networks, were also important in the creation of ecological complexity by Thule Eskimos. Through all of these interrelated mechanisms, local

Thule populations, such as those residing in the North Bay area, apparently were able to prevent the occurrence of widespread food shortages and adaptive stress during times when harsh environmental conditions prevailed. And as previously noted, it was through the persistence of all of these interrelated mechanisms that favorable cultural-environmental relationships were maintained; no single adaptive strategy would have been adequate.

To recapitulate the above interpretations, in relation to the questions posed at the beginning of this chapter, two sets of regulatory mechanisms have been identified that were important for the maintenance of favorable cultural-environmental relationships within the Thule ecosystem along the south coast of Baffin Island. One set of regulatory mechanisms operates in relation to long-term, cumulative environmental changes affecting the distribution, abundance, and predictability of critical animal species. These include: seasonality; scheduling and re-scheduling of resource procurement systems; and the adjustments in settlement patterns, demographic arrangements, and the organization of domestic groups. These mechanisms are primarily operative at the local group level. A second set of regulatory mechanisms, which operates at local and regional levels, provides adaptive response to short-term, large-scale, and usually unpredictable environmental perturbations. Included in this group is a diversified, broad-spectrum subsistence economy coupled with elaborate food storage systems and extensive food sharing and exchange networks; a heterogeneous distribution of local population groups throughout the region; and the ability to adjust population distributions both in terms of areal extent as well as density. All of these mechanisms, in turn, are based upon several fundamental

aspects of Inuit social organization which, I believe, were characteristic also of Thule Eskimos: an extensive network of real and fictive kinship ties (and their concomitant obligations) pervading the regional population; a lack of territorial or boundary maintenance rules; flexibility in the organization and integration of domestic groups; and an anucleate organization of the regional population. These latter mechanisms functioned as higher order controls in the hierarchical arrangement and integration of all regulatory mechanisms discussed in this chapter.

This adaptive system makes sense for the southern Baffin region. As we have seen, this is an area characterized by considerable topographic and ecological diversity. Animal resources are usually not available in extremely abundant quantities, but they are reliably and predictably distributed throughout the region. Species/habitat configurations are also persistent, and there is no evidence that these ecological relationships changed significantly during the preceding millenium. Although the region experiences generally milder climatic conditions than adjacent areas (such as the Davis Strait coast of Baffin Island), these conditions are subject to rapid and unpredictable fluctuation. Thus, the south Baffin region provides a persistent diversity of resource procurement options in a nearly constantly fluctuating milieu. In response to these ecological characteristics, organization of the adaptive mechanisms outlined above provided the necessary flexibility and resilience within the Thule ecosystem to maintain favorable cultural-environmental relationships over the long run.

The resulting processes of Thule/Inuit cultural development along the south coast of Baffin Island are thus characterized by ecological

diversification based on the adaptive flexibility inherent in major components of the cultural system. By maximizing the heterogeneity of their ecosystem through exploitation of a diverse set of species/habitat configurations, and by scheduling procurement systems and population distributions to maintain at all times at least a minimally satisfactory level of resource acquisition, Thule/Inuit populations in a sense created a climax ecosystem, with considerable stability and resilience, in an otherwise sub-climax, physically-controlled environment. It is highly significant, moreover, that this adaptive system, as well as the processes underlying its development, were ultimately based on several critical aspects of Thule/Inuit social organization. This brings us to the final question raised above, concerning the fundamental nature of the Thule ecosystem as compared to other possible adaptive systems, and the implications which might be derived from such comparisons. In the following paragraphs, the adaptive organization of Dorset populations inhabiting the south coast of Baffin Island will be compared, in general outline, with that of Thule populations as reconstructed in this study. (The lack of comparable data pertaining to the Pre-Dorset period in this area precludes further comparison with that cultural system).

As Maxwell (1979) has pointed out, ecological conditions along the south coast of Baffin Island have persisted relatively unchanged for the past 4,000 years or more. Therefore, by comparing Dorset and Thule adaptations to this region, we are looking at the adaptations of the two different cultural systems to essentially the same set of environmental conditions. Our present concern is to point out major similarities and differences, and consider the factors to which these might be attributed.

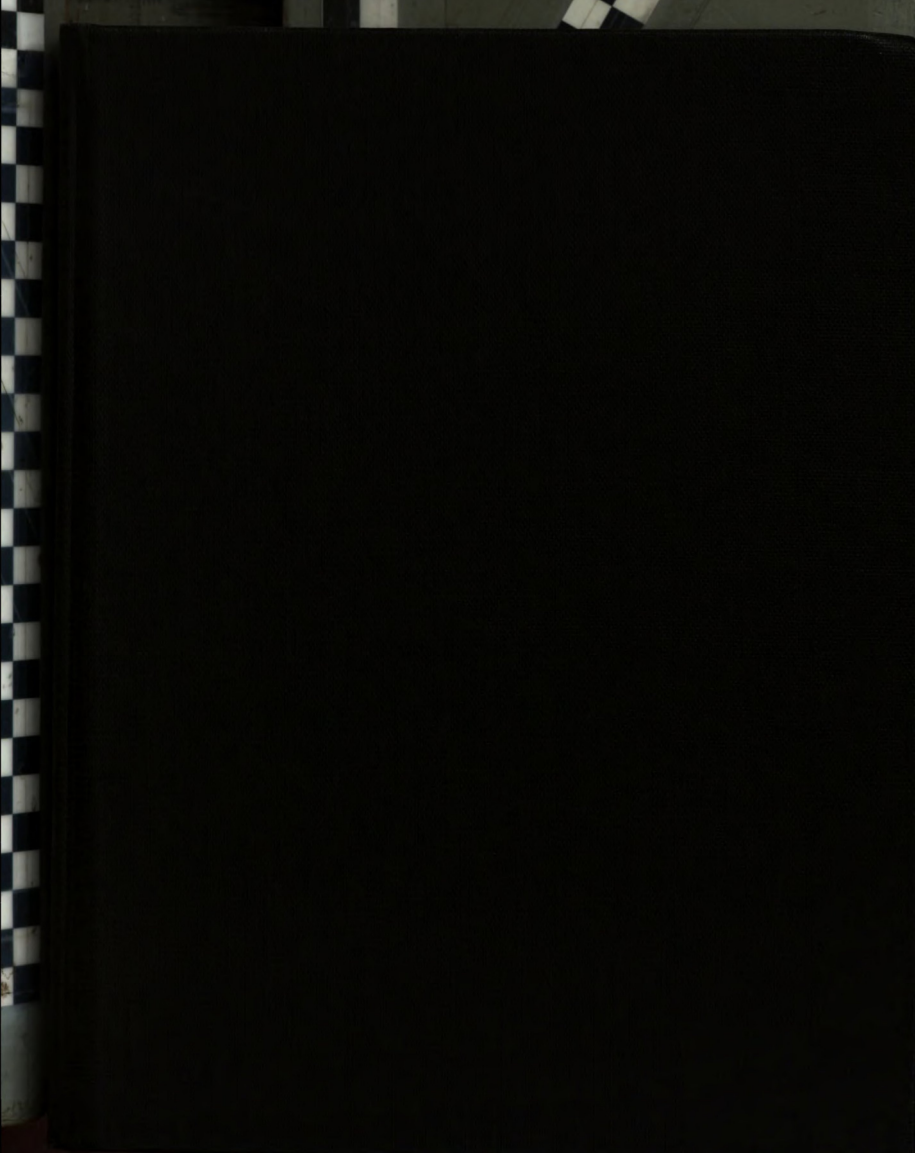
Dorset culture in the Lake Harbour region is seen as an

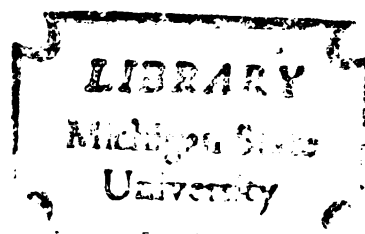
ultraconservative cultural system maintaining throughout a nearly 2,000 year period a very inflexible, indeed rigid, techno-economic adaptive organization (Maxwell 1973, 1976b, 1979, 1980). Nash's characterization of Dorset culture as a Tightly Constrained System, "characterized by a structure whose components have few alternative states or degrees of freedom and which are not conducive to reorganization" (Nash 1976: 150), is appropriate in this instance. Arundale's (1976) study of Dorset adaptation as seen at the Nanook site provides a good example of Tightly Constrained Systems. As summarized in Chapter Two, Arundale found that in response to climatic changes affecting animal species important to the Dorset economy, settlement patterns were adjusted and local populations re-distributed, in order to maintain previous hunting patterns. Alternative re-scheduling of procurement systems in the face of climatic/ecological change was not demonstrated as a major adaptive response. Rather, the tendency of the Dorset adaptive system was to maintain as closely as possible the basic organization of technology, procurement systems, and seasonal scheduling.

The persistence of this rigid adaptive organization for over 2,000 years is ample testimony to its long-term viability in Arctic regions. Like the Thule system, the Dorset system was based on a complex technology well suited to the exploitation of Arctic species, and this technology was undoubtedly employed in conjunction with informational systems incorporating extensive knowledge of the habitats and characteristics of animal species, environmental factors affecting their procurement, and so on. However, the rigidity of the Dorset adaptive system is also regarded by many (e.g. Bielawski 1979) as being the major factor contributing to its ultimate demise when interfaced with the more

flexible Thule system.

Thus in the south Baffin region we see two cultural systems, the Dorset and the Thule, both maintaining ecological equilibrium over long periods of time, but by means of entirely different processes. Although we have yet to identify the specific adaptive mechanisms incorporated into the Dorset adaptive system, it is nonetheless clear that the dominant process underlying Dorset cultural development was ecological specialization reinforced by adaptive conservatism inherent in the cultural system. In contrast, the Thule system, incorporating the various mechanisms identified in this study, developed through processes of ecological diversification supported by adaptive flexibility. The point this brief comparison illustrates is that although the maintenance of long-term ecological equilibrium may be characteristic of band-level, hunter-gatherer populations in general (e.g. Yellen 1976), the specific processes by which equilibrium or homeostasis is sustained, may vary from culture to culture. Moreover, as shown in the preceding example, this variation may be completely unrelated to external environmental conditions; in other words, within the same or similar biophysical environments, successful adaptations may be accomplished through quite different means. This is a point made some years ago by Damas (1969b), and well worth reiterating here. Indeed, if we are to develop a truly comprehensive theory of culture change and evolution, we need to take into greater consideration cultural sources of adaptive variation in our analyses of human ecosystems, past or present.







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THULE CULTURE ADAPTATIONS ON THE SOUTH COAST
OF BAFFIN ISLAND, N. W. T.
Volume II

By

George Sabo III

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Anthropology

1981

APPENDIX A

APPENDIX A

DESCRIPTION OF ARCHAEOLOGICAL EXCAVATIONS

Excavation Procedures

The procedures for excavating Thule houses and collecting artifacts, faunal bone, and other materials during the 1977 and 1978 field seasons are outlined below. Any deviations from these procedures are noted in the discussions of specific house excavations.

Each house selected for excavations was first photographed from several angles. Next, a string grid of 2 by 2 squares was set up over the house, and a surface map was drawn indicating the outline of the walls, the interior and entrance tunnel depressions, any apparent structural features, and all major fall rocks or fall rock concentrations. One of the grid stakes, usually at a high point along the rear wall of the house, was established as a datum point for the house, and all subsequent depth measurements were taken with reference to this stake, using a string, line level, and tape measure. Several surface measurements were recorded and added to the map prior to excavation, so the original ground surface could later be reconstructed.

The excavations were carried out in three phases. The first phase involved digging one or two 1 square test pits to determine the depth and general content of midden deposits within or adjacent to the house. These pits were excavated in 10 cm levels, and all cultural materials encountered were collected by levels except when structural

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features were exposed. In these instances, the exact position of the artifact was measured and plotted onto square sheets prior to their removal. The purpose of this initial testing was to determine if further excavations in the house were warranted, in relation to the research objectives of the project.

The second phase of excavations involved additional testing in midden areas in the entrance tunnel of in front of the house. These test pits were variable in size, usually depending on the width of the entrance tunnel depression, or the size of the midden area. These were also excavated in 10 cm levels. Since midden deposits like these usually contain dense accumulations of bone, artifacts, and other materials initially deposited in a rather haphazard manner, and subject to considerable subsequent disturbance, we did not feel that useful information would result from more precise levels of measurement. However, if culturally-meaningful stratigraphic levels were encountered (e.g. old sod surfaces, stone floors, etc), our procedures were accordingly adjusted to following those levels.

The third and major phase involved block excavations inside the houses. Since most of the houses we dug were fairly large and deep, these excavations were confined to the area within the house walls, and in most cases no attempt was made to expose the walls themselves. Indeed, in some very large houses we were able to excavate only a portion of the interior area. These block excavations were carried out in the 2 grid squares of the house grid system. After the sod was stripped off and the root mat examined for any adhering bones or artifacts, we proceeded to trowel down through the underlying deposits to expose the structural features of the house. In most instances the strata encountered were,

from top to bottom, the sod zone (consisting of the sod mat plus the underlying root layer), the organic midden layer beneath the sod which extended down to the structural features of the house, and finally the gravel base underlying the house. This gravel base graded into the rotting bedrock below, and usually was devoid of cultural materials.

All artifacts found during block excavations were measured in three-dimensionally and plotted onto square sheets prior to their removal. The context and soil level in which each artifact was found was also recorded. Faunal bone and other materials (e.g. unworked baleen, skin, and wood; stone debitage, etc.) were collected as samples by level and square. Care was taken to ensure that these materials were collected with reference to culturally-meaningful provenience units, so as to avoid combining samples from separate occupational components. (Only in House 8 at Okivillialuk were we unable to satisfactorily recover faunal samples by discrete cultural components.)

In addition to the square sheets, larger feature maps were produced as needed during the excavations, and a final plan and profile map was drawn upon completing the excavations in each house. Finally, we attempted to document our excavations as fully as possible through black and white and color slide photography.

Okivillialuk House 8

House 8 was a large, circular, single sleeping platform structure measuring 5.4 m across and 6 m front to rear, with an entrance tunnel 5.4 m long. The walls stood nearly one meter higher than the interior depression. No internal structural features could be discerned prior to excavation, as the house was covered by a lush growth of sod and moss, and fallen structural rocks littered the interior surface.

The house was situated near the center of the site on a long, narrow ridge, affording an unobstructed view of the southern coast of the peninsula and beyond.

Our excavations were concentrated in the interior and entrance tunnel areas of the house, where we removed a total of 5.5 cubic meters of fill. Although neither of these areas was completely excavated, we were able to discern two separate occupational components in the house. As previously mentioned we were not able to separate the faunal samples by these components; hence, the faunal data from this house are not included in the analysis.

Stratigraphy and Components

The stratigraphy of House 8 was very complex, and will be discussed in terms of specific areas within the house. Two major occupational components are identified in the following discussion and the structural features and artifacts are described by cultural component.

We began our excavations in the rear of the house, where a portion of the back wall had slumped down onto the top of the sleeping platform. Below the sod zone, this slump deposit consisted of thin, alternating layers of organic soil and fine gravel, which obscured the rear portion of the sleeping platform. In this area we found a few historic artifacts just below the sod, and a few Dorset items at the base of the deposit just below the sterile gravel.

Throughout the rest of the interior, there was a heterogeneous deposit of dark brown organic soil and numerous displaced rocks and slabs. Over the front part of the sleeping platform, this deposit was about 20 cm thick. Here we found several historic artifacts along with limited quantities of faunal bone, unworked wood fragments, and other

Figure 19
Plan and Profile of Okivillialuk House 8
--Lower Component

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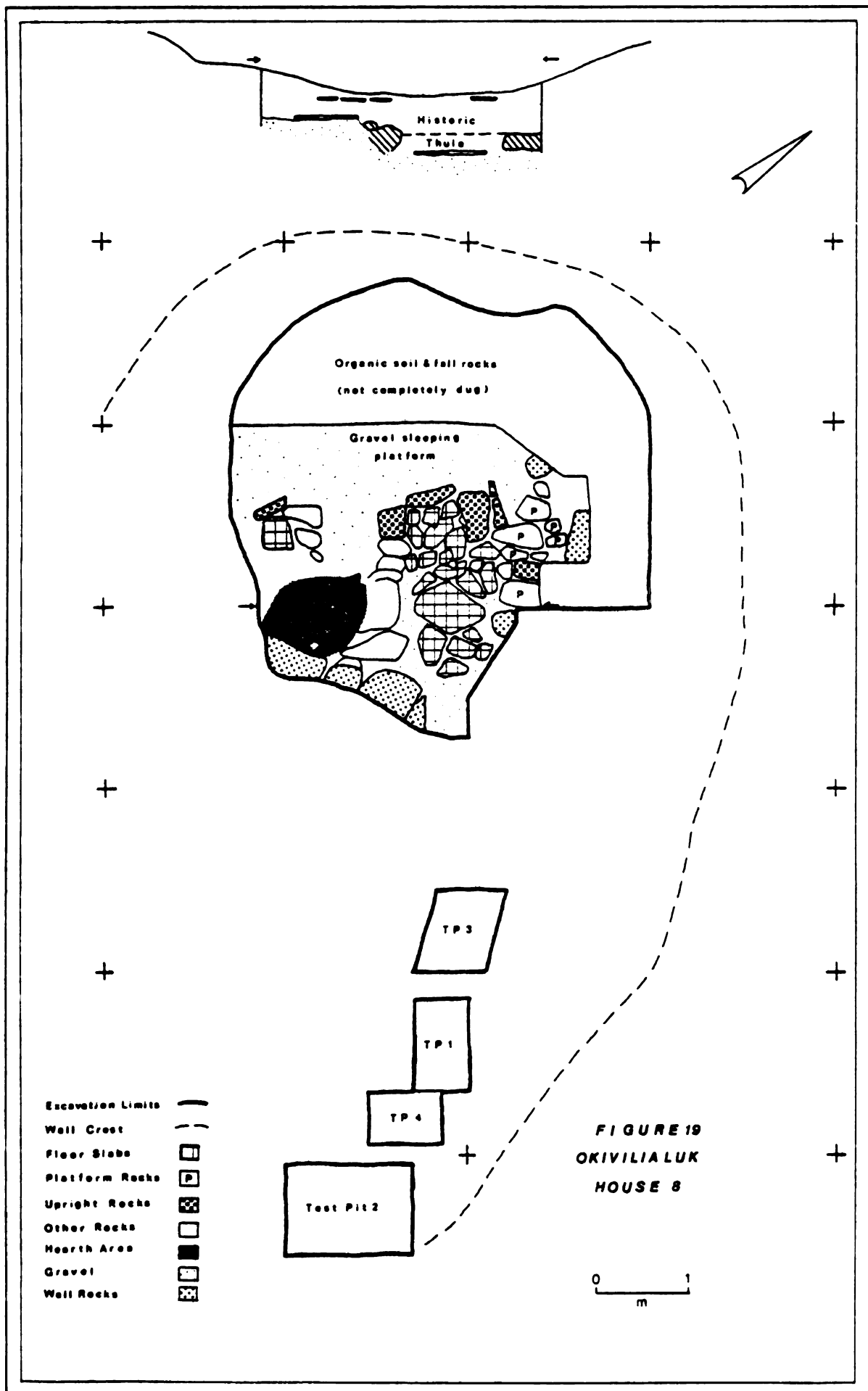
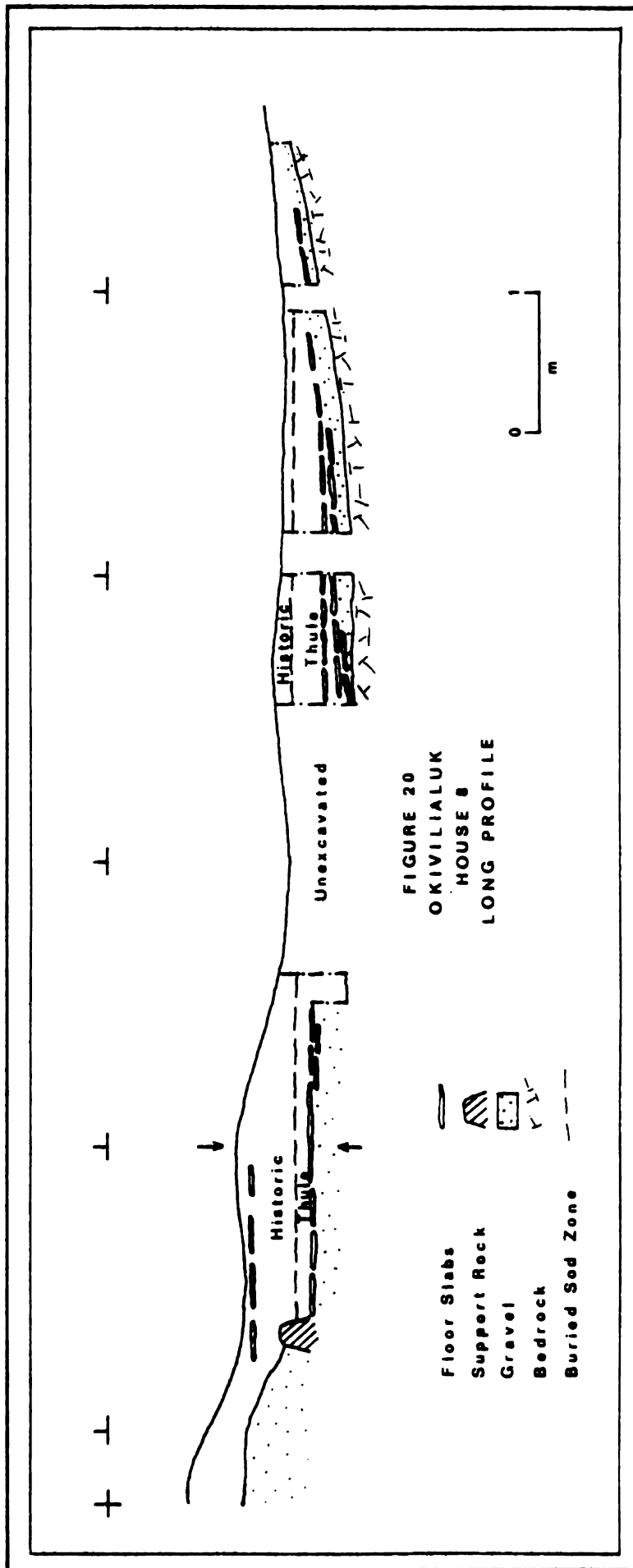


Figure 20
Long Profile of Okvillialuk House 8



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materials. In the central part of the interior this deposit was about 40 cm deep, and extended down to a buried sod horizon. The soil in the upper part of this deposit contained several discontinuous fibrous layers and fine gravel lenses, probably representing a sod roof that had collapsed into the house. The soil just above the buried sod horizon was more compacted, and more prolific of cultural materials. Throughout the deposit, both historic and traditional artifacts were found, in addition to faunal bone, baleen, wood, whale bone, and other materials. This deposit, hereafter referred to as the Upper Component, represents an historic period occupation of House 8.

The buried sod horizon in the central portion of the interior extended from the entrance passage area to a line of upstanding rocks and slabs which formed the edge of the gravel sleeping platform. The fibrous mat representing this horizon peeled off of a lower deposit of light brown sandy gravel. Few bones and no artifacts were found in the fibrous layer. The underlying sandy gravel deposit was 10 to 15 cm thick, and extended down to a slab paved floor at the bottom of the house. Several Thule culture artifacts were found lying directly on top of this floor and adjacent side benches. The single harpoon head found in House 8 came from beneath one of the floor slabs; otherwise, the pea gravel deposit below the house was devoid of any cultural materials. This deposit below the buried sod horizon, and its associated structural features, are referred to as the Lower Component, and represent a Thule Culture occupation of the house.

Our excavations in the entrance tunnel revealed a similar stratigraphy. Below the sod we encountered a rich, organic midden deposit which extended for 10 to 15 cm to a buried sod horizon at

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approximately the same depth as the sod horizon in the interior of the house. In this upper deposit we found both historic and traditional artifacts along with a variety of other materials. (None of the traditional items were diagnostic of the Thule Culture, however.) Below the buried sod horizon was a lower midden deposit, averaging 20 cm in depth in the midden of the tunnel and 10 cm toward the front. All but two of the artifacts found in this deposit were Thule or non-diagnostic traditional items. We assume that the two historic artifacts in this lower deposit had originally been deposited in the upper layer, and only later became mixed with the lower materials when the entrance tunnel wall began to collapse inward. Below the lower midden we encountered a slab paved floor which sloped upward toward the front of the entrance tunnel. A third midden deposit was found beneath this floor, in which additional Thule Culture items were found. This midden deposit was 10 cm deep, and extended down to a second paved floor, which in turn had been laid down on top of sterile gravel and rotting bedrock. Both of these floor levels below the buried sod horizon in the entrance tunnel were ascribed to the Lower Component of House 8. Although we were unable to determine if there had been a significant occupational hiatus prior to the construction of the uppermost entrance tunnel floor, it is possible that two separate Thule Culture occupations are represented in the Lower Component.

Lower (Thule) Component

Entrance Tunnel

Two slab paved floors were exposed in the entrance tunnel of House 8, both associated with the Thule occupation. The lower floor was laid down over an uneven surface of rotting bedrock and gravel, so that in places two layers of slabs had been used. The upper floor had

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been set directly down over the midden deposit which had built up on top of the lower floor. The walls of the entrance tunnel had been constructed of stone laid in courses, which for the most part had tumbled down into the tunnel. We found nothing to indicate how the entrance tunnel roof might have been constructed.

Floor

The floor at the bottom of House 8 extended from the entrance passage to the front edge of the sleeping platform, covering an area two meters from front to back and one meter from side to side. This floor consisted of several small and medium sized slabs set one against another directly on top of a pea gravel base. A single, large slab (75 cm by 60 cm) dominated the central floor area. The front part of this floor, adjacent to the entrance tunnel, consisted of a double layer of slabs, the lower layer leveling up the uneven, rotting bedrock surface.

Sleeping Platform

The sleeping platform consisted of a natural pea gravel deposit that had been levelled off on top and shored up along its front edge by a line of upstanding rocks and slabs set into the underlying gravel base. In the center of the alignment, directly across from the entrance passage, was a box-like configuration (discussed below) formed by two upright slabs set perpendicular to the rest of the rocks, about 60 cm apart. The surface of the sleeping platform did not appear to have been paved at any point in time. Rather, it may have been covered over with sod or willow matting. Any traces of the Thule occupation on this platform were apparently obliterated during the subsequent Historic occupation.

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Benches and Hearths

Side benches had been built on both the left and right sides of the house, extending from the edge of the sleeping platform toward the front walls adjacent to the entrance passage. On the left side of the house, a layer of horizontal slabs had been placed across support rocks set into the base gravel at the edge of the paved floor. These rocks were cemented together by very hard, congealed soil, and the soil surrounding this feature was also quite oily, burned, and congealed into hardened lumps, indicating that it had been used as a lamp platform. The surface of this bench was cm above the floor.

On the right side of the house, a second bench had been constructed by placing a layer of slabs directly on top of the floor. The soil above the front part of this bench was burned and congealed, indicating that it too had been used as a lamp platform. However, the rear part of the bench had been covered with a layer of willow branches, over which a piece of square flipper seal skin had been placed. We interpreted this feature as a seat, where the woman of the house might have sat while tending the kudlit and performing other tasks. Adjacent to this seat was an upright pillar rock, which may have served as another lamp support.

Storage Compartments

The box-like configuration in the center of the front edge of the sleeping platform had originally served as a storage compartment during the Thule occupation of the house. Two stone slabs forming the top of this compartment had fallen down and become wedged inside of the box. Upon removing these slabs and troweling out the soil below them, we found the Thule Viking doll and its associated artifacts, lying

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directly on top of the floor of the compartment. It is interesting to note that most of the artifacts found with the doll were women's items, all within easy reach of the skin seat described above.

Walls

Since our excavations were confined to the interior areas of the house and entrance tunnel, we did not obtain very much information concerning the construction of the walls. In the front part of the house a portion of the interior wall was exposed and the in situ wall rocks were seen to have been laid in courses.

Roof

There was very little evidence pertaining to the roof of the house as it might have been during the Thule occupation. The lack of a thick soil deposit on top of the floor indicates that a sod roof had not collapsed into the house. We did find some large pieces of wood and whale bone on the floor that probably had been part of a roof frame. It is interesting to note that the amount of wood found was much greater than the amount of whale bone.

Upper (Historic) Component

Entrance Tunnel

During the Historic period occupation the entrance tunnel apparently was not paved; instead, the sod that had grown over the earlier Thule deposit served as the surface upon which additional materials accumulated.

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Floor

Among the displaced rocks and slabs in the upper soil deposit several horizontal slabs were encountered. These may have been the remains of an upper floor level; however, it is curious that no indication of a floor was found just above the buried soil horizon, where artifacts and other materials from the Historic occupation were found in great abundance.

Benches and Hearths

On the left side of the interior, the side bench previously described for the Lower Component had an upper layer of slabs which seemed to be associated with the Historic occupation of the house. The upper slabs had been placed on top of a burned, congealed deposit of soil overlying the lower slab surface. Above the upper slabs the soil was also burned and congealed, indicating that during the Historic occupation this bench had again served as a lamp platform.

Walls

As noted above, the intact portion of the front wall exposed by our excavations indicated that large stones had been laid in courses. The large concentration of displaced rocks in the Upper Component deposit suggests that much of the house wall may have been dismantled after the Historic period occupation.

Roof

During the Historic period the house appears to have had a sod roof, which subsequently collapsed into the house. Several pieces of wood and whale bone found in the upper soil deposit indicate that this roof had been supported by a framework of those materials. The use of

this typically Thule mode of construction in the Historic period is significant and is further discussed in the interpretive portion of this dissertation.

Okivilialuk House 9

House 9 at Okivilialuk was a small, circular structure that measured 2.2 m across and 3.1 m front to rear. It was situated in a low, grassy area between two parallel bedrock ridges. Barely discernible beneath the sod that grew over it, this house had rather low walls, standing not much higher than the surrounding ground surface. The interior depression included a raised sleeping platform area at the rear. A short, narrow entrance tunnel depression extended out from the front of the house and curved to the right alongside one of the bedrock ridges. A single 2 m by 2 m test pit was excavated in this house in the front part of the interior depression. One corner of this test pit cut across the entrance passage area.

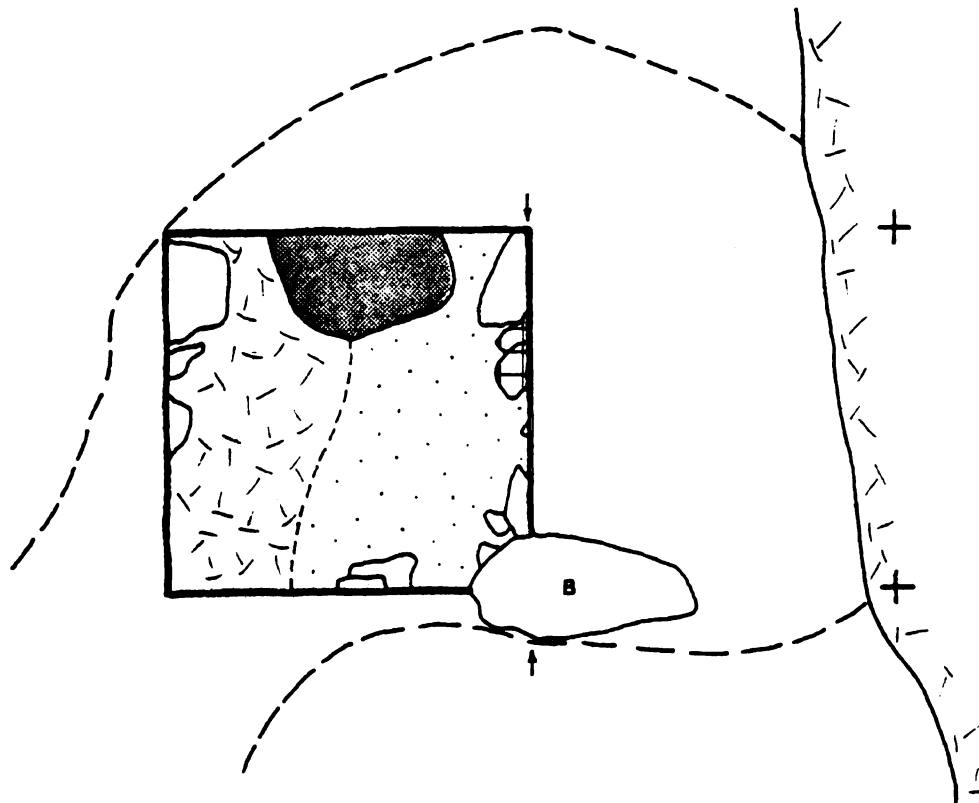
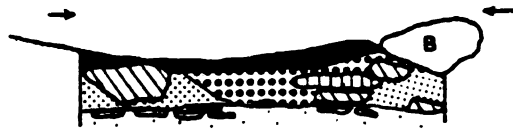
Stratigraphy

Below the sod there was a sandy root mat layer 5 to 10 cm thick. Quite a lot of faunal bone was recovered in this layer, as well as a few historic artifacts. A few scattered stone slabs were also encountered just below the root mat. Beneath the sod zone in the central part of the square was a layer of gray, sandy soil about 20 cm thick. Along the north and south edges of the square, this deposit graded into a dark brown/black humus, with thin gravel lenses near the bottom. This layer contained a number of historic and traditional artifacts, along with more faunal bone and three rather large pieces of whale bone.

The sand and humus layer was underlain by pea gravel which graded

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 Mr. G.
 Mr. H.

Sod Zone
 Dark Brown Humus
 Grey Sandy Soil
 Fine Gravel & Sand
 Floor Slabs
 Rocks
 Boulder



Excavation Limits
 Wall Crest
 Floor Slabs
 Other Rocks
 Hearth Area
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into decomposing bedrock along the western half of the square. This gravel deposit contained no artifacts, although a few Dorset items were found just above it. Also on top of this gravel were several stone slabs which extended for a short distance out from the front edge of the sleeping platform.

In summary, there appeared to be a single historic period occupation represented which, judging from the lack of an appreciable cultural midden and the general paucity of artifacts and bones, was probably transitory in nature. Prior to the construction of this house, the area had previously been occupied by Dorset Culture people, who had deposited several artifacts directly onto the underlying gravel surface.

Entrance Tunnel

The southwest corner of the test pit extended into the area of the entrance passage, but no structural features of any kind were noted. Presumably, the tunnel had been excavated into the gravel base, but there is no evidence of a paved floor.

Floor

There was some suggestion of a slab paved floor in the interior of the house, as evidenced by the stone slabs encountered during the excavations, particularly those extending out from the east wall of the test pit in front of the sleeping platform. These latter slabs had been set directly onto the underlying gravel deposit.

Sleeping Platform

This feature of the house was not excavated.

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Benches and Hearths

Extending out from the north wall of the test pit, in the central part of the house, was a deposit of hard, congealed, oily soil. This deposit measured about one meter across and 60 cm wide. However, no structural rocks were found in this deposit.

Walls

The west and south edges of the test pit cut across the front house walls, which consisted of a single layer of rather large rocks.

Roof

Pieces of wood and whale bone found in the house suggest that a framework of some sort may have been erected over the structure, probably to support a tent. Whether this tent was a skin or canvas one could not be determined.

Talaguak House 2

House 2 was a large, single sleeping platform structure that measured 6 m across and 5.5 m front to back. There was a long, narrow entrance tunnel depression that measured nearly 6 m in length. House 2 was the right hand structure in a very large house mound that also contained House 4. These two houses shared a central wall. The entire house mound measured 15.2 m by 12.9 m.

A thick growth of sod and willow covered House 2. The interior depression was quite deep, measuring 1.25 m below the datum stake at the crest of the rear wall. On top of the sleeping platform there was a very thick deposit of soil and rocks that had slumped in from the rear wall. We did not excavate this feature.

Figure 22
Plan of Talaguak House 2--Lower Component

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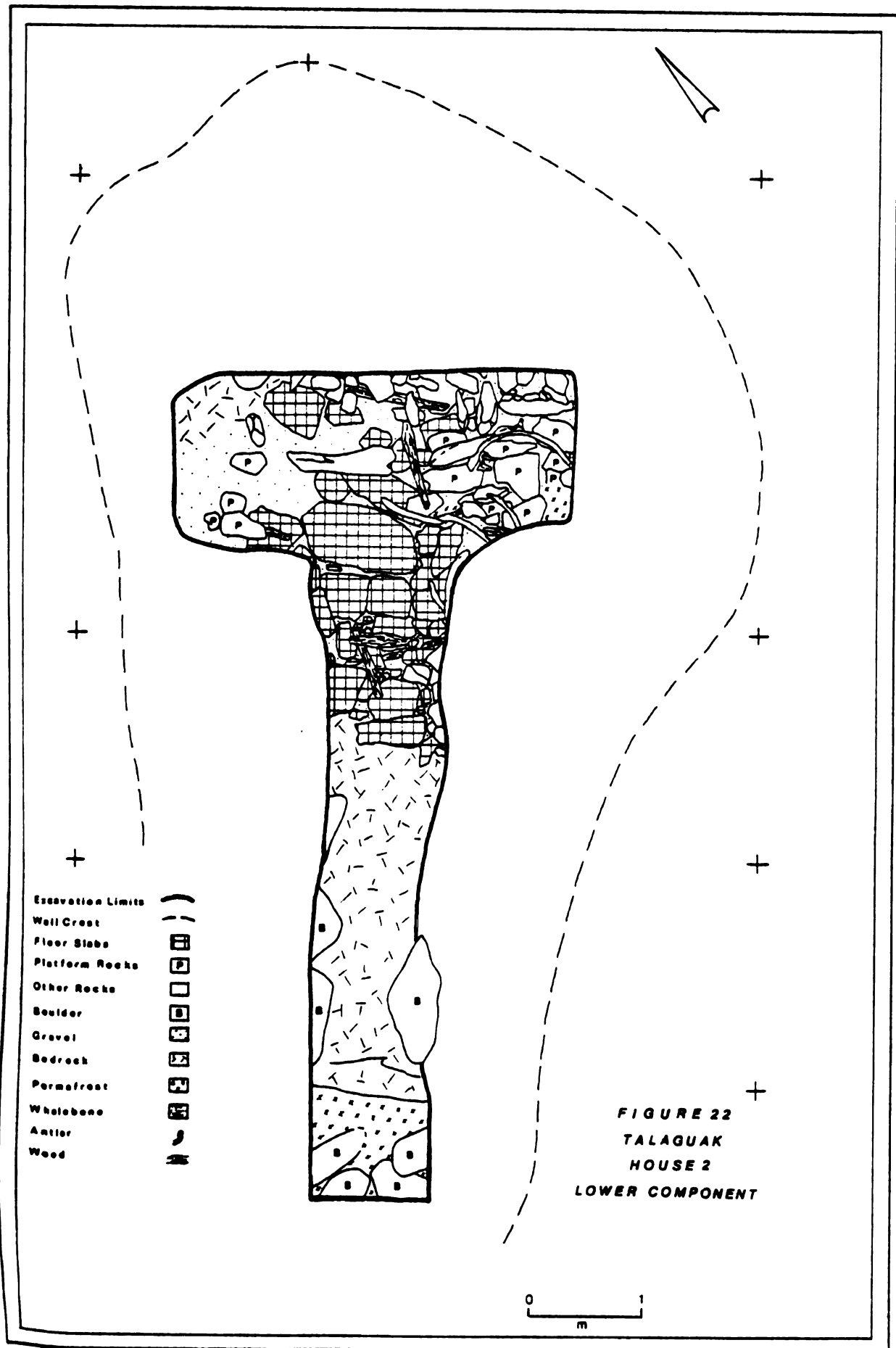


Figure 23
Profiles of Talaguak House 2

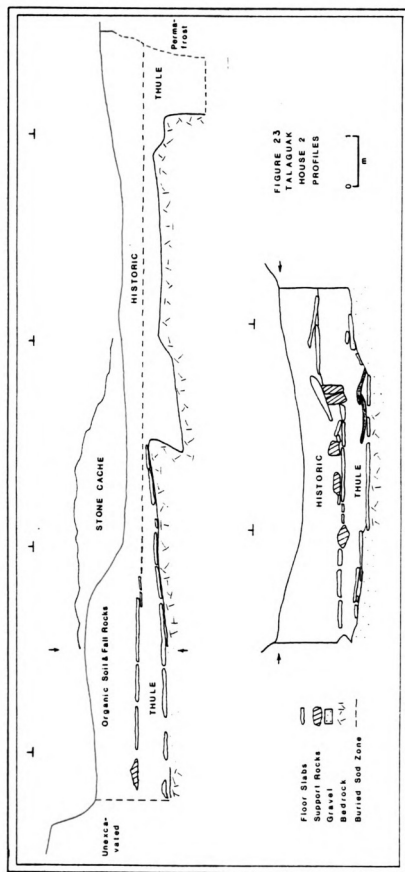
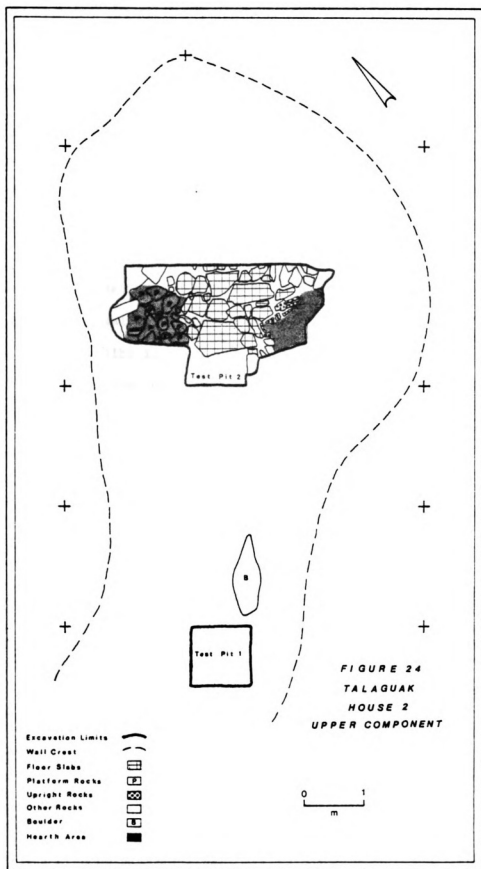


Figure 24
Plan of Talaguak House 2--Upper Component



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In the front half of the interior and adjacent entrance passage area, a large cache had been built of rather sizeable rocks and slabs. Many of the slabs had probably been lintels covering the entrance passage. The largest of these was more than a meter in length and about 0.75 m wide, and must have weighed several hundred pounds. Several square flipper seal vertebrae were found at the bottom of this cache. On both the left and right sides of the interior, along the center of either wall, were large, hollowed-out depressions. These may have resulted from weathering and slumping, or they may have been intentionally dug into the walls to serve as storage lockers. We were unable to confirm either possibility.

Our excavations were concentrated in the front half of the interior of this house as well as in the entrance tunnel. Portions of nine 2 m by 2 m test pits were excavated, which exposed the entire interior area in front of the sleeping platform as well as the entire entrance tunnel. A total of 592 cubic meters of fill was removed from these areas.

Stratigraphy and Components

As with House 8 at Okivilialuk, the stratigraphy of this house was complex, and two separate occupational components were identified.

The sod zone in the interior of the house was about 10 cm thick, and relatively few materials were removed from it. Below this there was a thick deposit of fairly loose, organic soil and displaced rocks and slabs. We found historic and traditional artifacts in this deposit along with many fragments of wood and lesser quantities of feathers, baleen, and seal skin. This deposit extended down to a slab paved floor at 35 cm below the surface. Just above this floor, the soil was more

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compacted, and greater quantities of artifacts, bone and other materials were recovered here. This floor and its overlying deposit are referred to hereafter as the Upper Component, representing an Historic period occupation of the house.

Below the upper floor was a 5 cm thick layer of congealed, oily, clay-like soil, below which there was another organic midden deposit about 20 cm thick. This lower deposit was quite compacted, and contained great quantities of faunal bone, baleen, wood, and other materials, in addition to numerous artifacts characteristic of the Thule Culture. A second slab paved floor was encountered beneath this lower midden deposit at 60 cm below the surface. This lower level, representing a Thule Culture occupation, will be referred to as the Lower Component.

The stratigraphy of the entrance tunnel corresponded well with that in the interior of the house. Below the sod zone there was a layer of brown organic soil which extended to a depth of 20 cm below the surface, where it was darker in color and more compacted than higher up. For slightly more than half the length of the entrance tunnel (from the entrance passage toward the front), we identified a buried sod horizon that was slightly lower than the floor level of the Upper Component. Above this buried sod horizon we found both traditional and historic artifacts in addition to faunal bone, baleen, wood, whale bone, and other materials. Beneath the buried sod zone in this part of the entrance tunnel we encountered another midden deposit containing Thule Culture artifacts. This lower deposit extended down to the underlying bedrock floor of the entrance tunnel. We were not able to follow the buried sod horizon into the front part of the tunnel; here, the upper, Historic midden deposit appeared to extend all the way down to the bedrock floor.

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However, very few artifacts were found in the lower levels of this deposit, and these were all non-diagnostic items.

At the end of the entrance tunnel the bedrock floor ended abruptly, and a trash midden had accumulated where it dropped off. We excavated this midden as far down as we could until operations were halted by permafrost. Quite a few artifacts were recovered in this deposit, as well as a quantity of faunal bone and other materials, all very well preserved by the permafrost. Among the artifacts were items characteristic of the Thule Culture.

Lower (Thule) Component

Entrance Tunnel

An extensive bedrock surface had been used as the floor in the entrance tunnel. This floor has a natural dip in it about 2 m in front of the entrance passage, which would have served effectively as a cold trap. The walls of the entrance tunnel consisted of large rocks and boulders set in two parallel rows. Toward the interior of the house, these rocks were set in courses, but in the front part of the entrance tunnel huge boulders had been set one against another. It is difficult to imagine anyone moving such large boulders for any great distance, so it may have been that these stones were already there before the house was built.

Floor

The lower floor in House 2 was made of large stone slabs laid very neatly together over an uneven surface of decomposing bedrock. In places, two layers of slabs had been set down to provide for a more level floor surface. On the right side of the house, part of the floor

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was covered by a permafrost deposit which prevented us from determining its full extent. On the left side of the house the floor terminated where the underlying bedrock surface sloped up toward the wall of the house. Toward the front, the floor extended part way out into the entrance tunnel. In all, it covered an area 3 m long and 2.5 m wide.

Sleeping Platform

We did not extend our excavations far enough into the rear portion of the house to expose the sleeping platform. In the rear profile of our interior test pits, a number of rocks and slabs extending out from the front of the sleeping platform were exposed. These had apparently fallen down from their original positions.

Benches and Platforms

On the left side of the interior, a low side bench had been constructed directly on top of the sloping bedrock surface. This bench consisted of a row of rocks laid across the bedrock surface parallel to the edge of the floor, over which several horizontal slabs had been placed. These slabs extended back to meet the upsloping bedrock surface next to the inner face of the wall.

On the right side of the interior another bench feature was partially exposed in the previously mentioned permafrost deposit which obscured part of the floor. This bench had been built quite like the one on the left side of the house, except in this case the support rocks had been set directly on top of the floor slabs. Since both of these bench features were covered with burned and congealed soil, they had probably served as lamp platforms.

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Walls

The walls of House 2 were massive, and our excavations in the interior did not expose very much of their underlying construction. However, it was clear that they had been built of alternate courses of stone and sod. These courses were built up from the underlying bedrock surface.

Roof

Several large wooden beams were found lying across the lower floor of the house, as well as two large pieces of whale jaw and a half dozen whale ribs. These represent a framework which apparently had collapsed into the house after it had been abandoned by its Thule Culture occupants.

Upper (Historic) Component

Entrance Tunnel

The Historic Inuit occupation of this house apparently used as a floor of the entrance tunnel the sod layer that had developed on top of the lower Thule midden. It is possible that the thinner Thule midden deposit toward the front of the entrance tunnel had been cleared off, where the underlying bedrock surface sloped upward. As mentioned above, the entrance tunnel was probably roofed over by at least some of the slabs that had been used to make the cache on the surface.

Floor

As with the lower floor, the upper floor in the interior of the house consisted of horizontally placed stone slabs which extended over an area m long and m wide. However, the upper floor was not quite as neatly made, its surface being somewhat more uneven and sloping up

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toward both sides. This floor also did not extend out into the entrance tunnel; instead, a large slab served as the threshold at the juncture of the interior and the entrance passage. Just beyond this, there were a few lower slabs that formed a step down into the tunnel. These had been placed directly on top of the buried sod horizon.

Benches and Hearths

On the left side of the house a bench had been constructed by placing a layer of stones and horizontal slabs on top of the upper floor. The soil in and above this feature was oily, burned, and congealed into a very hard mass.

A more elaborate bench feature was uncovered in the right side of the upper house structure. This feature consisted of a semi-circular row of stacked rocks that extended from the front wall toward the sleeping platform, ending at an upstanding pillar rock. Extending from the pillar rock to the right side wall were two upstanding slabs. All of these support rocks had been placed directly on top of the burned, congealed soil that extended beneath the upper floor. Several large slabs had then been placed across these support rocks to form the surface of the bench. The top of the pillar rock was somewhat higher than this bench, and may have served as a separate lamp support. The soil among and above these rocks was oily, burned, and partially congealed into lumps.

Walls

There was no obvious break in the exposed portions of the wall that would indicate a separate building phase associated with the Upper Component. It is likely that the later occupants of the house merely

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refurbished the extant walls by adding additional layers of stone and sod until the desired height had been attained. Evidently, at least a portion of the walls had been toppled into the house after the Historic occupation, accounting for the quantity of displaced rocks encountered above the upper floor.

Roof

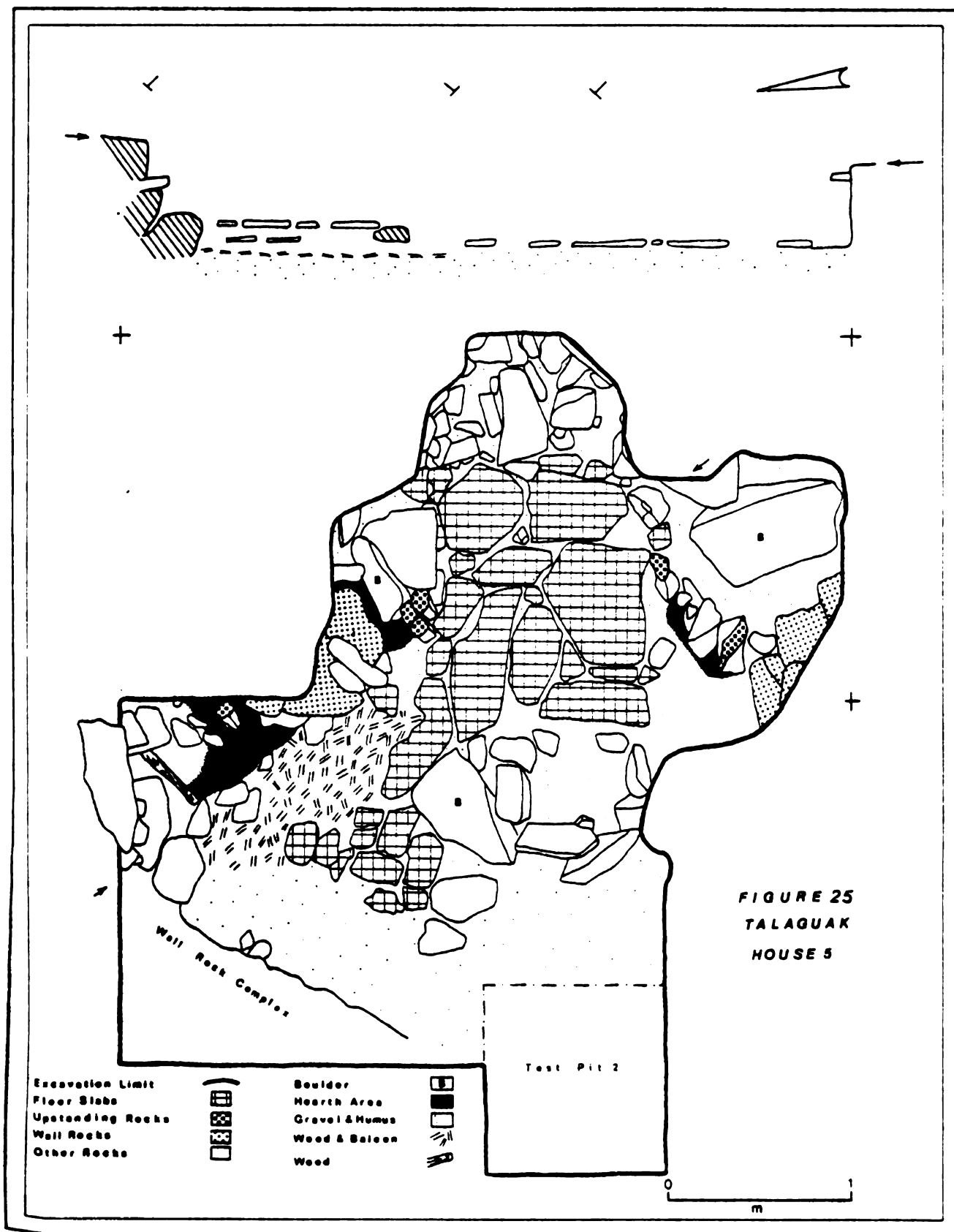
Although more limited in quantity than in the Lower Component, we did find several pieces of wood and whale bone on top of the upper floor. These indicate that a roof structure similar to the one previously described had also covered the house during the Historic period.

Talaguak House 5

House 5 was a bilobate structure situated in a wet, grassy area between two prominent bedrock outcrops. Overall, the house measured 7 m across and 6 m long. Each lobe was approximately 4 m across. A straight, narrow entrance tunnel depression extended out for about 5 m from the front of the house. One of the interior rooms was directly behind the entrance tunnel while the other room extended at a perpendicular angle to the left. Prior to excavation, this house was heavily overgrown with a very thick layer of sod, although the stone sleeping platform edges in both rooms were visible. The central area of the house was littered with a quantity of fallen rocks and slabs, some of them quite large. We cleared most of these out and excavated four 2 m by 2 m test pits. In addition, three 1 m by 1 m test pits were dug in the entrance tunnel and midden area in front of the house.

Figure 25
Plan and Profile of Talaguak House 5

Figure 25
Plan and Profile of Talaguak House 5
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Stratigraphy

The root mat beneath the heavy sod layer was 10 to 15 cm thick. Below the sod zone, there was a deposit of dark brown, organic midden soil overlying the lower structural features of the house, ranging in thickness from 10 to 35 cm. In places this midden layer was quite densely compacted. A few Thule Culture artifacts were found in this deposit along with faunal bone, wood, feathers, baleen, seal skin, and other materials. Underlying the structural features of the house was a sterile pea gravel deposit.

In front of the house, the midden layer below the sod was dark brown in color, and extended for 20-40 cm above the sloping gravel base.

Entrance Tunnel

Two 1 m by 1 m test pits were excavated in the entrance tunnel depression, and these revealed very little about the nature of its construction. One test pit at the end of the tunnel was terminated at sterile gravel 25 cm below the ground surface. A second test pit was excavated closer in to the house; at the bottom of this pit we encountered a paved tunnel floor approximately 20 cm lower than the adjacent floor level in the room directly behind the entrance tunnel. Unfortunately, water seepage prevented us from completely exposing this feature. Part of this latter test pit also cut into the wall of the entrance tunnel, revealing a section of the wall built of stone laid in courses.

Floor

Stone slab paving was found in the central floor area of both rooms. The room to the left of the entrance passage was referred to as the "4 meter room," while the room directly behind the entrance tunnel

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was referred to as the "6 meter room." The floor construction in each of these rooms is discussed separately.

In the 4 meter room we found a rather uneven floor made of small (ave. 25 cm square) slabs and stones. This floor extended over most of a 2 m square area from the edge of the sleeping platform to a passageway or portal into the 6 meter room. Toward the juncture of the 4 meter room and the entrance tunnel, this floor gave way to a compacted layer of black humus.

In the 6 meter room, a floor consisting of large, neatly laid stone slabs was found extending over an area approximately 1.25 m square. It extended from the front edge of the sleeping platform to an alcove which had been constructed where the entrance tunnel should have been, and across to the portal into the 4 meter room.

The alcove consisted of upstanding slabs and rocks, forming a semi-circle between the right wall of the house and the portal between the two rooms. A rather large boulder formed one end of the alcove as well as a support rock for the lintel over the portal. To enter House 5, one presumably would first crawl through the entrance tunnel into the 4 meter room, then go through the portal into the 6 meter room.

Since the floor of the 6 meter room was lower than the floor of the 4 meter room, and since the configuration of the entrance passage seemed rather odd, we dismantled the portal and took up the floor in the 4 meter room. We found that the floor of the 6 meter room extended part way under the floor of the 4 meter room, and where this lower floor ended, a concentration of small wood slate and baleen slabs was found. This sub-floor material lay directly on top of the sterile gravel. Apparently, the 4 meter room floor, along with the portal and alcove, were

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later modifications of an earlier single room house. The artifacts recovered on the two floors indicate that this building activity took place during the Thule period.

Sleeping Platform

Excavations of the interior of the house did not extend beyond the edges of the sleeping platforms, so little can be said about their construction. The front edges of both sleeping platforms consisted of flat slabs of stone set on top of support rocks. The support rocks in the 4 meter room rested on the higher floor of that room, while those in the 6 meter room were embedded in gravel. The sleeping platform in the 4 meter room extended over an area roughly 2.5 m wide and 2 m deep, while the sleeping platform in the 6 meter room was 2.5 m wide but only slightly more than 1 m deep.

Benches

There were no bench features associated with the 4 meter room. However, in the 6 meter room there were two benches in addition to the previously described portal and alcove features. In the left side of the 6 meter room, a side bench had been built over the paved floor, consisting of a large slab resting on top of smaller support rocks. A short wall of upright, brick-like rocks had been set along the back edge of this bench. The bench extended out at an angle from the wall toward the interior of the room. Burned and congealed soil surrounded this feature, indicating that it had been used as a lamp platform.

On the right side of the 6 meter room, another feature consisted of two upright pillar rocks surrounded by smaller rocks and more burned, congealed soil. These pillar rocks may also have been lamp supports.

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Walls

In the front of the house, our excavations revealed a portion of the interior wall, which had been constructed of stones laid in uneven courses.

Roof

Other than scattered, fragmentary pieces of whale bone, there was nothing in this house which might indicate how the original roof might have been constructed.

Talaguak House 7

This was a small, round, single sleeping platform structure located at the edge of a large pond in the center of the Talaguak peninsula. It measured 4.0 m across and 4.0 m long. The walls of the house were low, standing no more than 35 cm above the surrounding ground surface. Several large rocks were scattered in the interior depression; otherwise, the entire structure was covered with a dense growth of sod and willow. An entrance tunnel depression extended for 4.5 m from the front of the house, ending at the very edge of the pond. Rocks visible on the bottom of this shallow pond indicate that the entrance tunnel may once have been somewhat longer.

In 1977 we tested this house with two 1 m square test pits. Several artifacts were recovered and the underlying structural features were found to be relatively intact. Two small glass beads, one found below the slab floor, attested to an Historic period occupation of the house. Unfortunately, concentration on Houses 2 and 5 prevented further excavation in this house. Upon our return to Talaguak in 1978, we excavated six additional 2 m by 2 m squares in House 7. A total of

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3.22 cubic meters of fill was removed from the interior, along with 0.74 cubic meters from the entrance tunnel, for a total of 3.96 cubic meters.

Stratigraphy

The sod zone throughout the house averaged 5 to 10 cm in thickness. Below this was a fairly homogeneous layer of dark brown midden which varied in thickness from 10 to 20 cm in the interior, and was about 30 cm thick in the entrance tunnel. Artifacts and faunal bone were found in greatest abundance in this deposit, in addition to more limited quantities of twigs, feathers, and baleen. Most of these latter materials were found in the entrance tunnel or around the side benches. Below the organic soil layer we encountered the floor and other structural features of the house. These in turn rested on sterile tan to light brown sandy pea gravel. In places this gravel deposit was only 5 to 10 cm thick, grading into the underlying bedrock surface.

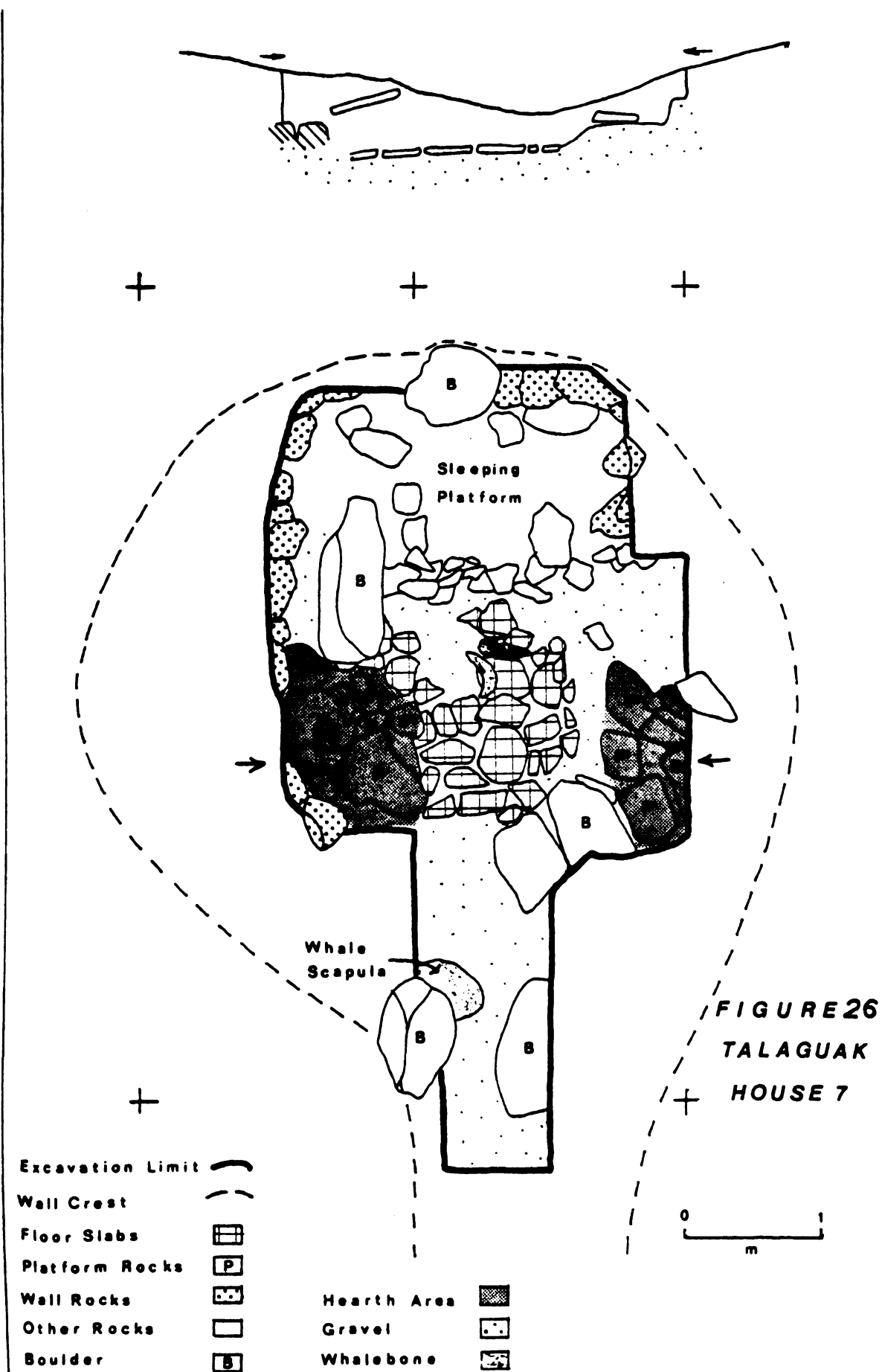
Below the surface of the sleeping platform and the right side bench, a very compacted, greasy, black soil was found which contained Late Dorset artifacts and mushy faunal bone. This deposit was apparently a remnant of a more extensive Dorset midden destroyed during the construction of the Thule house.

Entrance Tunnel

The entrance tunnel depression was excavated for approximately two-thirds of its length from the entrance passage toward the pond. Beneath the artifact and bone-bearing midden layer, a discontinuous slab floor was encountered. The floor slabs had been placed directly on top of pea gravel and rotting bedrock. In one place, a large piece of whale scapula had been used instead of a stone slab.

Figure 26

Plan and Profile of Talaguak House 7



In the middle of the tunnel two very large boulders had been set opposite each other to form part of the walls. Otherwise, smaller stones had been used, but since most of them had tumbled into the tunnel we were unable to determine their original placement.

Floor

The central part of the interior had been paved with several flat stone slabs ranging in size from less than 10 cm on a side to about 40 cm on a side. These had been laid directly down on the sterile gravel surface over an area measuring 2.0 m wide and 1.5 m from the edge of the sleeping platform to the entrance passage. The front edge of the floor consisted of three small slabs set in a row across the entrance passage.

Sleeping Platform

The rear half of the house consisted of a single broad sleeping platform measuring 2.6 m in width and 2.25 m from front to back. The front edge of this platform was clearly delineated by a line of small, horizontally placed slabs resting on courses of stones piled up from the gravel base. The top of the sleeping platform was 20 cm higher than the paved floor. On the surface of the platform scattered stone slabs were found which evidently had been placed on top of the Dorset midden. A thin (ca. 5 cm) layer of brown organic soil just above the slabs contained traditional artifacts. We also found a large quantity of clam shells just below the sod in this layer, indicating perhaps that the last occupants of this house enjoyed a meal of clams while sitting on the platform, just before departing.

Benches and Hearths

On the left side of the interior there was a two part lamp platform and side bench feature. Just inside of the entrance passage a large, flat slab had been laid across two support rocks forming a storage locker beneath the slab. The top of this bench was 35 cm above the floor. Extending back from this structure was a lower bench, 15 cm above the floor, consisting of smaller stone slabs set directly on top of the uneven bedrock surface. Just in front of this lower bench stood a taller pillar rock. The top of the lower bench was obscured by a very large (and immovable) boulder. The paved floor extended up to, but not beneath, this feature.

On the right side of the house another two part bench was uncovered. Along the front wall of the house three large, flat-topped boulders had been set next to each other forming a broad surface 35 cm above the floor. A lower bench extended from this one toward the rear of the house. This lower bench was built of flat slabs laid across support rocks embedded in the sterile pea gravel and Dorset midden deposit. This rear bench was only 25 cm high.

Walls

Portions of the wall along the left side of the house and along the rear of the sleeping platform were exposed during our excavations. Aside from a single, large boulder at the rear of the sleeping platform, the walls had been constructed of medium sized rocks and slabs laid in two or three courses. We were uncertain as to how the much larger fall rocks on the surface of the interior might have been incorporated into these walls.

Roof

Several fragments of whale ribs were found, mostly in the side bench areas. These indicate that a whale rib roof frame might have been used. No wood support beams were found, however.

Talaguak House 9

House 9 initially appeared as a water-filled, circular depression approximately 6.0 m in diameter, situated in a small, narrow valley, directly across from a similar structure designated as House 10. The entrance tunnel depression extended 3.5 m in front of the house, turning downslope at its terminal end. Prior to excavation of this house, a drainage ditch had to be excavated from the central depression through the downsloping entrance tunnel. Beneath the very thick, water-logged sod zone, there was a second, frozen, sod and humus level which had to be removed prior to reaching the Thule midden and underlying structural features. Permafrost throughout this deposit continually hampered excavations. Moreover, the interior and entrance tunnel areas of the house were filled with large, displaced rocks, necessitating extensive and painstaking mapping and photography, since the distinction between out-of-place fall rocks and in situ structural rocks was not always clear. Fortunately, by carefully recording the positions of rocks as they were removed, we were able to discern the architectural characteristics of the house and reconstruct the sequence of building activity that had taken place.

Nine 2 m by 2 m squares were excavated within the interior and entrance tunnel areas of the house. Of a total of 19.2 cubic meters of fill that was removed in the course of these excavations, 4.8 cubic meters represented the Thule Culture midden.

Figure 27

Plan of Talaguak House 9--Phase I, Stage 1
(Drawn by M. S. Maxwell)

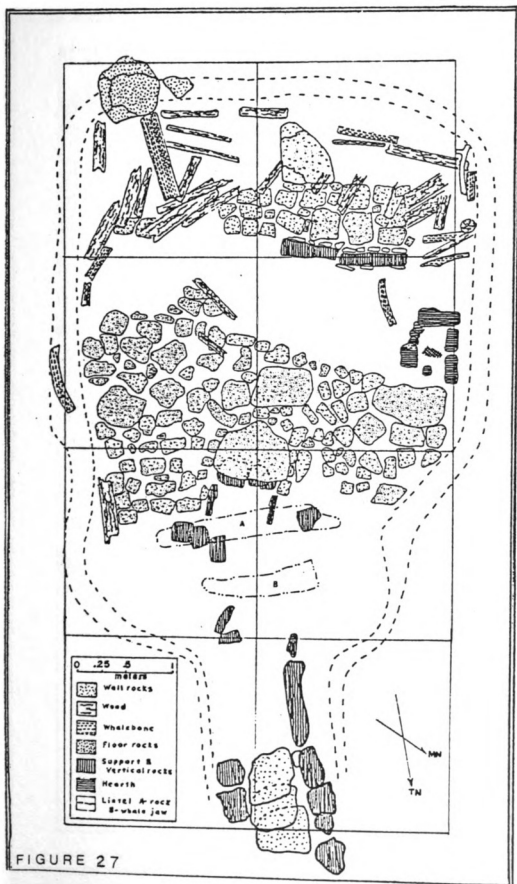


Figure 28

Plan of Talaguak House 9--Phase I, Stage 2
(Drawn by M. S. Maxwell)

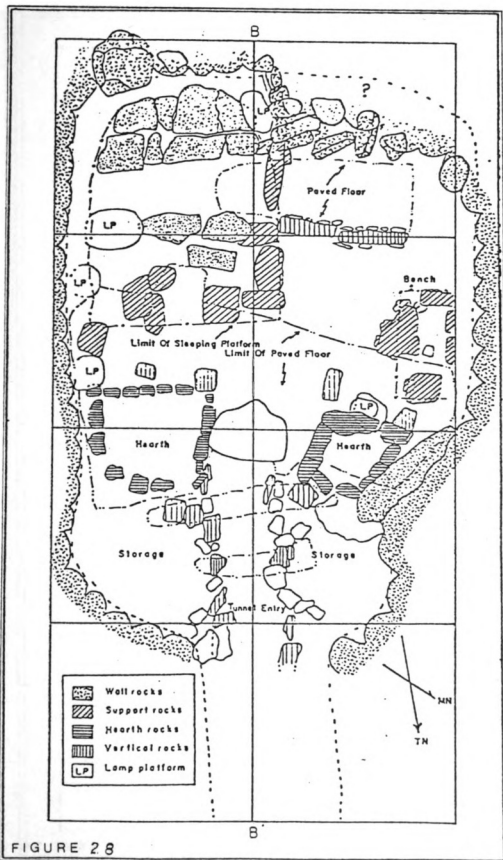


FIGURE 28

Figure 29

Plan of Talaguak House 9--Phase II
(Drawn by M. S. Maxwell)

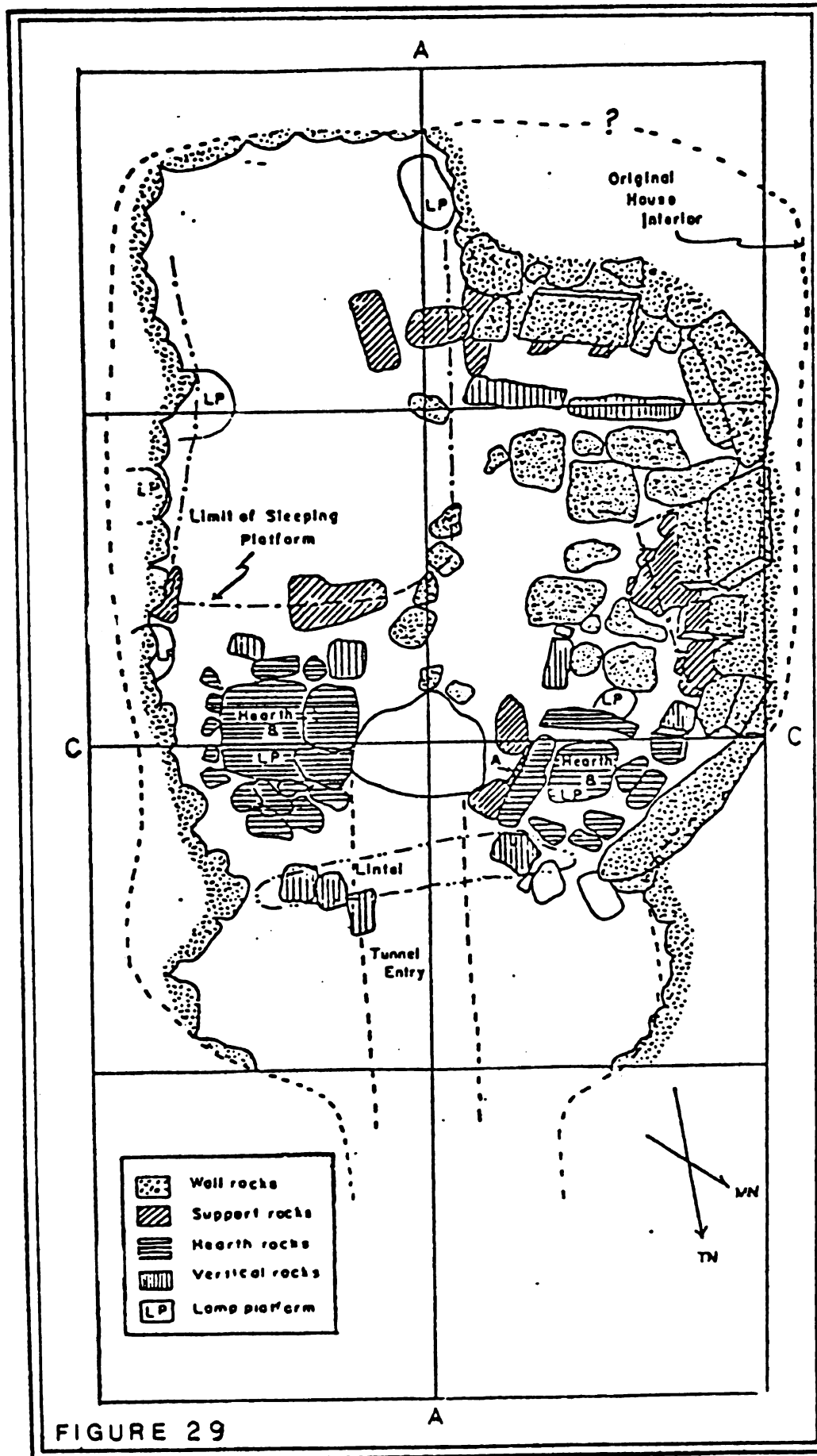


FIGURE 29

Figure 30

Plan of Talaguak House 9--Phase III
(Drawn by M. S. Maxwell)

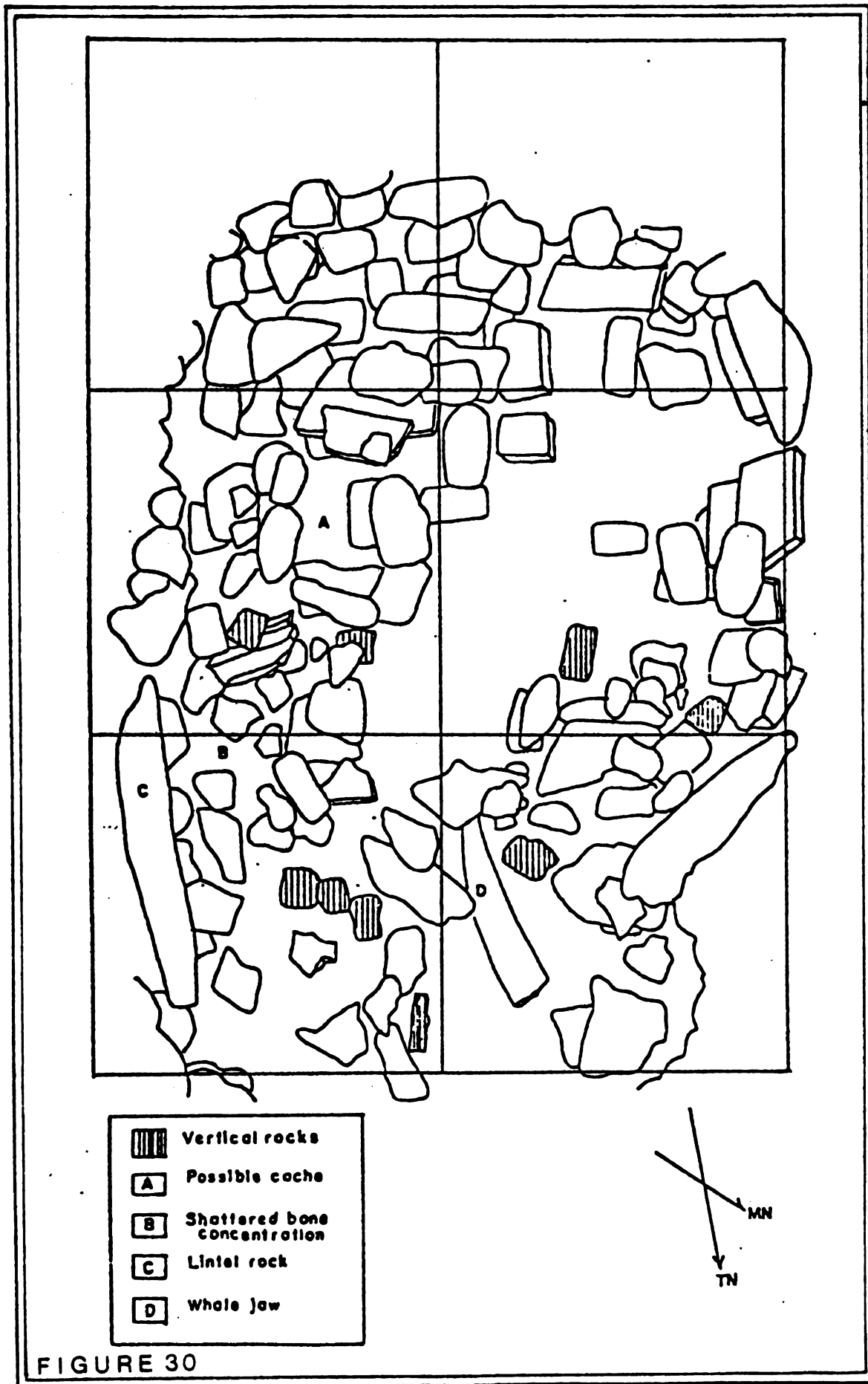
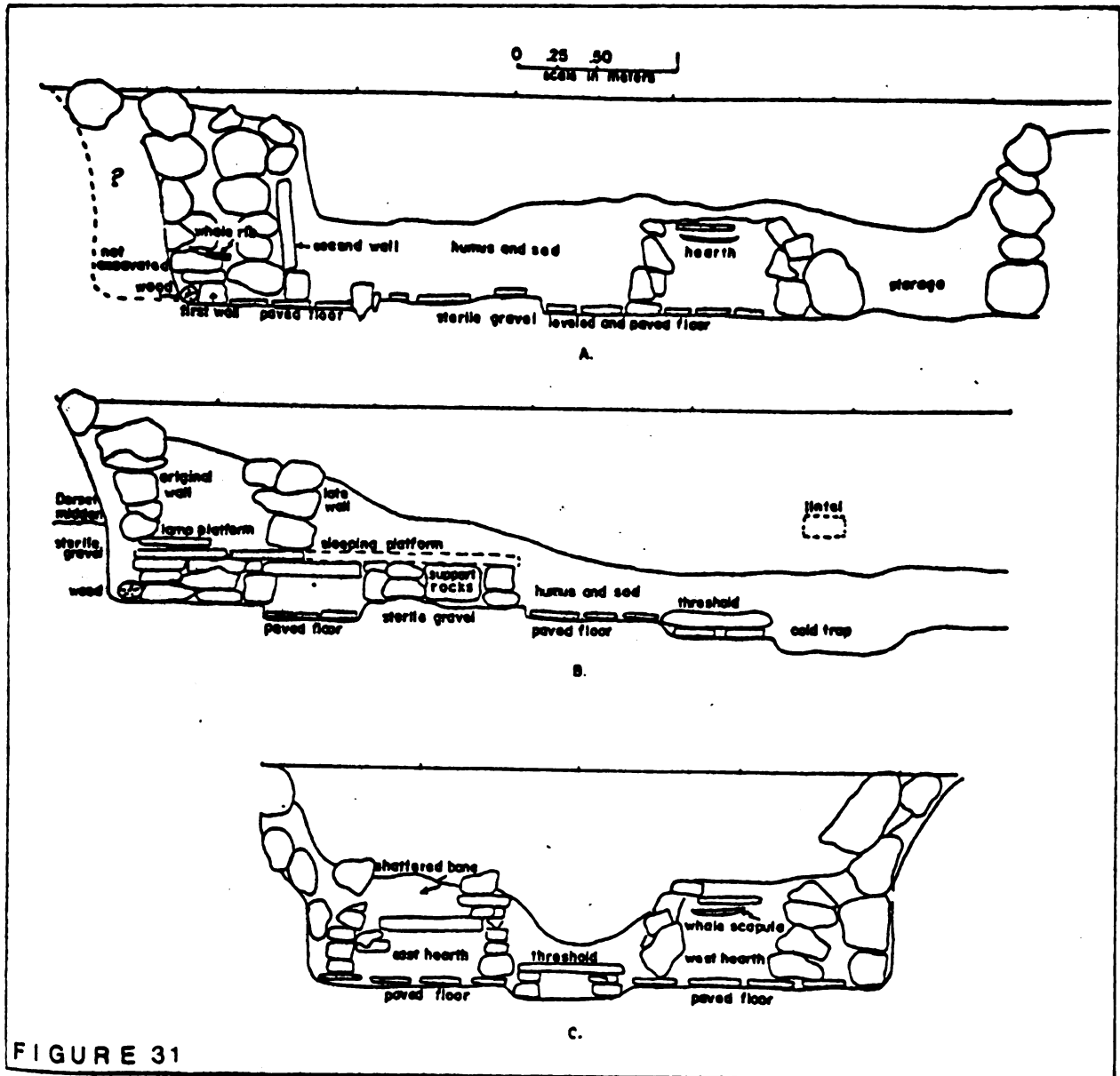


Figure 31

Profiles of Talaguak House 9
(Drawn by M. S. Maxwell)



Stratigraphy

On the surface of House 9 a layer of sod and moss cm thick had developed amidst the meltwater that filled the interior. In the root mat of this sod zone we found two whale bone sled shoe pieces and a quantity of shattered faunal bone representing at least caribou, fox, dog, and hare. Maxwell interpreted this evidence as indicating that the collapsed-in house pit may have occasionally sheltered passing travelers, and in this last instance perhaps a starving family had gathered up all the bones they could find, smashed them up, and boiled them for a meal.

Directly below the sod zone a layer of burned, frozen sod was encountered. This layer, cm thick, was interpreted as a collapsed sod roof that had covered the house during its occupation. The humus attached to the frozen chunks of sod contained Dorset artifacts, indicating that the sod had been cut from a nearby Dorset site.

Beneath the collapsed sod roof layer was another layer of organic soil 40 to 60 cm thick. This deposit was devoid of any cultural materials, having apparently washed in to the house from the surrounding area after it had been abandoned. This sterile humus was above the Thule cultural midden deposited on and among the structural features of the house. This lower midden layer varied in thickness from cm to cm.

The structural features of House 9 portrayed a succession of three phases of occupation and rebuilding (prior to the latter, more transitory use as a temporary shelter, as described above) over a lengthy period of time. However, the depositional pattern of the materials found in the house as well as the artifacts styles leads us to believe that this occupational sequence represents periodic seasonal use within a single span of time (perhaps a century or more) within the earliest

period of Thule Culture presence in the region. Therefore, the following description of House 9 follows Maxwell's (n.d.) designation of "phases" within a single period of occupation, rather than distinguishing separate components as I have done with the other houses in which separate cultural stages were represented.

Phase I

Entrance Tunnel

The floor of the entrance tunnel, like that of the interior, was initially excavated into the rotting bedrock/gravel surface 1.35 m beneath the present surface of the ground. At the entrance passage into the interior, a small cold trap had been dug an additional 20 cm lower than the rest of the floor. The tunnel floor had been paved for an undetermined distance out from the entrance passage. It is interesting to note that this floor did not slope downward toward the end, so that cold air could not have effectively drained out. At the far end of the tunnel, the walls appeared to turn 90° to the right, facing downslope toward the sea.

The walls of the entrance tunnel had been built of stones laid in courses against the sides of the excavated tunnel pit.

Floor

The interior of House 9 was rectangular in shape and quite spacious, measuring 4.0 m on a side. There were two distinct areas of stone slab pavement at the base of the interior. In the front half of the house, the entire floor area had been paved with large and small slabs set on top of the rotting bedrock/gravel surface. There were many gaps in this pavement where the slabs had not been set very close together.

This floor extended from the front walls and entrance passage to about the middle of the interior. At the entrance passage opening a large, flat threshold slab had been set across several smaller rocks arranged in a horseshoe-shaped pattern. This threshold slab was actually a meter inside of the entrance passage itself, over which a long, narrow lintel slab had been placed. Thus, the interior floor on either side of the threshold slab extended for another meter toward the front walls. The back edge of this floor ran diagonally across the interior, the pavement on the left side of the house extending farther toward the rear than on the right side.

In the right rear corner of the house, an area 1.85 m long and 0.75 m wide had also been paved. The front edge of this pavement, parallel to the back wall, had been set off from the main room by two vertical slabs set into the gravel base. The lack of cultural material above this floor suggests that it may have been used as a meat-thawing locker.

The gravel surface beneath both of these paved areas had been excavated to a depth of 7 cm lower than the unpaved gravel floor area in the interior.

Sleeping Platform

Although the sleeping platform had been largely dismantled during the Phase II occupation of the house (see below), enough of the support rocks as well as some platform slabs extending out from the rear wall remained for us to determine its original appearance. This platform extended over the entire left rear quadrant of the house, measuring 2.4 m long and 1.6 m wide. Large, flat stone slabs had been set across up-standing support rocks, so that the surface of the platform stood 25 cm

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above the floor. The right edge of the platform overlapped a portion of the adjacent paved floor in the rear part of the house. Here, the support rocks had been set so as to provide a paved storage locker beneath the platform. Another storage locker was provided below the front edge of the platform.

Benches and Hearths

There were several platform and hearth features in this house. At the center of the right wall, a small hearth had been built of up-standing rocks set in a three-sided square. Since only a small amount of charred material was observed in this hearth, we believe that it may only have been used to heat the interior during the initial construction phase. Subsequently, additional rocks were added to the hearth to make it into a bench 1.15 m long by 0.5 m wide.

Five small, surface-charred stone slabs found in various places in the house were interpreted as lamp platforms. Two of these extended out over the left side of the sleeping platform from the left wall, while another extended out from the back wall over the sleeping platform. Two others were found adjacent to the larger hearth or kitchen areas along the left and right front walls described below.

Two kitchen alcoves had been constructed over the paved floor areas on either side of the previously described threshold slab. The walls of these kitchens consisted of stones laid in courses three to four levels high, forming rectangular shaped alcoves abutting the interior walls on both sides of the entrance passage. The left kitchen measured 1.3 m by 1.05 m, and the right kitchen measured 1.0 m by 0.75 m. These kitchens were accessible from the interior of the house, but not from the entrance tunnel.

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Storage Annexes

On either side of the entrance tunnel were circular shaped storage annexes approximately 1.0 m in diameter, located just forward of the entrance passage on the outside of the front walls. These annexes were accessible only from the entrance tunnel. The floors in the annexes had not been paved. Since very few artifacts or bones were found in these structures, they were interpreted as meat storage rooms.

Walls

The interior walls were built of three to four courses of small rocks extending about 20 cm up from the floor level, upon which larger rocks, boulders, and pieces of sod had been laid. These walls had been set against the face of the pit excavated in the initial stage of house construction. This pit had been dug with outward sloping walls, and therefore the stone walls were similarly slanted outward. Judging from the number of fall rocks in the interior of the house, this wall probably stood at least a half meter higher than the surrounding ground surface.

Roof

Pieces of wood beams, whale ribs, and a whale jaw fragment found on the floor of this house attest to a roof frame of these materials extending over the top of the structure. We also found thick pieces of walrus hide which may have been stretched over the framework. As previously noted, the roof had also been covered with a thick layer of sod.

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Phase II

After a time down-slope movement of the soil surrounding House 9 caused the walls of the house to slump inward, necessitating the following structural modifications in the interior.

Floor

The remaining unpaved portion of the interior was now covered with stone slabs. This flooring, several centimeters higher than the original floor, was very uneven.

Benches and Hearths

The right side bench was covered up by additional stones which had been set against the slumping right wall to shore it up. Consequently, this bench was no longer useable.

The two kitchen structures in the front part of the house were covered over with large, flat stone slabs. This in fact appears to have occurred frequently, as evidenced by oily, congealed deposits found between several layers of slabs set on top of the kitchens.

Walls

The rear and right side walls had been partially rebuilt, thus reducing the size of the interior. As mentioned above, rebuilding the right side wall resulted in the placing of numerous rocks over the right side bench, rendering it useless. Along the rear wall of the house, the paved locker area was similarly reduced in size by a new layer of wall rocks, and the sleeping platform was also now indented nearly a meter into the wall. Nooks and crannies between wall rocks appear to have been used as storage compartments as we found many artifacts in these places, some apparently in need of repair.

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Phase III

After the house ceased to be used as a residence, the entrance passage was demolished and the entrance tunnel dug out to a width of nearly two meters. The sleeping platform was dismantled, and the rear wall was once again rebuilt, to fill in the indentation in the left side. During this period, the structure seems to have been used as a large store room. Subsequent to its final abandonment, the sod roof appears to have collapsed in.

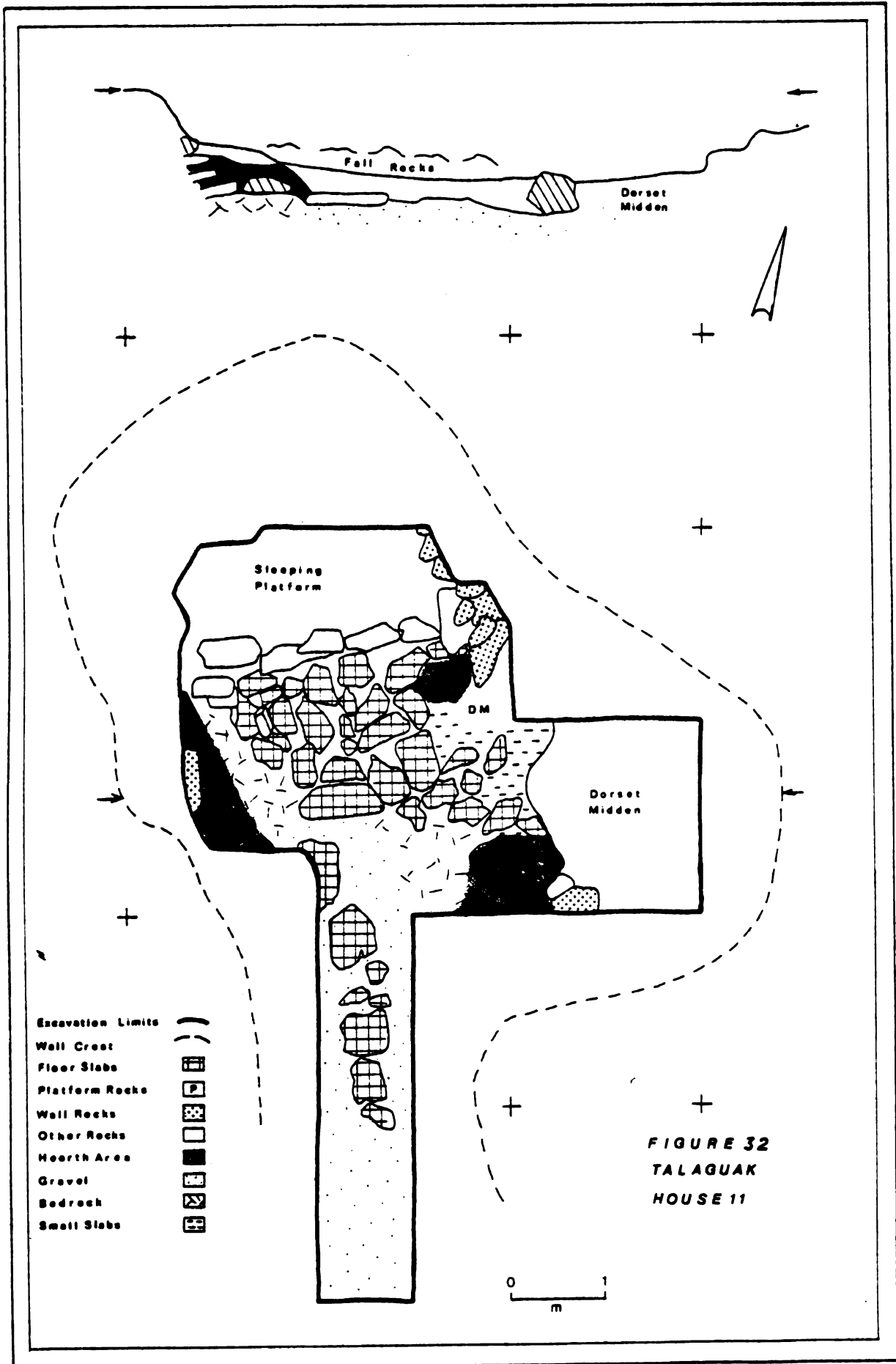
Talaguak House 11

House 11 was a large, bilobate structure situated on a broad, grassy, elevated area on the eastern side of the Talaguak peninsula, facing directly inland. The main room of this house was directly anterior to the entrance tunnel, while the smaller room extended off to the right at a perpendicular angle to the axis of the entrance tunnel. The overall width of the structure was 6.6 m, and its length was 6.0 m. The entrance tunnel depression was discernible for 5.0 m, but originally may have extended somewhat farther. The interior depression of the house was overgrown with sod, except in the center where a large accumulation of fall rocks was concentrated. Here, a wet, thick layer of moss had grown. Despite the large number of rocks in the interior of the house, the walls were yet quite massive, standing in places as much as 1 m above the surrounding ground surface. The walls were covered with a very thick layer of sod. The slope of the walls from the crest to the outer wall line was very gradual around much of the circumference of the house, so that the break between the wall and the natural ground surface was for the most part indistinguishable.

Our excavations were concentrated in eight 2 m by 2 m squares,

Figure 32

Plan and Profile of Talaguak House 11



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OF
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OF
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HISTORIANS
AND
ANTHROPOLOGISTS
PUBLISHED
BY THE
AMERICAN
MUSEUM OF NATURAL HISTORY

extended over the entire interior of the house as well as the entrance tunnel. In all, we excavated 3.85 cubic meters of fill from the interior and 2.0 cubic meters from the entrance tunnel, for a total of 5.85 cubic meters. In 1976, Maxwell excavated an additional 5 foot square test pit in front of the entrance tunnel, to a depth of 50 cm.

Stratigraphy

As noted above, in the central part of the house a layer of moss 5 cm thick had grown among the extensive fall rock concentration. Beneath this moss was a deposit of wet, fibrous muck which extended for 20 to 25 cm, to a slab paved floor. Relatively few artifacts or faunal bones were recovered from this deposit. In the rest of the interior a thick sod cover had developed with an underlying root mat 10 to 15 cm thick. Beneath the root mat was a layer of dark brown organic soil, ranging in thickness from 15 to 30 cm in which most of the cultural materials were found. Directly below this midden were the structural features of the house.

In several areas within the house a second organic soil layer was encountered. This was a very compacted, greasy, black deposit which contained Dorset Culture artifacts. This lower deposit was encountered below the paved floor near the juncture of the main room and the right side room; beneath a hearth feature along the front wall of the house; and below most of the right side room. This deposit was 20 cm thick along the front wall of the house. As in House 7, this Dorset midden area indicates that the Thule Culture builders of House 11 had excavated through an earlier Dorset Culture occupation zone. No indications of an earlier Dorset house structure were identified, however.

Entrance Passage

The entrance passage had a slab paved floor which extended for 2.0 m out from the entrance passage. This floor was cm lower than the floor inside of the house. The floor slabs had been set directly on top of the sterile gravel base. Where the entrance tunnel pavement ended, compacted gravel had apparently served as the floor, with a narrow drainage ditch dug along the middle of the tunnel to its end. A thin Dorset midden layer extended below the compacted gravel floor of the entrance tunnel, through which the drainage ditch had been excavated.

The walls of the entrance tunnel consisted of large rocks and slabs laid in courses in the interior part of the tunnel. Toward its terminal end its construction could not be determined.

Floor

The floor of the main room extended over an area 3.5 m by 3.0 m in dimension. Stone slabs had been laid down over an uneven rotting bedrock surface, so that in places two layers of slabs had been used, the lower layer filling in dips in the bedrock to provide for a more level floor. The upper layer consisted of numerous large slabs with smaller slabs and stones filling in the gaps between them.

At the front of the main room adjacent to the entrance tunnel, a large, elongated slab had been used as a threshold rock, beyond which the lower entrance tunnel floor extended. The surface of this slab was about 5 cm higher than the surrounding floor slabs.

In the front of the right side room, the floor dipped about 10 cm and extended below a row of large rocks separating this smaller room from the main room.

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Sleeping Platform

Across the rear of the main room there was a sleeping platform measuring 3.1 m across and 1.7 m deep. The top of this platform stood 40 cm above the adjacent floor level. The front edge of the platform was delineated by a row of horizontal stone slabs resting upon support stones and slabs. Storage lockers below the edge of the platform were formed by horizontal slabs set over vertical support rocks. The top of the sleeping platform was not paved; on this surface we encountered a thin midden layer below the sod, which rested upon sterile gravel and rotting bedrock below.

The function of the right side room was not altogether clear. Below the sod was a thin layer of organic soil containing Thule Culture artifacts as well as several horizontal slabs in no apparent pattern. Below these slabs was the previously described Dorset midden. This room measured approximately 1.0 m on a side, and was separated from the main room by a row of large rocks set directly on the paved floor. This room may have been a storage annex, or it may have served as a second sleeping platform area. The fact that we found only a little faunal bone in this room, about the same amount as found on top of the sleeping platform in the main room, lends support to the latter interpretation.

Benches and Hearths

Along the left wall of the main room we uncovered the remains of a long, narrow side bench extending from the corner of the rear sleeping platform to the front wall. Large stone slabs had been laid across support rocks resting on top of the uneven rotting bedrock surface. The paved floor in the house extended up to, but not beneath, this bench. The bench surface was 1.9 m long and 0.9 m wide, and stood about 35 cm

[illegible]

higher than the floor in front of it. The soil above this feature was permeated with oil and burned into hardened lumps.

A smaller lamp platform was found in the other side of this room, in front of the right side of the sleeping platform. Here numerous small rocks and slabs had been set side by side over an area measuring 1.25 m on a side. The top of this platform was 25 cm higher than the floor. When this feature was dismantled, we found that the floor extended completely beneath it, indicating that it had been built some time after the original construction of the house.

A second small lamp platform or hearth extended into the interior of the main room from the wall on the right side of the entrance passage. Horizontal slabs had been set across larger rock which in turn sat partly on the paved floor and partly on sterile gravel. The soil among the platform rocks was congealed and burned into hard lumps. The lowest part of this feature, resting on the slab floor, was especially permeated with oil.

Walls

In the few places where our excavation exposed the inner face of the walls, successive tiers of large rocks and layers of sod were observed.

Roof

Several fragments of whale ribs were found in House 11, and a number were also observed outside the house on the surface of the ground. At the back of the sleeping platform in the main room, one piece of whale rib was found lying next to a small, vertical niche in the wall filled with rotted whale bone, indicating the use of whale rib

rafters. One large piece of wood was also found on the floor in the main room, suggesting the use of wood support beams.

Itinapik House 1

House 1 was a small, single sleeping platform structure measuring 3.5 m in width and 4.5 m in length. Prior to excavation, this house was overgrown with grass, and portions of the interior depression and walls were also overgrown with willow. The interior depression was rather shallow, and there were no immediately obvious internal structural features. A number of fall rocks were concentrated in the front half of the house, just inside of the entrance passage. The walls stood about 10 cm above the surrounding ground surface at the rear of the house, and were approximately 43 cm high at the front. The entrance tunnel was 3.0 m long. A single lintel slab still in place over the entrance passage was supported on either side by large boulders. The entrance passage opening measured 60 cm high and 60 cm wide.

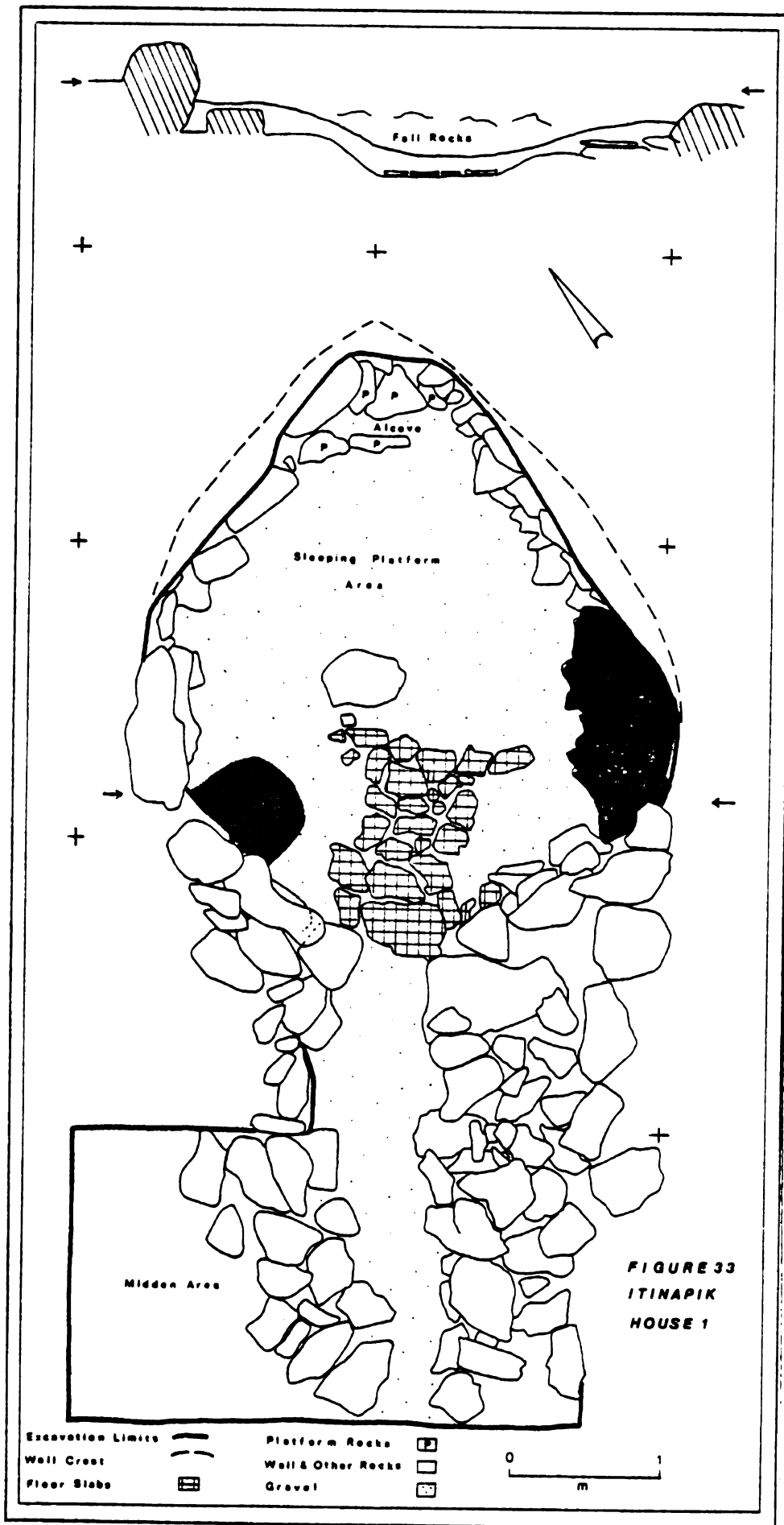
We excavated eight 2 m by 2 m squares in the house interior and entrance tunnel, including part of a midden area adjacent to the entrance tunnel in front of the house. In all, 1.78 cubic meters of fill were removed from the house interior, 1.63 cubic meters from the entrance tunnel, and 0.74 cubic meters from the midden deposit in front, for a total of 3.88 cubic meters.

Stratigraphy

Below the grass and willow in House 1 there was a supporting root mat about 5 cm thick. Under this mat a layer of dark brown organic midden soil was encountered, 5 to 15 cm thick in the interior and 20 cm thick in the entrance tunnel. This midden layer contained a few

Figure 33

Plan and Profile of Itinapik House 1



traditional artifacts, faunal bone, and a rather limited amount of wood, feathers, seal skin, and baleen. All in all, very little was found in this house. Most of the materials were distributed in the front half of the interior and in the entrance tunnel, except for a concentration of faunal bone in an apparent storage locker at the back of the sleeping platform. Throughout the house, the organic midden layer was underlain by a compacted light brown sand and pea gravel deposit devoid of any additional cultural materials.

Test excavations nearby House 1 confirmed the stratigraphy noted above. Below the sod zone was a layer of organic soil which varied in thickness from less than 5 cm to about 10 cm, and below this was the sand and pea gravel layer. This basal layer overlies the parent bedrock throughout the area, except in places where the bedrock is exposed in outcrops.

Entrance Tunnel

The entrance tunnel was clearly delineated by two parallel walls of stone which stood about 75 cm apart. Although these stones were in disarray when we excavated the house, they appeared to have been originally laid in courses; and in places two or three tiers of stone were still intact. The entrance tunnel curved slightly to the right, its end facing down the slope in front of the house. The floor of the entrance tunnel was not paved, but consisted of compacted pea gravel. Although this floor was 12 cm lower than the floor in the interior of the house, it did not slope downward toward the front end, so it is doubtful that cold air would have effectively drained out.

There was little evidence to suggest how the entrance tunnel might have been roofed over. A solitary fragment of wood, measuring

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20 cm long by 5 cm wide, was found in the tunnel floor; it may have been part of a support member.

Floor

In the central part of the house, just inside the entrance passage, was a slab floor covering an area measuring 1.35 m by 1.75 m. The stone floor slabs were mostly rather small, averaging less than 15 cm on a side. These were laid down directly on top of the sterile gravel. One somewhat larger slab, measuring 30 cm on a side, formed the threshold of the floor at the entrance passage.

Sleeping Platform

Surrounding the paved floor on three sides was the sterile sand and pea gravel deposit, leveled off at about 20 cm above the surface. At the rear of the house, this deposit was interpreted as the sleeping platform. It measured 1.35 m wide by 0.75 m deep.

Prior to excavation of the house the rear wall behind the sleeping platform appeared to budge outward from the otherwise circular shape of the structure. Upon excavation it was discovered that this was due to a rear storage locker that had been built at the back of the sleeping platform. This locker measured 0.75 m wide and 0.5 m deep. A partial line of short, vertically placed slabs formed the front edge of this structure, and the floor was partly paved with small, flat stones. A quantity of faunal bone found in this feature suggested its function as a small meat locker.

Roof

As was the case in the entrance tunnel, little evidence was found pertaining to how the roof of this house might have been constructed.

APPENDIX B

APPENDIX B

DESCRIPTION OF ARTIFACTS

Okivilialuk House 8--Lower Component

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Harpoon Heads

KeDq-7:311 (16C/L, on gravel just below floor slab; Fig. 34: c)

The single harpoon head recovered from this component is a dorsal type 2 specimen. It is made of antler, with a flat cancellous single strong lateral spur on the right side, forming an oblique angle with the bottom edge of the base. The open foreshaft socket is rectangular in shape, expanding slightly toward the base edge, with lashing slots on either side. Shallow grooves extend from the lashing slots to lateral shoulders at the juncture of the base and midsection. The round line hole has been drilled from the ventral surface; on that side there is a shallow groove extending from the line hole to the top of the foreshaft socket. The blade has one pair of asymmetric opposed barbs, and the self-bladed tip has a rounded edge.

L = 13.0 cm. W = 2.3 cm. Th = 1.3 cm.

Endblades

KeDq-7:41 (16L2, on top of gravel below midden layer; Fig. 43: d)

KeDq-7:317 (16C/L, on right side bench in congealed soil)

Both of these endblades are made of slate. They are roughly triangular in shape with smoothed faces and sharpened lateral edges.

L = 2.5 cm. W = 2.1 cm. Th = 0.3 cm. (KeDq-7:41)

L = 3.1 cm. W = 2.1 cm. Th = 0.3 cm. (KeDq-7:317)

KeDq-7:95 (8L2, Midden Pit 2--Lower Level)

This broken specimen is also triangular in shape, with bevel-sharpened edges on one face and two broad facets extending from a medial ridge on the opposite face. The base is broken across a drilled hole, and one lateral edge is also broken across a second hole drilled closer to the tip and offset to one side. The relatively small size of this

endblade as well as the two described above suggests that they were made for harpoon heads.

L = (1.8 cm.) W = (1.6 cm.) Th = 0.3 cm.

KeDq-7:315 (16C/L, on right side bench in congealed soil)

This is an elongated, triangular blade with faceted faces. A flattened medial ridge extends along the center of each face from the base to the tip. Three holes are drilled along this ridge, and the tip of the blade is broken off across the third hole. This somewhat larger specimen may have tipped the end of a lance.

L = (4.1 cm.) W = 2.3 cm. Th = 0.4 cm.

Foreshaft Fragments

KeDq-7:85 (10L2, Midden Pit 1--Lower Level)

KeDq-7:211 (12C/L-12L2, Midden Pit 3--Lower Level; Fig. 39: f)

These are tapered, round-tipped harpoon or lance foreshaft distal end fragments made of bone.

Harpoon Finger Rest

KeDq-7:79 (10L2, Midden Pit 1--Lower Level)

This ivory specimen has a flat base and a cylindrical body with a concave indentation along one side. The distal end is bifurcated and although the tip is broken off it is clear that this specimen has been carved to represent a polar bear. The lashing hole for attachment to the harpoon shaft is just below the "mouth," positioned so as to represent the eye. There is a groove from one side of the hole to the edge of the base to facilitate lashing onto the harpoon shaft.

L = (3.1 cm.) W = 1.5 cm. Th = 1.1 cm.

Harpoon Ice Pick

KeDq-7:78 (10L2, Midden Pit 1--Lower Level; Fig. 44: e)

This bone ice pick fragment is broken on both ends. Along half of its length the fragment is square in cross section, then tapers to the opposite end; the tapered portion is scored along opposite faces for lashing.

L = (11.6 cm.) Th = 2.0 cm.

Dart Gear

Harpoon Dart Head

KeDq-7:49 (16L4, compacted midden above gravel; Fig. 36)

This ivory specimen has a short, wedge-shaped tang and an elongated midsection that is rectangular in cross-section. There are four pairs of barbs at the distal end. The tip is slotted for an end-blade, and two lashing holes have been drilled perpendicular to the blade slot. These holes are connected by lashing beds on both sides.

The surfaces are covered with scratches and incisions in no apparent pattern. This specimen has been identified as a harpoon dart head, although the writer is unaware of other examples that bear close resemblance to this one. McGhee (1972, Plate I, n) illustrates a dart head made after a somewhat different style.

L = 17.2 cm. W = 2.1 cm. Th = 1.2 cm.

Seal Float Gear

Float Bars

KeDq-7:81 (16L2, in congealed soil between bench rocks; Fig. 46: p)

KeDq-7:309 (16C/L, on right side bench)

KeDq-7:329 (16C/L, on slab floor;

These three wood float bars are all bar shaped, thickest at the midsection and tapering to beveled or rounded ends.

L = 8.6 cm. D = 1.9 cm. (KeDq-7:81)

L = 5.4 cm. D = 1.8 cm. (KeDq-7:309)

L = 9.0 cm. D = 1.6 cm. (KeDq-7:329)

KeDq-7:368 (16C/L, in congealed soil on right side bench; Fig. 45: e)

This specimen, also made of wood, is broken in half at the midsection. The one end of this fragment has been carved into a narrow knob.

L = (9.6 cm.) D = 2.0 cm.

Mouthpiece Stopper

KeDq-7:86 (10L2, Midden Pit 1--Lower Level)

A small wooden plug, rounded at one end and whittled to a narrow point at the opposite end, was probably used as a float mouthpiece stopper.

L = 3.0 cm. W = 0.8 cm. Th = 0.7 cm.

Wound Plug

KeDq-7:65 (10L2, Midden Pit 1--Lower Level)

This is a fragment of a screw-type wound plug, made of wood, with narrow, raised screw threads carved across the outer surface.

L = (3.2 cm.) D = (0.7 cm.)

Bow and Arrow Equipment

Lashing Braces

KeDq-7:47 (10L2, Midden Pit 1--Lower Level)

KeDq-7:355 (14L2, below slabs in entrance tunnel)

These two lashing braces for composite bows are made of antler, with flat dorsal surfaces and convex ventral or upper surfaces. They are widest across their midsections, tapering slightly to the ends (both specimens are broken at one end). There is a raised lip at intact end

to contain the lashing.

L = (3.2 cm.) (KeDq-7:47)

L = 11.4 cm. W = 2.0 cm. (KeDq-7:355)

KeDq-7:87 (10L2, Midden Pit 1--Lower Level)

This specimen is made of wood, and is much like the two antler specimens described above, except for an incised groove across the end instead of a raised lip.

L = (7.0 cm.) W = 1.5 cm. Th = 0.4 cm.

Miscellaneous

Gull Hook Shanks

KeDq-7:284 (16L2, among floor slabs; Fig. 34: h)

A complete specimen made of wood with a small, round knob at the upper end, below which the shank broadens out and then tapers to a sharp point at the distal end. There is a groove across one side of the shank for lashing a sharp bone needle.

L = 8.9 cm. W = 0.9 cm. Th = 0.6 cm.

KeDq-7:361 (14L2, below slabs in entrance tunnel)

This fragmentary gull hook, also made of wood, is broken off at both ends. However, the baleen filament lashing around the middle of the shank is still intact.

Sling Handle

KeDq-7:260 (16L2, below fall rocks in lower humus; Fig. 46: j)

A tip fragment of a wood sling handle, with four sets of notches cut along both lateral edges; also has a wedge-shaped end. This specimen is oval in cross-section, with both broad surfaces slightly convex.

Shaft Fragments

KeDq-7:332 & 333 (16C/L, above floor slabs; Figs. 46: e; 45: a)

Two wood shaft fragments, each broken at one end, are blunt and smooth at the opposite end. The first specimen is rectangular in cross-section while the second is rounded.

L = (8.4 cm.) D = 0.8 cm. (KeDq-7:332)

L = (28.0 cm.) D = 1.6 cm. (KeDq-7:333)

KeDq-7:319 (12C/L-12L2, Midden Pit 3--Level 4; Fig. 38: g)

This specimen, also wood, is broken at both ends. Along with the above two specimens, this is probably an arrow or dart shaft fragment.

L = (20.3 cm.) D = 1.4 cm.

KeDq-7:321 (12C/L-12L2, Midden Pit 3, Level 4; Fig. 38: f)

A wood shaft fragment broken at one end; at the opposite unbroken end there is a socket hole. The function of this piece is uncertain.

L = (15.3 cm.) D = 3.4 cm.

Other

KeDq-7:133 (10L2, Midden Pit 1, Midden below slabs)

Small bone tip fragment from a slotted harpoon or lance head.

Transportation Equipment

Boat Parts and Gear

Kayak Paddle Tip

KeDq-7:82 (10L2, Midden Pit 1--Lower Level; Fig. 44: g)

A broad, flat, semi-circular shaped piece of whale bone with a straight, thick edge into which a deep, rectangular slot has been cut for attachment to the wood paddle.

L = 4.0 cm. W = 4.1 cm. Th = 1.0 cm.

Dog Trace Buckle

KeDq-7:167 (12C/L-12L2, Midden Pit 3--Level 3; Fig. 39: e)

This is a very crude specimen, made of bone and triangular in shape with one hole drilled through the center and a second through the broken top edge. This artifact may be an unfinished piece discarded during manufacture.

L = 5.0 cm. W = 2.1 cm. Th = 1.5 cm.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Pointed Hunting Knife

KeDq-7:354 (14L2, below slabs in entrance tunnel; Fig. 37)

A one-piece antler hunting knife with a broad, pointed blade which is convex on the cortical side and concave on the cancellous side. The thicker handle section has a hollowed-out depression for the thumb on the cancellous side. The slightly expanded butt end of the handle is round and has a hole drilled through it for a suspension thong.

L = 31.5 cm. W = 3.8 cm. Th = 1.5 cm.

Knife Handles

KeDq-7:210 (12C/L-12L2, Midden Pit 3, Level 3; Fig. 39: d)

A rounded butt fragment of a composite knife handle, made of antler, with a suspension hole drilled through it.

L = (3.7 cm.) W = 3.7 cm.) Th = 0.5 cm.

KeDq-7:351 (14L2, below slabs in entrance tunnel; Fig. 40: a)

This complete specimen is made of wood with an expanding, triangular-shaped butt end with a slot across its narrow edge and an

expanded fore end that is broken across the top edge. The tip of the fore end is slotted for an endblade. There is also a small, bifurcated nipple along the bottom edge of the handle about midway along its length. L = 18.2 cm. W = 2.5 cm. Th = 1.3 cm.

Drill and Fire-Making Equipment

Drill Shank

KeDq-7:322 (12C/L-12L2, Midden Pit 3--Level 4; Fig. 38: b)

An ivory bow drill shank with a circular cross-section, tapering slightly from the bit end to the narrower bearing end. The bearing end is rounded and smooth from use, while the bit end is flat and has a 4 mm hole in the end of it. There are two raised ridges, one toward either end of the shank, to prevent the bow thong from slipping too far up or down the shank.

L = 15.7 cm. D = 0.8 cm.

Drill Bits

KeDq-7:43 & 58 (16L2, midden just above gravel base; Fig. 43: i, h)

Two slate drill bits, both tapering from squarish upper ends to bevel-pointed tips. Since these were found just above the gravel layer in which Dorset artifacts were recovered, it is possible that these, too, might be Dorset artifacts.

L = 3.5 cm. Th = 0.5 cm. (KeDq-7:43)

L = 3.3 cm. Th = 0.4 cm. (KeDq-7:58)

House-Building Equipment

Snow Probe Ferrule

KeDq-7:144 (10L2, Midden Pit 1--midden above floor slabs)

This specimen is made from a walrus molar. One end is rounded while the other end is cut straight across and drilled out to receive a wood or bone snow probe shaft.

Tools

Whetstones

KeDq-7:40 (16L2, midden below fall rocks; Fig. 43: g)

This is a large slate flake polished across one surface.

L = 3.8 cm. W = 2.0 cm. Th = 0.2 cm.

KeDq-7:44/45 (16L2, bottom of midden above gravel; Fig. 43: f)

This is a rectangular piece of slate ground along all four edges and polished across one surface.

L = 3.9 cm. W = 1.6 cm. Th = 0.4 cm.

Wedges, Small

KeDr-7:45 & 52 (10L2, Midden Pit 1--Lower Level)

Two very small bone wedges, both with square upper ends. One tapers to a narrow, wedge-shaped tip (#48), while the other is slightly wider at its distal end (#52). These wedges may have been used to split smaller pieces of wood for making arrowshafts.

L = 3.0 cm. W = 0.6 cm. Th = 0.7 cm. (KeDr-7:48)

L = 2.7 cm. W = 1.0 cm. Th = 0.6 cm. (KeDq-7:52)

Ulu Handle

KeDq-7:288 (16C/L, above right side bench)

This is a rectangular shaped piece of wood notched across three sides at both ends. This is probably a piece of a composite ulu handle, although it could have been used as a toggle.

Ulu Blade

KeDq-7:94 (16L4, congealed humus near left side bench; Fig. 43: c)

Slate ulu blade, slightly assymetric in shape, with a broad tang opposite the sharpened blade edge. A hole has been drilled into the center of the tang, presumably for riveting it to a handle.

L = 4.6 cm. W = 2.7 cm. Th = 0.3 cm.

Boot Creaser

KeDq-7:209 (12C/L, Midden Pit 3--Level 3; Fig. 39: c)

This specimen is a flat, semi-lunar piece of bone with one rounded end and another pointed and worn end. It has been tentatively identified as a boot creaser.

L = 6.7 cm. W = 0.9 cm. Th = 0.3 cm.

Awl or Bodkin

KeDq-7:100 (10L2, Midden Pit 1--Lower Level)

A long, thin, sliver of bone has a round, dull point on one end and a wider, flatter tip on the other end. This object was probably used as an awl or bodkin.

L = 5.8 cm. D = 0.4 cm.

Wood Stakes

KeDq-7:212 (12C/L-12L2, Midden Pit 3--Level 3; Fig. 39: h)

KeDq-7:293 (16C/L, above right side bench)

Both of these wood stakes are round in cross-section and taper from their upper ends to pointed, distal tips.

L = 11.4 cm. D = 0.9 cm. (KeDq-7:212)

L = 15.0 cm. D = 1.4 cm. (KeDq-7:293)

KeDq-7:324 (8L2, Midden Pit 3--Below floor slabs; Fig. 38: d)

KeDq-7:330 (10L2, Midden Pit 4--Level 3)

KeDq-7:352 (14L2, below slabs in entrance tunnel; Fig. 40: c)

These are fragmentary wood stakes exhibiting the same characteristics as those described above. They range from 3.9 to 7.1 cm. in length and 0.8 to 1.3 cm. in diameter. Wood stakes are commonly used during summer to peg down skins while drying, although they undoubtedly served many other purposes as well.

Household Equipment

Spoons

KeDq-7:215 & 216 (16L2, on slab floor; Fig. 34: e, d)

Two spoons, made of antler, both with long, rectangular shaped bowls and short, rectangular handles.

L = 13.4 cm. W = 3.0 cm. Th = 0.2 cm. (KeDq-7:215)

L = 13.2 cm. W = 2.5 cm. Th = 0.3 cm. (KeDq-7:216)

KeDq-7:374 (16L4, compacted midden near rear slump area)

This is a thin, broad spoon or ladle bowl fragment, made of bone.
L = (5.9 cm.) W = 2.3 cm. Th = 0.1 cm.

KeDq-7:298 (12C/L-12L2, Midden Pit 3--between slab floors)

This is a carved wooden spoon with a long, thin, round handle and a short, rectangular bowl.
L = 10.0 cm. W = 2.5 cm. Th = 0.1 cm.

Meat Fork

KeDq-7:99 (10L2, Midden Pit 1--Lower Level; Fig. 44: b)

This is a crudely carved, tapered and curved bone shaft with a point at one end. It has tentatively been identified as a meat fork.
L = 10.5 cm. D = 1.5 cm.

Cup Bottoms

KeDq-7:320 (12C/L-12L2, Midden Pit 3--Level 4; Fig. 38: c)

KeDq-7:327 (16C/L, on slab floor; Fig. 34: b)

KeDq-7:353 (14L2, below slabs in entrance tunnel; Fig. 40: b)

KeDq-7:323 (12C/L-12L2, Midden Pit 3--Level 4; Fig. 38: e)

The first three specimens are oval, wooden cup bottoms that are lenticular to oval in cross-section, with flat to slightly convex surfaces and rounded edges. These range from 4.4 to 7.8 cm. in length, 2.7 to 5.2 cm. in width, and all are 0.8 cm. thick. The fourth specimen is a fragmentary example of this artifact type.

Pail Handles

KeDq-7:145 (10L2, Midden Pit 1--midden above slab floor)

This is a long wooden shaft, rectangular in cross-section, with baleen filament tied to each end.

L = 28.5 cm. Th = 1.2 cm.

KeDq-7:314 (16C/L, on right side bench)

Small, round wooden shaft, broken at one end, with baleen filament wrapped around the other end. This specimen is coated with burned seal oil.

L = 8.0 cm. D = 0.7 cm.

Soapstone Cooking Vessels

KeDq-7:146 (10L2, Midden Pit 1--midden above slab floor)

Soapstone rim fragment from a straight-sided vessel. The rim edge has a rounded lip.

L = (6.6 cm.) W = (4. cm.) Th = 1.7 cm.

KeDq-7:349 (14L2, below slabs in entrance tunnel; Fig. 41)

Large piece of a rectangular cooking pot with a flat bottom and straight sides. At both upper corners of this piece wooden plugs have been set into drilled holes, probably for suspension. The exterior surface of this piece is covered with burned seal oil. This pot was 7.7 cm. tall, 12 cm. wide, and the sides were 1.9 cm. thick. The bottom of the pot was only 0.6 cm. thick. Its length probably was about 24 cm.

Wick Trimmers

KeDq-7:262 (16L2, midden above floor; Fig. 45: m)

This is a slender wood shaft with several notches cut along one edge. A broad notch has also been carved around the end opposite the burned end.

L = 17.0 cm. W = 1.3 cm. Th = 0.9 cm.

KeDq-7:312 (16C/L, on right side bench)

This is a plain, short stick heavily coated with seal oil and burned at one end.

L = 17.7 cm. D = 1.4 cm.

KeDq-7:328 (16C/L, on top of floor in storage compartment; Fig. 34: a)

This specimen was found along with the Thule Viking doll (see below for description. It is a large, round stick of wood that is bent to a 90° angle at the handle end, and charred at the opposite end.

L = 18.1 cm. D = 2.1 cm.

Community Activity and Personal Items

Pendants

KeDq-7:90 (10L2, Midden Pit 1--Lower Level)

This pendant is made from a small mammal canine. It has a carved suspension groove around the tip of the root.

L = 2.9 cm. D = 0.4 cm.

Beads

KeDq-7:313 (16C/L, in congealed soil above right side bench)

This walrus molar was made into a bead by drilling a hole through it length-wise.

L = 3.2 cm. D = 1.7 cm.

KeDq-7:325 (16L2, on top of floor slabs; Fig. 2)

Wooden figurine depicting Viking (see Sabo and Sabo, 1978 for complete description and discussion).

Toy Arrow

KeDq-7:66 (10L2, Midden Pit 1--Lower Level)

This is a nock end of a toy wooden arrow shaft.

L = (10.0 cm.) D = 0.4 cm.

Miscellaneous and Unclassified

Antler

KeDq-7:204 (14L2, midden in entrance tunnel)

This is a tapering, wedge-tipped antler rod that is rectangular in cross-section. It could have been used as a marine spike although it is rather small for this purpose.

L = 5.6 cm. D = 0.4 cm.

KeDq-7:208 (12C/L-12L2, Midden Pit 3--Level 3; Fig. 39: b)

This is a cut antler slat, possibly a blank for a brace of some kind.

L = 7.8 cm. W = 2.2 cm. Th = 0.5 cm.

Baleen

KeDq-7:75, 76, 77, 96 (10L2, Midden Pit 1--Lower Level; Fig. 42: b, d, f, c)

Four perforated baleen strips.

KeDq-7:91 (10L2, Midden Pit 1--Lower Level; Fig. 42: e)

Notched baleen strip.

KeDq-7:89 (10L2, Midden Pit 1--Lower Level; Fig. 42: a)
 KeDq-7:299 (12C/L-12L2, Midden Pit 3--between floor slabs)
 Plain, cut baleen strips.

KeDq-7:88, 125, 126, 131, 132 (10L2, Midden Pit 1--Lower Level; Fig. 42: g, h, i)

KeDq-7:362 (14L2, below slabs in entrance tunnel)
 Cut baleen strips tied into knots.

KeDq-7:116 (14L2, in congealed soil on left platform)
 Tied baleen coil.

Bone

KeDq-7:53 (10L2, Midden Pit 1--Lower Level)
 Sliver of rounded, polished bone with a groove cut below the carved lip at one end. Possibly a fragment of a knife handle or a support piece.
 L = (4.3 cm.) W = (1.2 cm.) Th = (0.3 cm.)

KeDq-7:68 (10L2, Midden Pit 1--Lower Level)
 Fragment of a bone strip with one flat and one convex surface, broken across drilled holes at either end. One remaining hole has a wooden peg in it. This is probably a rim or edge mounting piece.
 L = (2.6 cm.) W = 0.7 cm. Th = 0.4 cm.

KeDq-7:69 (10L2, Midden Pit 1, Lower Level)
 Tiny piece of cut bone with parallel scoring across two adjacent surfaces. Possibly a lashing brace.
 L = 1.7 cm. Th = 0.4 cm.

KeDq-7:80 (10L2, Midden Pit 1--Lower Level)
 Long, narrow bone slat with one straight lateral edge and one indented edge. Possibly a support piece or toggle.
 L = 4.4 cm. W = 0.6 cm. Th = 0.5 cm.

KeDq-7:97 (10L2, Midden Pit 1--Lower Level; Fig. 44: f)
 Carved section of bone with one straight, smooth edge, at the center of which is a drilled line hole. This is probably a re-worked fragment of another artifact, although exactly what it has been reworked into is uncertain.
 L = 8.0 cm. W = 2.0 cm. Th = 1.0 cm.

KeDq-7:117 (14L2, in congealed soil above left platform)
 Eroded bone peg, with a rounded cross-section.
 L = (5.0 cm.) D = 1.2 cm.

KeDq-7:207 (12C/L-12L2, Midden Pit 3--Level 3; Fig. 39: a)
 Worked rib fragment from a large mammal (caribou?). Thick end has been cut to a flat surface and drilled through. The shaft has been carved down to make it thinner, and the end opposite the drilled end is

broken. Possibly an unfinished handle or drill bow.
L = (12.0 cm.) W = 1.9 cm. Th = 2.1 cm.

KeDq-7:358 (14L2, below slabs in entrance tunnel)

Bone or antler peg, broken at one end.

L = (4.2 cm.) D = 0.4 cm.

KeDq-7:64, 83, 84 (10L2, Midden Pit 1--Lower Level)

KeDq-7:181 (16C/L, midden just above gravel)

KeDq-7:282, 283 (16C/L-16L2 Line, among floor slabs; Fig. 34: f, g)

KeDq-7:318 (16C/L, in congealed soil on right side bench)

KeDq-7:357 (14L2, below slabs in entrance tunnel)

These are seven miscellaneous cut and/or drilled bone fragments.

Ivory

KeDq-7:50 (10L2, Midden Pit 1--Lower Level; Fig. 44: c)

This is a small walrus tusk, broken near the base. There is a small drilled hole just below the break. This artifact might have been worn as a pendant.

L = 14.0 cm.

KeDq-7:326 (12C/L-12L2, Midden Pit 3--Level 4; Fig. 38: a)

This is a larger tusk tip that has been cut straight across the end opposite the tip. The distal tip is battered, and a large flake has been struck off the cut end.

L = 14.8 cm. W = 4.6 cm. Th = 2.1 cm.

KeDq-7:331 (10L2, Midden Pit 4--Level 3)

One small ivory flake was found. It is not the flake from the large tusk mentioned above.

L = 4.3 cm. W = 2.2 cm. Th = 0.35 cm.

Skin

KeDq-7:291 & 292 (16C/L, on right side bench)

These are a cut skin patch and a cut skin thong fragment.

Slate

KeDq-7:39 (16L2, midden just above gravel; Fig. 43: b)

Large slate flake with slightly polished surfaces and a sharply pointed end, possibly used as an awl or hand drill.

L = 6.4 cm. W = 2.2 cm. Th = 0.4 cm.

KeDq-7:360 (14L2, below slabs in entrance tunnel)

Slate flake ground on both surfaces and one end worked to a flat, thin edge. This might have been used as a boot creaser or as a boring implement.

122-7:359 (14)
Slate

Whale

122-7:350 (14)
Short,
drilled projected
L = 16.0 cm.

122-7:365 (10)
Long,
along the center
into one corner

Wood

122-7:115 (14)
122-7:123 (12)
122-7:136 (14)
These

122-7:147 (14)
Large
at the end and
fragment.
L = 37.5 cm.

122-7:170 (14)
122-7:188 (14)
These
the edge and
turned knob
made by 122-
L = 33.0 cm
L = 39.5 cm

122-7:190
Fra
L = 3.0 cm

122-7:199
Misc

Other

122-7:116 (16)
Helena f

KeDq-7:359 (14L2, below slabs in entrance tunnel)
Slate flake, possibly utilized.

Whale Bone

KeDq-7:350 (14L2, below slabs in entrance tunnel)
Short, broad, rectangular slat of whale bone with a small, drilled projection at one end.
L = 16.0 cm. W = 9.5 cm. Th = 1.6 cm.

KeDq-7:365 (10L2, Midden Pit 1--Lower Level)
Long, thin, curved slat with a broad, shallow groove running along the center of the concave side. A small hole has been drilled into one corner.

Wood

KeDq-7:115 (14L2, in congealed soil on left platform)
KeDq-7:213 (12C/L-12L2, Midden Pit 3--Level 3; Fig. 39: g)
KeDq-7:356 (14L2, below slabs in entrance tunnel; Fig. 40: d)
These three wooden shaft fragments are probably handle pieces.

KeDq-7:247 (14L2, midden in entrance tunnel; Fig. 45: c)
Large wooden slat with smooth, slightly rounded edges, tapering at one end and broken at the opposite end. This might be a snow beater fragment.
L = (27.5 cm.) W = 4.0 cm. Th = 1.6 cm.

KeDq-7:270 (14L2, midden alongside left platform; Fig. 45: i)
KeDq-7:308 (16C/L, on right side bench)
These are two narrow wood slat fragments that are serrated along one edge and heavily coated with burned seal oil. One of these has a carved knob at one end. Mathiassen has illustrated a similar implement made by Igloolik Eskimos, identified as a "blubber dripper."
L = (33.0 cm.) W = 1.7 cm. Th = 0.7 cm. (KeDq-7:308)
L = (9.5 cm.) W = 1.9 cm. Th = 0.8 cm. (KeDq-7:270)

KeDq-7:290 (16C/L, on right side bench)
Fragment of a wooden sphere or ball.
Ht = 3.0 cm. D = 3.2 cm.

KeDq-7:289 (16C/1, on right side bench)
Miscellaneous cut wood fragment.

Other

KeDq-7:316 (16C/L, in congealed soil on right side bench)
Galena fragment.

Ending a

Barpoon a

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Relq-7:3

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L = 3.1

L = 4.0

Relq-7:1

Relq-7:1

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Relq-7:1

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L = 2.1

Relq-7:1

Relq-7:1

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L = 4.1

Okivilialuk House 8--Upper Component

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Endblades

KeDq-7:4 (18C/L, in sod zone of rear slump area)

Basal fragment of a large, ovoid-shaped slate endblade, possibly for a lance. There is a hole drilled into the center, the basal edge is ground flat, and lateral edges are ground sharp.

L = (3.8 cm.) W = (4.9 cm.) Th = 0.7 cm.

KeDq-7:7 (16L2, below sod in rear slump area)

KeDq-7:369 (16L4, below sod in rear slump area)

Both of these specimens are blanks for slate endblades. They are roughly triangular in shape and partially smoothed across both faces, and the edges have been ground flat but not sharpened.

L = 3.1 cm. W = 2.9 cm. Th = 0.3 cm. (KeDq-7:7)

L = 4.0 cm. W = 2.5 cm. Th = 0.4 cm. (KeDq-7:369)

Seal Float Gear

Float Bars

KeDq-7:279 (14C/L, under fall rocks in entrance tunnel; Fig. 45: h)

Small wooden float bar, round in cross-section with carved, rounded ends. Two small notches have been cut along one edge.

L = 9.4 cm. D = 1.1 cm.

Mouthpiece Stopper

KeDq-7:92 (16L2, midden below sod and slabs; Fig. 46: m)

This is a "T" shaped specimen made of wood, with a broad, rectangular head and a rounded, tapering plug stem.

L = 2.9 cm. D(head) = 1.8 cm. D(stem) = 0.8 cm.

Ice Hunting Gear

Wound Pin

KeDq-7:275 (16C/L, in midden under fall rocks)

This specimen is made of bone or antler and has a square shank which is pointed at the distal end and a round, button-shaped head at the proximal end. Just below the head the shank is round and constricted.

L = 6.1 cm. D = 0.3 cm.

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Bow and Arrow Equipment

Lashing Braces

KeDq-7:177 (10L2, Midden Pit 4--Level 2)

This specimen is made of antler, and has a slightly concave ventral surface and a slightly convex dorsal surface. The dorsal surface has a carved lip on one tapered end. At the opposite end, also tapered, there is no lip.

L = 5.5 cm. W = 1.7 cm. Th = 0.3 cm.

KeDq-7:244 (16C/L, midden below fall rocks)

This specimen, also made of antler, has a convex dorsal surface and prominent, carved lips at both slightly tapered ends. There are also small, circular indentations at opposite corners of both ends.

L = 4.8 cm. W = 1.9 cm. Th = 0.5 cm.

Bow Piece

KeDq-7:113 (14L2, loose soil among fall rocks, Fig. 46: n)

Wood bow end fragment with a prominent, carved nock at one end and broken across the opposite end.

L = (5.9 cm.) W = 2.8 cm. Th = 0.6 cm.

Miscellaneous

Shaft Fragments

KeDq-7:114 (16C/L, loose soil among fall rocks)

KeDq-7:174 (12C/L-12L2, Midden Pit 3--Level 1)

KeDq-7:205 (12C/L-12L2, Midden Pit 3--Level 2)

KeDq-7:373 (16C/L, midden below fall rocks; Fig. 45: 1)

Four wooden shaft fragments were found, all round to oval in cross-section. They range in length from 7.2 to 20.0 cm., and in diameter from 0.7 to 2.2 cm. They are probably arrow or dart shaft fragments.

Transportation Equipment

Sled Parts and Gear

Sled Shoe

KeDq-7:9 (10L2, Midden Pit 1--midden below sod; Fig. 44: a)

This is a flat, narrow, unbroken ivory sled shoe segment with nine unevenly spaced holes drilled along the midline. The narrow width suggests that this may have been used on an autoot rather than on a dog sled.

L = 22.0 cm. W = 3.0 cm. Th = 0.6 cm.

Winterman

Man's Hair

Man's Hair

Man's Hair

inner ear

surface.

one at each

L = (13).

Man's Hair

Man's Hair

edge opp

side-ble

blades.

L = (2.2)

L = 2.3

House-3

Man's Hair

smooth,

& wood

L = 1.3

tools

Man's Hair

surface

frayed

L = 5.

Man's Hair

Man's Hair

L = 2

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handle

KeDq-7:376 (8L2, Midden Pit 2--Upper midden level)

Bone composite knife handle piece, rectangular in shape with an inner cancellous surface and a smoothed, slightly convex outer cortical surface. One hole has been drilled into the center of this piece and one at each end.

L = (13.2 cm.) W = 2.2 cm. Th = 0.9 cm.

Polished Slate Side Blades

KeDq-7:26 (18L2, in sod zone of rear slump area)

KeDq-7:370 (16L4, below sod in rear slump area)

Two small, oval-shaped slate blades each with one sharpened edge opposite a dulled, thicker edge. These were probably set into side-bladed knife handles, or they may have been used as harpoon side blades.

L = (2.2 cm.) W = 0.8 cm. Th = 0.25 cm. (KeDq-7:26)

L = 2.3 cm. W = 1.9 cm. Th = 0.2 cm. (KeDq-7:370)

House-Building Equipment

Snow Probe Ferrule

KeDq-7:375 (18C/L, sod zone in rear slump area)

Small, oval shaped bone ferrule with one socketed end and one smooth, rounded end. This specimen was probably affixed to the tip of a wood or bone snow probe shaft.

L = 1.3 cm. D = 0.8 cm.

Tools

Whetstones

KeDq-7:59 (16L4, midden below sod; Fig. 43: a)

Large, oval-shaped slate flake with one partially ground surface and one highly polished surface. The edges are irregularly shaped but partially smoothed.

L = 6.4 cm. W = 3.8 cm. Th = 0.7 cm.

KeDq-7:101 (14L2, midden below sod; Fig. 43: e)

Fragment of a flat, rectangular whetstone, ground on both sides and along all four edges.

L = (3.7 cm.) W = 1.7 cm. Th = 1.0 cm.

Wedges

Lex-7:219 (1)
Small
rounded, wedge
l = 2.5 cm.

Wedges

Lex-7:170 (1)
Ivory
end and a slight
made by removal
polish on the
flake scar re
wedge may have
broken chunk
l = 10.7 cm.

Beats

Lex-7:51 (1)
This
humus. The
T-shaped
l = 9.7 cm.

Woods

Lex-7:122
Lex-7:222
Lex-7:261
Lex-7:274
Lex-7:281
Five
end tapering
110 to 13.

Threshold 2

Scrap

Lex-7:572
Bro
this section
l = 11.7 cm

Wedges, Small

KeDq-7:219 (16L2, midden below fall rocks)

Small bone wedge with an oval cross-section at the top and a rounded, wedge-shaped distal tip.

L = 2.5 cm. W = 1.0 cm. Th = 0.5 cm.

Wedges, Large

KeDq-7:170 (10L2, Midden Pit 4--Level 1)

Ivory wedge, plano-convex in cross-section with a broad upper end and a slightly tapered distal end. The wedge-shaped tip has been made by removing a large flake from the distal end; this tip shows wear polish on the higher surfaces along both sides. At the upper end, a flake scar remains from a blow that struck a flake from one edge. This wedge may have been used to split larger pieces of wood or break apart frozen chunks of meat.

L = 10.7 cm. W = 3.5 cm. Th = 1.8 cm.

Boot Creaser

KeDq-7:51 (10L2, Midden Pit 1--Upper Level; Fig. 44: d)

This specimen is made on a split distal end of a dog or wolf humerus. The proximal end of this fragment has been worked to a broad, "v"-shaped point, which is polished from use.

L = 9.7 cm. W = 3.3 cm. Th = 2.6 cm.

Wood Stakes

KeDq-7:122 (14L2, loose soil among fall rocks; Fig. 45: k)

KeDq-7:222 (16L2, midden below fall rocks; Fig. 45: d)

KeDq-7:261 (16L2, midden below fall rocks; Fig. 45: f)

KeDq-7:274 (16C/L, midden below fall rocks; Fig. 45: j)

KeDq-7:281 (16C/L, midden below fall rocks; Fig. 45: g)

Five wooden stakes, all round to rectangular in cross-section and tapering from their upper ends to pointed tips. Lengths range from 12.0 to 18.2 cm., and diameters from 1.1 to 1.3 cm.

Household Equipment

Scoop

KeDq-7:371 (12C/L-12L2, Midden Pit 3--Level 2)

Broad, thin, rectangular-shaped piece of bone, concavo-convex in cross-section; probably a bowl fragment of a scoop.

L = (7.7 cm.) W = (2.9 cm.) Th = 0.2 cm.

Cup Bo

Reg-7:143 (14)
Oval
Broken along o
L = 6.1 cm. W

Soarst

Reg-7:157 (16)
Thin,
it, probably f
L = (3.6 cm.)

Soaps

Reg-7:12 (18)
Another
thick edge.
Coated with b
L = (5.1 cm.)

Wick

Reg-7:1245 (2)
Reg-7:1249 (2)
Two v

Amulet

Reg-7:13- (2)
Small
with a smooth
L = (6.1 cm.)

Toy

Reg-7:123 (2)
Neck
L = (3.6 cm.)

Cup Bottom

KeDq-7:143 (14L2, sod zone)

Oval wood disk with smooth, flat surfaces and rounded edges.
Broken along one side.

L = 6.1 cm. W = (3.5 cm.) Th = 0.7 cm.

Soapstone Cooking Vessel

KeDq-7:57 (16L4, midden below sod)

Thin, flat soapstone vessel sherd with two holes drilled through it, probably for suspension.

L = (5.6 cm.) W = (2.2 cm.) Th = 1.0 cm.

Soapstone Lamp

KeDq-7:12 (18C/L, sod zone in rear slump area)

Another soapstone sherd has a flat bottom surface and a straight, thick edge. The upper surface is bowl-shaped. The bottom surface is coated with burned seal oil.

L = (5.1 cm.) W = (2.2 cm.) Th = 1.3 cm.

Wick Trimmers

KeDq-7:245 (16C/L, midden below fall rocks; Fig. 46: o)

KeDq-7:249 (14L2, upper midden in entrance tunnel; Fig. 45: b)

Two wood sticks with burned ends were identified as wick trimmers.

Community Activity and Personal ItemsAmulet Box

KeDq-7:184 (16C/L, loose soil among fall rocks; Fig. 46: h)

Small, wooden vessel fragment, oval in shape with a rounded bottom and a smooth, concave interior. Walls are 1.0 cm. thick.

L = (6.1 cm.) W = (2.3 cm.) Th = 1.0 cm.

Toy Arrow

KeDq-7:225 (16L2, midden below fall rocks; Fig. 46: g)

Nock end fragment of a small arrow shaft, made of wood.

L = (5.6 cm.) D = 0.5 cm.

Miscellaneous

Article

122-71107 (2)
Small
l = (8.1 cm.)

122-71175 (2)
Thick
across one end
into a broad
kind, or it is

122-71185 (2)
122-71214 (2)
122-71216 (2)
122-71250 (2)
122-71280 (2)
Five
drilled hole
in the holes
in length fr
thickness fr

122-71254 (2)
As a
l = 0.1 cm.

122-71372 (2)
Tape
stair-cut fa
normal end
l = (6.8 cm.)

122-71377 (2)
Sma
shaped tip
fine
l = 7.6 cm.

122-7173 (2)
Ker

122-7140 (2)
Cm

122-7148 (2)
Fe

Miscellaneous and Unclassified ArtifactsAntler

KeDq-7:107 (14L2, loose soil among fall rocks)

Small, tapered, antler shaft fragment, broken at both ends.

L = (8.1 cm.) D = 0.7 cm.

KeDq-7:175 (12C/L-12L2, Midden Pit 3--Level 1)

Thick piece of antler tine split in half and cut diagonally across one end to form a sharp point. The opposite end has been carved into a broad, rounded butt. This may be a blank for a handle of some kind, or it may have been used as a hand drill or awl.

KeDq-7:185 (16C/L, midden below fall rocks)

KeDq-7:214 (14L2, upper midden in entrance tunnel)

KeDq-7:226 (16L2, midden below fall rocks)

KeDq-7:250 (14L2, upper midden in entrance tunnel)

KeDq-7:280 (14C/L, below fall rocks in entrance tunnel)

Five short, flat, rectangular-shaped pieces of antler with drilled holes in them were found. Two of these have wood pegs remaining in the holes. These are all mounting pieces of some sort. They range in length from 1.9 to 3.5 cm., in width from 1.2 to 1.9 cm., and in thickness from 0.4 to 0.6 cm.

KeDq-7:254 (16L2, midden below fall rocks)

As above, but without the drilled holes.

L = 2.1 cm. W = 1.3 cm. Th = 0.4 cm.

KeDq-7:372 (12C/L-12L2, Midden Pit 3--Level 2)

Tapering antler shaft fragment, oval in cross-section with a scraf-cut face on one end, and broken at the opposite end. Possibly the proximal end fragment of an antler arrowhead.

L = (6.8 cm.) D = 0.8 cm.

KeDq-7:377 (8L2, Midden Pit 2--Upper Level)

Small antler rod, rounded at one end and tapering to a wedge-shaped tip at the opposite end. This could have been used as a marline spike.

L = 7.9 cm. W = 1.8 cm. Th = 1.4 cm.

Baleen

KeDq-7:73 (16L2, midden below sod)

Knotted baleen strip.

KeDq-7:142 (14L2, sod zone)

Cut baleen, triangular-shaped.

KeDq-7:148 (16L2, loose soil among fall rocks)

Perforated baleen strip.

Bone

124-7-108 (160)
Short b
tions midway al
L = 6.2 cm. W

124-7-139 (14)
Small,
both lateral ed
L = 4.4 cm. W

124-7-180 (160)
Thick,
curved on the o
L = (8.3 cm.)

124-7-336 (160)
Bone mo
L = 3.4 cm. W

124-7-378 (312)
Short,
length-wise thr
L = 1.85 cm. W

Skin

124-7-113 (16)
124-7-174 (16)
124-7-124 (1)
124-7-129 (1)
Four

124-7-119 (1)
124-7-140 (1)
124-7-176 (1)
124-7-177 (1)
Four

Sia

124-7-159 (1)
Slat

Scapula

124-7-129 (160)
Small, o
curved with b.

Bone

KeDq-7:108 (16C/L, sod zone)

Short bone rod, oval in cross-section, with two circular indentations midway along one edge. Possibly a toggle.

L = 6.2 cm. W = 0.8 cm. Th = 0.5 cm.

KeDq-7:139 (14L2, sod zone)

Small, rectangular sliver of bone, notched at the center along both lateral edges.

L = 4.4 cm. W = 0.6 cm. Th = 0.1 cm.

KeDq-7:180 (16C/L, compacted soil among fall rocks)

Thick, rectangular piece of bone, flat on one side and partially carved on the other. This may be an unfinished knife handle blank.

L = (8.3 cm.) W = 3.1 cm. Th = 1.6 cm.

KeDq-7:336 (16L2, loose soil among fall rocks)

Bone mounting piece, similar to the antler ones described above.

L = 3.4 cm. W = 0.8 cm. Th = 0.6 cm.

KeDq-7:378 (8L2, Midden Pit 2--Upper Level)

Short, thick, oval segment of bone with a rectangular slot cut length-wise through the middle.

L = 1.85 cm. W = 3.1 cm. Th = 1.0 cm.

Skin

KeDq-7:13 (16L4, below sod in rear slump area)

KeDq-7:74 (16L2, midden below sod)

KeDq-7:124 (16C/L, midden below sod)

KeDq-7:129 (16C/L, loose soil among fall rocks)

Four pieces of skin thong.

KeDq-7:119 (16C/L, loose soil among fall rocks)

KeDq-7:140 (14L2, sod zone)

KeDq-7:276 (16C/L, midden below fall rocks)

KeDq-7:277 (16C/L, midden below fall rocks)

Four pieces of cut seal skin.

Slate

KeDq-7:159 (16C/L, midden below sod)

Slate flake, possibly utilized.

Soapstone

KeDq-7:229 (16C/L, midden below fall rocks)

Small, oval soapstone object with a flat upper and lower surface, encrusted with burned seal oil. May have been used as a cooking pot

support.
l = 4.2 cm. W

Whale

122-7:147 (16)

This is
just thicker a
10 mm in diamete
has been drill
There is a sho
thick end to t
has been bored
the side of th
shallow groove
drilled near c
Inuit were und
piece from an
l = 31.0 cm.

122-7:107 (14)

This
is a large
which appears
cross-section
at the junctio
and two more
part near the
parallel hato
local Inuit w
function of t
l = 38.0 cm.

122-7:176 (1)

This
lateral edge
a snow-beate
l = 25.0 cm.

Wood

122-7:1 (13)

Small
l = 9.3 cm.

122-7:1038 (1)

Wood
missing pie
l = 7.0 cm.

support.

L = 4.2 cm. W = 3.2 cm. Th = 1.9 cm.

Whale Bone

KeDq-7:147 (16C/L, loose soil among fall rocks; Fig. 48)

This is a large, rectangular whale bone slat, with one end somewhat thicker and wider than the other. There is a large, round hole 20 mm in diameter near the wider end, and a smaller hole 10 mm in diameter has been drilled from the center of the thick end to the larger hole. There is a short groove from the small hole which extends across the thick end to the edge at one side. A second large hole (17 mm diameter) has been bored through the opposite, narrower end of the slat, and on one side of the slat these two large holes are connected by a broad, shallow groove. A third smaller hole, 10 mm in diameter, has been drilled near one lateral edge, between the two larger holes. Local Inuit were unable to identify this artifact, but it could be a frame piece from an umiak.

L = 31.0 cm. W = 9.0 cm. Th = 3.2 cm.

KeDq-7:307 (16L2, midden below fall rocks; Fig. 47)

This object is even more puzzling than the one described above. It is a large piece of whale bone carved into a stylized arrow shape, which appears to be broken at the tip end. It has a flattened oval cross-section. Two holes have been drilled at opposite lateral edges at the juncture of the bifurcated end and the constricted midsection, and two more holes have been drilled along opposite edges at the broad part near the tip end. One side along the midsection is covered with parallel hatch marks where there are also four circular indentations. Local Inuit were as perplexed as the archaeologists were regarding the function of this object.

L = 38.0 cm. W = 9.3 cm. Th = 4.5 cm.

KeDq-7:176 (12C/L-12L2, Midden Pit 3--Level 1)

This is a curved whale rib slat with numerous scars along the lateral edges and across the cortical surface. It may have been used as a snow-beater.

L = 25.0 cm. W = 3.5 cm. Th = 1.4 cm.

Wood

KeDq-7:1 (18L2, sod zone in rear slump area)

Small, rectangular wood slat, cut across both ends.

L = 9.3 cm. W = 1.2 cm. Th = 0.9 cm.

KeDq-7:258 (14L2, upper midden in entrance tunnel; Fig. 46: 1)

Wood slat with two small holes near one end, possibly used as a mounting piece.

L = 9.0 cm. W = 2.1 cm. Th = 0.3 cm.

12Q-7:10 (101)
Wedge-
L = 10.2 cm.

12Q-7:141 (14)
12Q-7:127 (16)
12Q-7:146 (16)
12Q-7:159 (16)
12Q-7:165 (16)
Five s
length from 2.

12Q-7:143 (16)
Short.
split.
L = 4.7 cm. I

12Q-7:148 (16)
Broken.
drilled. Poss.
L = 3.7 cm. I

12Q-7:168 (16)
Wood.
shaped base.
L = 6.6 cm. I

Other

12Q-7:338 (16)
Galen

Maintenance,

Mill and Fin

Drill

12Q-7:98 (16)
Rust.
at the OJ
was recovered.
operation w
might to be

KeDq-7:10 (10L2, Midden Pit 1--Upper Level)

Wedge-shaped wood block, with rounded notch across one side.

L = 10.2 cm. W = 3.2 cm. Th = 3.1 cm.

KeDq-7:141 (14L2, sod zone)

KeDq-7:227 (16L2, midden below fall rocks; Fig. 46: d)

KeDq-7:246 (16C/L, midden below fall rocks; Fig. 46: f)

KeDq-7:259 (16L2, midden below fall rocks; Fig. 46: b)

KeDq-7:265 (16L2, midden below fall rocks; Fig. 46: a)

Five small peg-shaped wood shafts and fragments, ranging in length from 2.5 to 7.5 cm., and in diameter from 1.0 to 3.4 cm.

KeDq-7:243 (16L2, midden below fall rocks; Fig. 46: l)

Short, thick, wood plug, notched across one side and partially split.

L = 4.7 cm. D = 2.0 cm.

KeDq-7:248 (14L2, upper midden in entrance tunnel; Fig. 46: c)

Broken wood slat with one rounded end, near which a hole has been drilled. Possibly a handle fragment.

L = 3.7 cm. W = 2.6 cm. Th = 1.0 cm.

KeDq-7:268 (16L2, midden below fall rocks; Fig. 46: k)

Wood socket, rectangular cross-section with a tapered, wedge-shaped base.

L = 6.6 cm. W = 2.5 cm. Th = 2.0 cm.

Other

KeDq-7:338 (16L2, loose soil among fall rocks)

Galena fragment.

Class B: Artifacts Modified by Contact

Maintenance, Manufacturing, and Processing Equipment

Drill and Fire-Making Equipment

Drill Bit

KeDq-7:98 (10L2, Midden Pit 1--Lower Level)

Rusted steel nail shank (?), cut off at one end and flattened out at the opposite end, probably for use as a drill bit. This artifact was recovered from the upper part of the lower (Thule) level in this excavation unit, in an area disturbed by slumping wall rocks. It is thought to be associated with the upper (Historic) level, however.

Community Accidents

Domino

124-7-124 (16)

This d
partially drill
middle of the
l = 3.9 cm. W

Miscellaneous

Whale

124-7-164 (14)

Large,
half-round steel
bolt on the other
end with t
l = 31.0 cm.

Wood

124-7-123 (16)

Corner
standing from

124-7-169 (14)

Wood s
ends, with a s

Bricks and Tiles

Bricks

Gunfl

124-7-172 (16)

Fragment
of "beeswax"
l = 3.7 cm.

Cement

124-7-134 & 38

124-7-133 (14)

Three
bricks and one

Community Activity and Personal ItemsDomino

KeDq-7:224 (16C/L, midden below fall rocks)

This domino is made on a small bone slat, with a pattern of partially drilled holes on one surface. An incised line across the middle of the piece bisects the two fields of holes.

L = 3.9 cm. W = 1.7 cm. Th = 0.2 cm.

Miscellaneous and UnclassifiedWhale Bone

KeDq-7:364 (14L2, upper midden in entrance tunnel)

Large, cut section of whale rib pierced completely through by a half-round steel file. The file is broken off on one side of the rib, but on the other side a short, triangular tang protrudes. This tang is stamped with the letters "DD".

L = 31.0 cm. W = 12.3 cm. Th = 5.5 cm.

Wood

KeDq-7:228 (16L2, midden below fall rocks)

Corner fragment of a carved wood slat with a thin steel pin extending from the edge of the slat at a sharp angle.

KeDq-7:269 (16L2, midden below fall rocks)

Wood shaft fragment, oval in cross-section and broken at both ends, with a steel spike driven along one edge, forming a hook.

Class C: Imported Artifacts

Hunting and Fishing EquipmentFirearmsGunflints

KeDq-7:72 (16L2, midden just below sod; Fig. 51: a)

Fragment of a prismatic blade gunflint, made on honey-colored or "beeswax" flint.

Th = 0.7 cm.

Cartridge Shells

KeDq-7:34 & 38 (16L2, midden below sod; Fig. 50: i, j)

KeDq-7:233 (16C/L, midden below fall rocks; Fig. 50: k)

Three cartridge shell casings were found, all plain with flat bottoms and unmarked.

Gun Bar

12Q-7:112 (160)
Steel g
stingun.

Maintenance, M

Leaves

Handles

12Q-7:139/251
12Q-7:232/236
Both p
were found. T
marks and inl

Blades

12Q-7:37 (160)
Broken
l = 3.7 cm. w
12Q-7:217 (160)
Comple
stained chip at
hole.
l = 18.7 cm.

12Q-7:254 (160)
Steel
containing ri
l = 9.3 cm.)

Hardware

Nail B

12Q-7:36 (160)
Small
around the ad

Lock

12Q-7:135 (160)
Recta
at corner.
hole is p

Gun Barrel Brace

KeDq-7:112 (16C/L, just below sod among fall rocks; Fig. 50: a)

Steel gun barrel stock brace, possibly from a double-barrel shotgun.

Maintenance, Manufacturing and Processing Equipment

Knives

Handles

KeDq-7:189/251 (16C/L, midden below fall rocks; Fig. 51: c)

KeDq-7:232/236 (16C/L, midden below fall rocks; Fig. 51: d)

Both pieces of a composite bone and white metal knife handle were found. The proximal ends of these pieces were fitted with metal mounts and inlaid with flat metal rings.

Blades

KeDq-7:37 (16L2, midden below sod)

Broekn steel knife blade fragment.

L = 3.7 cm. W = 1.1 cm. Th = 0.2 cm.

KeDq-7:217 (16L2, midden below fall rocks; Fig. 49: a)

Complete steel knife blade, fairly large in size with an angular pointed tip and a short, square base with two rivets and a third rivet hole.

L = 28.7 cm. W = 3.9 cm. Th = 0.3 cm.

KeDq-7:254 (16C/L, midden below fall rocks; Fig. 50: f)

Steel knife blade tang fragment, with four holes, two still containing rivets.

L = (9.5 cm.) W = 1.8 cm. Th = 0.15 cm.

Hardware

Key Escutcheon

KeDq-7:36 (16L2, midden below sod; Fig. 50: g)

Small, oval shaped brass key escutcheon with four indentations around the edges, presumably for fastening to a lock.

Lock Plate

KeDq-7:135 (16C/L, midden just below sod; Fig. 49: c)

Rectangular steel lock plate with counter-sunk screw holes at each corner. Near one end there is a 13 mm diameter hole, and a smaller key hole is placed at the opposite end.

Redq-7:1
Redq-7:1
Redq-7:1
Redq-7:2

Redq-7:1
Redq-7:1

head; 15
has a p?

Redq-7:1

1 = 8.7

Redq-7:1

1 = 2.4

Redq-7:1

a thick

Redq-7:1
Redq-7:1
Redq-7:1
Redq-7:1

from 1

Redq-7:1

is 1 =

House

Redq-7:1
Redq-7:1

Redq-7:1

is 1 =

Nails

KeDq-7:16-23 (18L2, sod zone)

KeDq-7:104 (14L2, loose soil among fall rocks)

KeDq-7:138 (14L2, sod zone)

KeDq-7:267 (162, midden below fall rocks)

Eleven machine made wire nails of various sizes.

KeDq-7:102 (14L2, loose soil among fall rocks)

KeDq-7:194, 195, 231 (16L2, loose soil among fall rocks)

Four nails with square shanks. 102 has a square, hammer formed head; 194 has a wide, "T"-shaped head; 195 has a plain square head; 231 has a plain round head.

KeDq-7:218 (16L2, midden below fall rocks)

Large, square shanked spike with square head.

L = 8.7 cm.

KeDq-7:136 (16C/L, midden below sod)

Short, thick machine made tack with square shank and round head.

L = 2.4 cm.

KeDq-7:266 (16L2, midden below fall rocks)

Thick nail or bolt fragment with a rounded, tapering shank and a thick, "T"-shaped head.

Window Glass

KeDq-7:35, 242, 337 (16L2, among and below fall rocks)

KeDq-7:109, 128 (16C/L, sod zone)

KeDq-7:186, 223 (16C/L, midden below fall rocks)

KeDq-7:171 (12C/L-12L2, Midden Pit 3--Level 1)

Eight fragments of light green window glass, ranging in thickness from 1 mm to 2 mm.

KeDq-7:130, 157 (16C/L, midden below sod)

Two fragments of clear window glass. 130 is 2 mm thick and 157 is 1 mm thick.

Household Items

Bottle Glass

KeDq-7:31 (10L2, Midden Pit 1--Upper Midden Level)

KeDq-7:111 (16C/L, sod zone)

Two 7 mm thick fragments of dark green bottle glass were found.

KeDq-7:168, 169 (10L2, Midden Pit 4--Level 1)

Two thin fragments of olive green bottle glass were also found. The curvature of these pieces suggests a small bottle.

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Ceramics

KeDq-7:28 (10L2, Midden Pit 1--Upper Midden Level)

Cup rim sherd of white hard-paste earthenware, with a hand-painted purple stripe below the interior lip and a hand-painted green and purple floral design on the exterior surface, with a clear overglaze.

KeDq-7:103, 121 (14L2, loose soil among fall rocks)

Rim (103) and base (121) sherds of a cup. Buff colored, hard-paste bisquit with a cream-colored glaze on both interior and exterior surfaces. The rim sherd has a channel below the lip on the exterior surface.

KeDq-7:29, 32 (10L2, Midden Pit 1--Upper Midden Level)

Two thin, hard-paste earthenware sherds with white-glazed interior surfaces and light blue and dark brown banded exterior surfaces. These are probably from a bowl or cup.

KeDq-7:134, 238/239/240 (16C/L, among and below fall rocks)

Basal sherds from a cup or bowl; made of plain, white-glazed, hard-paste earthenware.

KeDq-7:191, 235 (16C/L, among and below fall rocks)

KeDq-7:193 (16L2, midden below fall rocks; Fig. 52)

A large number of sherds bearing these catalog numbers were fitted together to partially reconstruct a bowl. This bowl has a white glazed interior, a plain rim, and a polychrome exterior design consisting of a pink background with red, white, and gold flowers and silver and white leaves. The flower and leaf designs are incised into the white paste. There is a rolled pedestal base, and the white glazed underside is marked with two short, parallel red stripes. As the reader can imagine, the appearance of this bowl is absolutely hideous.

KeDq-7:127/278 (16C/L and 14C/L, among fall rocks)

Rim fragment of a white glazed, hard-paste earthenware plate with a molded border along the edge.

KeDq-7:158 (16C/L, Midden below sod)

White glazed, hard paste earthenware rim sherd.

KeDq-7:188 (16C/L, midden below fall rocks)

KeDq-7:348 (14L2, just below sod in entrance tunnel)

White glazed, hard-paste earthenware body sherds.

KeDq-7:30 (10L2, Midden Pit 1--Upper Midden Layer)

Body sherd with a red, coarse bisquit and a dark brown, lead glazed surface.

Miscellaneous

KeDq-7:255 (14L2, upper midden in entrance tunnel; Fig. 49: d)

Fragment of a cast iron frying pan.

Continued

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KeDq-7:183 (16C/L, loose soil among fall rocks; Fig. 50: e)
Burner support for primus stove.

Community Activity and Personal Items

Beads

KeDq-7:106 (14L2, loose soil among fall rocks)

KeDq-7:160 (16C/L, midden below sod)

KeDq-7:179 (10L2, Midden Pit 4--Level 2)

KeDq-7:206 (12C/L-12L2, Midden Pit 3--Level 2)

KeDq-7:220 (16L2, midden below fall rocks)

Five glass seed beads, all are blue in color. Two (106, 206) are quite small, measuring approximately 2 mm in diameter.

KeDq-7:25 (18L2, sod zone in rear slump area)

Fragment of a cylindrical compound glass tube bead with a clear core and a red outer layer.

KeDq-7:161 (16C/L, midden below sod)

Cylindrical compound glass tube bead with an opaque, light blue core and a dark blue outer layer.

KeDq-7:196 (16L2, midden below fall rocks)

Clear glass tube bead, hexagonal in cross-section.

KeDq-7:341 (16L2, midden below sod)

Cylindrical glass tube bead; opaque white color.

KeDq-7:162 (16C/L, midden below sod)

KeDq-7:197, 221 (16L2, midden below fall rocks)

KeDq-7:256, 257 (14L2, upper midden in entrance tunnel)

Five round glass beads, all approximately 9 mm in diameter. 162 is yellow; 221 is green; 197 and 256 are light blue and 257 is dark blue.

Clay Pipe

KeDq-7:339 (16L2, loose soil among fall rocks; Fig. 51: b)

A single, small clay pipe stem fragment was recovered from the Upper Component of House 8. This specimen is undecorated.

Comb

KeDq-7:173 (12C/L-12L2, Midden Pit 3--Level 1)

Broken piece of a hard rubber comb with several teeth missing.

Buttons

KeDq-7:33 (16L2, loose soil below sod; Fig. 50: c)

White brass button, with a round, flat, undecorated surface and a small brass ring soldered onto the back.

KeDq-7:182 (16C/L, sod zone)

Button disk made of a thin copper or brass sheet folded over an inner plate; with a missing shank.

Miscellaneous and Unclassified

Copper

KeDq-7:3 (16L4, sod zone in rear slump area)

Broken piece of a sheet or plate with remnant of a hole along one edge.

KeDq-7:120 (16C/L, loose soil among fall rocks; Fig. 50: b)

Rolled copper strip; two layers thick with hole drilled at one end.

KeDq-7:172 (12C/L-12L2, Midden Pit 3--Level 1)

Thin section of copper tubing.

KeDq-7:110 (16C/L, sod zone)

KeDq-7:187 & 192 (16C/L, midden below fall rocks; Fig. 50: d, h)

Three small copper caps or knobs.

Glass

KeDq-7:190 (16C/L, midden below fall rocks)

An opaque, white, pressed glass knob; hemispherical in shape with a flat, smooth bottom and a fluted, dome shaped top.

Iron/Steel

KeDq-7:63 (10L2, Midden Pit 1--Upper Midden Layer)

Peg or spike fragment with a shallow groove along one edge of its tapering, rectangular shank.

KeDq-7:67 (10L2, Midden Pit 1--Upper Midden Layer)

Lump of iron, cut at one end and broken across the opposite end.

KeDq-7:252, (16C/L, below fall rocks; Fig. 49: b)

Drilled iron strap.

KeDq-7:237 (16C/L, below fall rocks)

Miscellaneous scrap.

Tin

LDK-7:24 (18)

Tin c

center.

LDK-7:2, 11

LDK-7:14, 15

LDK-7:137 (1)

LDK-7:234, 2

LDK-7:335 (1)

LDK-7:347 (1)

Nine

Wood

LDK-7:178 (1)

LDK-7:241 (2)

Piece

LDK-7:230 (1)

LDK-7:263 (1)

Scrap

Timing and F

Part Gear

Bird

LDK-7:164 (1)

This

at the distal

with a notch

it contains th

1.6 (6.9 mm.)

Box and Arrow

Box P

LDK-7:151 (4)

Notch

Slightly convex

1.6 (6.9 mm.)

Tin

KeDq-7:24 (18L2, sod zone in rear slump area)

Tin can bottom; rectangular in shape with two small holes in the center.

KeDq-7:2, 11 (16L4, sod zone in rear slump area)

KeDq-7:14, 15 (18C/L, sod zone in rear slump area)

KeDq-7:137 (14L2, sod zone)

KeDq-7:234, 253 (16C/L, midden below fall rocks)

KeDq-7:335 (16L2, loose soil among fall rocks)

KeDq-7:347 (14C/L, upper midden in entrance tunnel)

Nine scraps of tin.

Wood

KeDq-7:178 (10L2, Midden Pit 4--Level 2)

KeDq-7:241 (16C/L, midden below fall rocks)

Pieces of wood boards with rusty nail holes.

KeDq-7:230 (16C/L, loose soil among fall rocks)

KeDq-7:263 (16L2, midden below fall rocks)

Scraps of boards with nails in them.

Okivilialuk House 9

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Dart Gear

Bird Dart Side Prong

KeDq-7:164 (4L2, below sod; Fig. 54)

This specimen is made of bone with a curved shaft that is broken at the distal end. The basal end is straight and round in cross-section, with a notch at the juncture with the shaft and a projection at the end to contain the lashing.

L = (8.9 cm.) D = 0.9 cm.

Bow and Arrow Equipment

Bow Piece

KeDq-7:151 (4L2, sod zone; Fig. 53: b)

Noch end fragment of a wood bow. Flat on inner surface and slightly convex on outer surface.

L = (8.4 cm.) W = (2.0 cm.) Th = 0.9 cm.

Transport

Net Part

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Transportation Equipment

Sled Parts and Gear

Sled Shoe

KeDq-7:156 (4L2, below sod)

Fragment of a whale bone sled shoe, broken at both ends and split lengthwise. Two pairs of holes are each connected with lashing grooves. One other hole has been drilled between the two pairs.

L = (36.0 cm.) W = (3.6 cm.) Th = 0.7 cm.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handle

KeDq-7:154 (4L2, below sod; Fig. 55)

A long, cigar-shaped composite handle piece made of bone, with three holes drilled along its length. Two of the holes still contain wood pegs. There are also two incised grooves across one end; one of the grooves bisects a peg hole.

L = 22.5 cm. W = 2.0 cm. Th = 0.6 cm.

Household Equipment

Wick Trimmer

KeDq-7:150 (4L2, sod zone; Fig. 53: a)

A short, round wooden stick, carved at one end and burned at the opposite end.

L = 10.0 cm. D = 1.5 cm.

Miscellaneous and Unclassified ArtifactsBone

KeDq-7:155 (4L2, below sod)

Caribou scapula drilled with a series of small holes to remove the distal portion of the blade, probably to make a scraper.

L = 24.2 cm. W = (7.9 cm.) Th = 2.8 cm.

Wood

KeDq-7:152 (4L2, sod zone; Fig. 53: c)

Flat, curved wood slat. Both ends are broken.

L = (7.5 cm.) W = (2.3 cm.) Th = 0.6 cm.

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Class C: Imported Artifacts

Community and Personal Activity ItemsBath Powder Can

KeDq-7:149 (4L2, sod zone)

The base of a tin can, embossed with the following legend:
 "ROYAL BATH POWDER Full Weight - 1/2 lb. . . . PURE."

Clay Pipe

KeDq-7:153 (4L2, sod zone)

A single clay pipe stem has a slightly tapered, plain bit. The hole is slightly off-center, and is 2 mm in diameter. The stem is undecorated.

Talaguak House 2--Lower Component

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Harpoon Heads

KeDq-2:663 (8R2, Profile Cut, Level 2; Fig. 59: b)

This Thule type 1 specimen is made of antler, with a broad blade, slightly constricted below the line hole. There is a prominent spur on the left side of the base; the juncture of the spur and the base forms an oblique angle. The open foreshaft socket is rectangular in shape, with drilled lashing holes on either side. The round line hole is placed just above the socket and offset slightly to the left. There is a raised area around the line hole on the ventral surface which tapers toward the distal tip.

L = 8.0 cm. W = 2.1 cm. Th = 1.0 cm.

KeDq-2:539 (6R2, burned area above lower floor; Fig. 58: h)

This Thule type 2 medial fragment, also made of antler, lacks the blade and most of the base. It has distinct shoulders at the juncture of the base and the midsection, with grooves along the lateral edges of the base. There is a triangular-shaped, incised field extending from the round line hole to the blade; the area within this triangle is cross-hatched with fine incisions, and at the apex of the incised triangle the lines form a "Y" motif.

L = (4.7 cm.) W = (1.9 cm.) Th = 1.2 cm.

KeDq-2:639 (Test Pit 5--Level 4; Fig. 75: f)

Blade fragment of a Thule type 2 harpoon head, made of ivory. This specimen is triangular in cross-section, with sharp, symmetric barbs

end a pointed
L = (8.3 cm.)

ReDq-2:517 (T)

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with a cancell
dorsal surface
a strong spur
at its juncture
has a slot at
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the slots to
the dorsal s
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parallel to
L = 14.7 cm.

ReDq-2:543 (T)

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hole. There
just below
that socket
lasted bed
L = (6.4 cm)

End

ReDq-2:567

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L = 3.3 cm

ReDq-2:658

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L = 3.5 cm

ReDq-2:621

S
L = 1.9

ReDq-2:551

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holes.
L = (2.5

ReDq-2:551

L = (2.5

and a pointed distal tip.

L = (8.3 cm.) W = (3.1 cm.) Th = 1.2 cm.

KeDq-2:517 (Test Pit 1--Level 7; Fig. 56: b)

This finely made Thule type 3 harpoon head is made of antler, with a cancellous dorsal surface and a cortical ventral surface. The dorsal surface is flat while the ventral surface is rounded. There is a strong spur on the right side of the base, forming an oblique angle at its juncture with the base. The rectangular, open foreshaft socket has a slot at its upper end for a reinforcement bar. There are lashing slots on either side of the socket, with lashing beds extending from the slots to the edges of the socket. The lashing slots converge on the dorsal side. The double-drilled line hole above the socket is slightly offset to the right. This harpoon head is slightly constricted below the line hole. At the distal end, there is an endblade slot parallel to the line hole.

L = 14.7 cm. W = 3.0 cm. Th = 1.7 cm.

KeDq-2:543 (6C/L, burned area above lower floor; Fig. 58: g)

This variant of a Thule type 4, made of bone, is split in half through the endblade slot, and is missing part of the base. This specimen is oval in cross-section, with an endblade slot parallel to the line hole. There is a rivet hole drilled perpendicular to the endblade slot just below the rounded distal tip. There is a rectangular, closed foreshaft socket, and between the line hole and socket there is a broad lashing bed.

L = (6.4 cm.) W = (1.0 cm.) Th = (1.2 cm.)

Endblades

KeDq-2:647 (6L2, midden above lower floor; Fig. 65: m)

Slate endblade, assymetrically ovoid in shape, with a double-drilled hole along one lateral edge near the base.

L = 3.3 cm. W = 2.0 cm. Th = 0.3 cm.

KeDq-2:658 (8R2, Profile Cut-Level 2; Fig. 59: c)

Slate endblade, triangular in shape, with slightly convex lateral edges and beveled, three-faceted faces. Double-drilled hole is offset toward one lateral edge.

L = 3.5 cm. W = 2.5 cm. Th = 0.3 cm.

KeDq-2:618 (6L2, midden above lower floor-left side bench area; Fig. 65: l)

Slate endblade fragment with flat faces and a double-drilled hole.

L = (1.9 cm.) W = (1.8 cm.) Th = 0.2 cm.

KeDq-2:528 (6C/L, burned area above lower floor; Fig. 65: k)

Slate endblade fragment with flat faces and three double-drilled holes.

L = (2.5 cm.) W = 2.5 cm. Th = 0.4 cm.

KeDq-2:542 (6R2, burned area above lower floor; Fig. 65: j)

Slate endblade fragment with bevel-sharpened edges and no hole.

L = (2.8 cm.) W = (2.5 cm.) Th = 0.2 cm.

Moveable

Box-2:585 (6)

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bone. There are

cross-sections,

where there is

scored lashing.

There is an area

of the endblow

this hole about

L = 25.5 cm.

Forest

Box-2:982 (6)

This is

round socket

split in half

(S.M.) suggests

L = (7.6 cm.)

Ice P

Box-2:522, 5

L, S,

Ivory

pointed tip of

heavily scored

Box-2:579 (6)

Distal

scored lashing

Part Gear

Bird

Box-2:561 (

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lashing.

L = 9.5 cm.

Moveable Lance Head

KeDq-2:585 (6C/L, midden above lower floor; Fig. 60: b)

Large, conical-based moveable lance head made of very dense bone. There are two line holes above the base. The shaft is oval in cross-section, and tapers slightly from the base to the distal tip, where there is an endblade slot perpendicular to the line holes. A scored lashing bed encircles the distal end just below the tip, and there is an angled line hole drilled from one side upward into the base of the endblade slot. A shallow line bed extends from the lower edge of this hole about 20 mm down the shaft.

L = 25.5 cm. W = 3.0 cm. Th = 2.0 cm.

Foreshaft Socket

KeDq-2:982 (6C/L, on lower floor; Fig. 70: a)

This ivory foreshaft socket has a rounded distal end with a round socket hole and a well-scored, scarf-cut base. This specimen has split in half lengthwise. The relatively narrow width of the socket (8 mm) suggests that this may be a harpoon dart socket.

L = (7.6 cm.) D = 2.2 cm.

Ice Picks

KeDq-2:522, 526, 527 (6C/L, burned area above lower floor; Fig. 58: k, l, m)

Ivory harpoon ice pick fragments. One (526) is a smooth-sided, pointed tip fragment, while the other two are proximal fragments with heavily scored lashing surfaces.

KeDq-2:579 (6L2, midden above lower floor; Fig. 66: d)

Distal fragment of an ivory harpoon ice pick, with heavily scored lashing surfaces.

Dart GearBird Dart Side Prong

KeDq-2:561 (Test Pit 1--Level 8)

This specimen, made of ivory, has two short barbs on the inner side of the shank at the distal end, and one longer barb on the outer side. The shank curves slightly to the wedge-shaped basal tang. There is a projecting nib at the outer corner of the tang to contain the lashing.

L = 9.5 cm. W = 1.3 cm. Th = 0.6 cm.

Seal Flo

Seal Flo

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Seal Float Gear

Float Bars

KeDq-2:521 & 531 (6C/L, burned area above lower floor; Fig. 62: d, c)

These wood float bars are round in cross-section and have carved knobs at either end.

L = 15.4 cm. D = 2.7 cm. (KeDq-2:521)

L = 17.0 cm. D = 2.9 cm. (KeDq-2:531)

KeDq-2:535 (6C/L, burned area above lower floor; Fig. 62: b)

KeDq-2:701 (----, midden above lower floor; Fig. 62: e)

These wood float bars are round in cross-section and have tapered, rounded ends.

L = 16.5 cm. D = 2.9 cm. (KeDq-2:535)

L = 11.5 cm. D = 2.1 cm. (KeDq-2:701)

Float Mouthpiece

KeDq-2:588 (6C/L, midden above lower floor; Fig. 61: c)

This cylindrically-shaped ivory mouthpiece has a central, scored constriction and a hole drilled through from end to end.

L = 4.3 cm. W = 4.2 cm. Th = 2.3 cm.

Ice Hunting Gear

Wound Plug

KeDq-2:457 (Test Pit 1--Level 7; Fig. 56: h)

This wood specimen has a knob at one end and tapers to a point at the opposite end. It is split lengthwise.

L = (11.4 cm.) W = 1.5 cm.

Seal Drag Toggles

KeDq-2:524 (6R2, burned area above lower floor)

KeDq-2:616/672 (6C/L & 6L2, midden above lower floor; Fig. 62: h, i)

KeDq-2:674 (6C/L, midden above lower floor; Fig. 62: f)

KeDq-2:698 & 704 (----, midden above lower floor; Figs. 62: g; 63: k)

The first four specimens are made of wood and are round to rectangular in cross-section, slightly thicker in the middle where they are notched. Two of these are broken in half across the notches. The fifth specimen (704), also made of wood, is rectangular in cross-section, carved at both ends, and lacks the central notch. Measurements of the whole specimens are given below.

L = 11.3 cm. W = 2.3 cm. Th = 1.5 cm. (KeDq-2:524)

L = 7.3 cm. W = 1.6 cm. Th = 1.0 cm. (KeDq-2:704)

Bow and Arrow Equipment

Bow Part

KeDq-2:552 (6C/L, burned area above lower floor; Fig. 62: a)

Wood bow hand grip; flat and curved from end to end, with wedge shaped ends and rounded lateral edges.

L = 18.1 cm. W = 3.1 cm. Th = 1.6 cm.

Arrowshafts

KeDq-2:302 (6C/L, Test Pit 2--Level 7)

KeDq-2:601 & 603 (Test Pit 1--Level 9-10)

KeDq-2:700 (----, midden above lower floor; Fig. 63: d)

Four wood arrowshaft fragments, ranging in diameter from 5 to 10 mm (700) is a nock end fragment that is flattened in cross-section; the others are round in cross-section and broken at both ends.

Arrowheads

KeDq-2:544 (6C/L, burned area above lower floor; Fig. 67: d)

Bone arrowhead with a wedge-shaped basal tang and a slender shank, pointed at the distal tip.

L = 9.4 cm. D = 0.4 cm.

KeDq-2:545 (6C/L, burned area above lower floor; Fig. 58: a)

Antler arrowhead with a conical basal tang, square shoulders at the juncture of the tang and the shank, and a slight constriction of the tang just below the shoulder. There is a prominent, lateral barb at the distal tip, although the point is broken off.

L = (11.6 cm.) D = 0.9 cm.

KeDq-2:550 (6C/L, burned area above lower floor; Fig. 67: a)

Bone arrowhead with a wedge-shaped basal tang and a slot at the distal tip for an endblade.

L = 9.2 cm. D = 0.8 cm.

KeDq-2:582 (6C/L, midden above lower floor; Fig. 67: i)

Bone arrowhead with a wedge-shaped basal tang and a slender, pointed shank.

L = 7.3 cm. D = 0.8 cm.

KeDq-2:590 (6L2, midden above lower floor; Fig. 66: a)

Antler arrowhead with a wedge-shaped tang and a pointed distal tip. This specimen is biconvex in cross-section and curves slightly from the base to the tip.

L = 19.0 cm. W = 1.1 cm. Th = 0.5 cm.

Miscellaneous

Bola Balls

KeDq-2:529 (6C/L, burned area above lower floor; Fig. 61: a)

KeDq-2:572 (6C/L, midden above lower floor; Fig. 61: b)

These bola balls are made of antler; and each is drilled near one end.

L = 4.7 cm. W = 3.7 cm. Th = 1.7 cm. (KeDq-2:529)

L = 4.0 cm. W = 3.1 cm. Th = 2.9 cm. (KeDq-2:572)

Gull Hook

KeDq-2:678 (6R2, on lower floor; Fig. 73: a)

A wood gull hook was found, with a narrow knob at the upper end, an angled pin groove across the broad, upper part of the shank and a dull pointed tip.

L = 9.8 cm. D = 0.8 cm.

Sling Handle

KeDq-2:461 (Test Pit 1--Level 7; Fig. 56: g)

Distal end fragment of a wood sling handle, split down the middle of a notch in the distal end. Also notched along one intact lateral side.

L = (4.7 cm.) W = (1.8 cm.) Th = 0.6 cm.

Shaft Fragments

KeDq-2:519 & 537 (6C/L, burned area above lower floor; Fig. 63: h)

KeDq-2:571 (6C/L, midden above lower floor; Fig. 76: g)

KeDq-2:614 (6L2, midden above lower floor; Fig. 63: i)

KeDq-2:642 (Test Pit 5--Level 4; Fig. 76: b)

KeDq-2:699, 706, 708 (----, midden above lower floor; Fig. 63: j, c)

Eight wood shaft fragments, broken at both ends and square, round or flat in cross-section; 12 mm to 26 mm in diameter. All of these are either arrow or dart shaft fragments.

KeDq-2:589 (6C/L, midden above lower floor; Fig. 63: b)

KeDq-2:600 (Test Pit 1--Level 9-10)

Two arrow or dart shaft fragments are round in cross-section and have one blunt end; broken across opposite ends.

L = (24.4 cm.) D = 1.9 cm. (KeDq-2:589)

L = (10.6 cm.) D = 1.7 cm. (KeDq-2:600)

KeDq-2:644/645 (Test Pit--Level 4)

This wood shaft fragment is triangular in cross-section except at one end where it flattens out and is notched.

L = (21.2 cm.) D = 1.4 cm.

KeDq-2:643 (Test Pit 5--Level 4; Fig. 76: c)

Wood shaft fragment, round in cross-section, broken at one end, with a slot along the shaft at the opposite end, where there is also a slot for an endblade.

L = 16.0 cm. D = 1.0 cm.

KeDq-2:611 (Test Pit 1--Level 8)

Wood harpoon shaft fragment, rectangular in cross-section.

L = (50.0 cm.) W = 4.7 cm. Th = 3.5 cm.

Transportation Equipment

Sled Parts and Gear

Sled Shoe

KeDq-2:676 (6C/L, on lower floor; Fig. 72: a)

Sled shoe made out of baleen, broken at both ends, with eleven peg holes; three wooden pegs were still in place.

L = (48.0 cm.) W = 5.7 cm. Th = 0.6 cm.

Dog Trace Buckles

KeDq-2:546, 547, 548 (8C/L, midden above lower floor; Fig. 58: c, e, d)

Three tear-drop shaped trace buckles made of ivory were found together. Two specimens have parallel toggle and line holes, with a line groove extending from the smaller top line hole to the upper edge of the buckle. One of these (546) is decorated with a series of small, partially drilled holes. The third specimen (547) has a small line hole drilled perpendicular to the larger toggle hole; on this specimen there is also a line groove extending across the upper surface of the buckle from the line hole.

L = 4.4 cm. W = 1.9 cm. Th = 1.1 cm. (KeDq-2:546)

L = 3.9 cm. W = 2.1 cm. Th = 1.2 cm. (KeDq-2:547)

L = 4.1 cm. W = 2.1 cm. Th = 1.3 cm. (KeDq-2:548)

KeDq-2:679 (8C/L, on lower floor; Fig. 58: b)

A fourth ivory specimen is oval in shape, with parallel line and toggle holes. There is a line groove extending from the line hole to the upper edge of the buckle. This specimen is broken across the toggle hole.

Whip Handle

KeDq-2:583 (6C/L, on lower floor)

This flat, tapering wood handle with a rounded butt end has been provisionally classified as a dog whip handle.

L = (37.0 cm.) W = 2.3 cm. Th = 1.2 cm.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handles

KeDq-2:273 (Test Pit 2--Level 7)

This specimen is made of bone, rounded at one end with three pairs of holes, each pair connected with lashing grooves; the opposite end has been broken off across several drilled holes. This is probably a composite knife handle fragment.

L = (5.3 cm.) W = 2.0 cm. Th = 0.7 cm.

KeDq-2:587 (6C/L, on lower floor; Fig. 61: g)

This bone knife handle is oval in cross-section with a narrow blade slot at one end which extends through one corner.

L = 10.1 cm. W = 2.4 cm. Th = 1.5 cm.

KeDq-2:602 (Test Pit 1--Level 9-10)

Wooden knife handle, rectangular in cross-section, slightly rounded at the butt end, with a blade slot at the opposite end.

L = 13.1 cm. W = 1.6 cm. Th = 0.7 cm.

Knife Blades

KeDq-2:574 (6C/L, midden above lower floor; Fig. 65: a)

This slate knife blade has an angled, blunt-pointed tip, a flat upper edge, and a sharpened cutting edge. It has snapped opposite the tip end.

L = (4.5 cm.) W = 1.7 cm. Th = 0.3 cm.

KeDq-2:681 (8C/L, on lower floor; Fig. 65: d)

Polished slate fragment, with sharp edge; also probably a knife blade fragment.

L = (2.9 cm.) W = (1.7 cm.) Th = 0.4 cm.

KeDq-2:581 (6L2, midden above lower floor; Fig. 64: d)

Large slat flake, polished across one surface with one curved and sharpened cutting edge forming a point with the thicker, blunted upper edge. At the opposite end there is a remnant of a tang broken off from the blade.

L = 10.6 cm. W = 5.8 cm. Th = 0.8 cm.

Drill and Fire-Making Equipment

Drill Mouthpiece Bearings

KeDq-2:536 (6C/L, burned area above lower floor; Fig. 58: j)

This specimen is very small and made of ivory; it has a round base in which there is a bowl-shaped depression, and a short, conical knob at the upper end.

L = 1.6 cm. W = 1.6 cm. Th = 1.2 cm.

KeDq-2:649 (6L2, midden above lower floor; Fig 58: i)

A second mouthpiece is made from a walrus molar, and has a circular depression in one end and a tooth-marked indentation around the middle.

L = 2.6 cm. W = 1.9 cm. Th = 1.4 cm.

Fire Drill Spindle

KeDq-2:458 (Test Pit 1--Level 7; Fig. 56: i)

This wooden shaft tapers from the rounded, bearing end to a burned distal tip. It is partially split at the bearing end.

L = 12.1 cm. D = 1.5 cm.

Fire Drill Board

KeDq-2:456/516 (Test Pit 1--Level 7; Fig. 56: a)

A rather well-made wooden fire board is cut straight across one end, where it has a suspension hole, and is rounded at the opposite end. Across the upper surface there are three large, burned spindle holes.

L = 28.5 cm. W = 3.0 cm. Th = 2.5 cm.

Housebuilding Equipment

Whale Rib Mattock

KeDq-2:534 (6C/L, burned area above lower floor; Fig. 60: a)

This large whale rib sod mattock has three sets of roughly scored lashing notches at the butt end, and at the opposite bit end there is a straight, dull edge.

L = 27.1 cm. W = 6.7 cm. Th = 2.4 cm.

Tools

Whetstone

KeDq-2:549 (6C/L, burned area above lower floor; Fig. 64: e)

This is an oval shaped slate disk that is polished across both sides and along the edges, with slightly concave surfaces.

L = 7.5 cm. W = 4.5 cm. Th = 0.4 cm.

Hammerstone

KeDq-2:977 (6C/L, on lower floor; Fig. 70: f)

Smooth, oval-shaped pebble with peck marks encircling the mid-section.

L = 4.5 cm. W = 3.85 cm. Th = 2.45 cm.

Pick

KeDq-2:620 (6L2, midden above lower floor in left side bench area; Fig. 67: b)

This specimen is made of ivory, with one wedge-shaped end and one pointed end.

L = 8.1 cm. W = 1.2 cm. Th = 0.7 cm.

Large Wedges

KeDq-2:605 (Test Pit 1--Level 9-10)

This wedge is made from a split piece of antler. It is triangular in shape, with hacked and scored sides.

L = 8.1 cm. W = 3.6 cm. Th = 1.4 cm.

KeDq-2:650 (6L2, midden above second floor; Fig. 66: e)

This wedge or wedge-tipped pick is made on a large piece of antler.

L = 16.2 cm. W = 2.7 cm. Th = 2.4 cm.

Ulu Blades

KeDq-2:540 (6C/L, burned area above lower floor; Fig. 64: c)

KeDq-2:619 (6L2, midden above lower floor in left side bench area; Fig. 64: a)

KeDq-2:680 (6C/L, on lower floor; Fig. 64: b)

Three complete un-tanged ulu blades are all made of slate. One (540) is broad, wide, and polished across both sides; it is also coated with burned seal oil. The other two are wider but proportionately narrower and less polished across the roughly flaked surfaces.

L = 10.6 cm. W = 6.5 cm. Th = 0.7 cm. (KeDq-2:540)

L = 14.2 cm. W = 6.2 cm. Th = 1.0 cm. (KeDq-2:619)

L = 14.8 cm. W = 5.4 cm. Th = 1.0 cm. (KeDq-2:680)

KeDq-2:576 (6C/L, midden above lower floor; Fig. 65: c)

This polished slate fragment is probably from an ulu blade.

L = (3.2 cm.) W = (2.4 cm.) Th = 0.7 cm.

Stone Scrapers

KeDq-2:569 & 598 (6C/L, midden above lower floor; Figs. 65: e; 64: g)

Two slate flakes, each retouched along one edge and partially ground across one or both surfaces, are probably scrapers.

L = 1.8 cm. W = 2.8 cm. Th = 0.5 cm. (KeDq-2:569)

L = 6.4 cm. W = 3.1 cm. Th = 1.1 cm. (KeDq-2:598)

Scapula Scrapers

KeDq-2:580 (8C/L, midden above lower floor; Fig. 66: c)

KeDq-2:591 (6L2, midden above lower floor; Fig. 66: b)

Two scrapers made from caribou scapulae were found. Most of the scapula blade has been removed from these, and the remaining edges sharpened and articulatory surfaces carved to make handles.

L = 8.7 cm. W = 4.9 cm. Th = 2.8 cm. (KeDq-2:580)

L = 10.5 cm. W = 5.3 cm. Th = 3.0 cm. (KeDq-2:591)

Boot Creaser

KeDq-2:1100 (Test Pit 1--Level 7-8; Fig. 68: a)

One wedge-tipped, pointed bone scraper or boot creaser was found. The tip is worn quite smooth.

L = 9.2 cm. W = 1.85 cm. Th = 1.2 cm.

Awls

KeDq-2:599 (6L2, midden above lower floor; Fig. 67: c)

KeDq-2:673 (6C/L, on lower floor; Fig. 67: f)

Both awls are made on pieces of antler, sharpened to points at one end.

L = 9.9 cm. W = 3.0 cm. Th = 0.8 cm. (KeDq-2:599)

L = 10.0 cm. W = 1.4 cm. Th = 1.0 cm. (KeDq-2:673)

Needle Case

KeDq-2:675 (6C/L, on lower floor; Fig. 67: g)

This fragment of a needle case, split in half, is made from a large, hollow bird bone. One end is rounded off from the outer edge while the opposite end is beveled on the inner surface.

L = 9.0 cm. D = 2.3 cm.

Wood Stakes

KeDq-2:983 & (84 (6C/L, on lower floor; Fig. 74: b, c)

Two wooden stakes were found; one (983) is oval in cross-section, tapering from a thick upper end to a pointed distal end, while the other is rectangular in cross-section and also tapers from end to end.

L = (15.7 cm.) D = 2.3 cm. (KeDq-2:983)

L = 19.0 cm. D = 2.2 cm. (KeDq-2:984)

Household Equipment

Marrow Spatula

KeDq-2:972 (4C/L, on lower floor; Fig. 70: b)

This specimen is made of antler, with an oval cross-section, shank and a broad, pointed blade. The upper surface of the blade is flat while the bottom side has two facets converging to a central ridge, giving the blade a triangular cross-section. At the opposite end of the shank, the tip draws to an assymetric, blunt point.

L = 11.4 cm. W = 1.3 cm. Th = 0.5 cm.

Sucking Tube

KeDq-2:1099 (----, on lower floor; Fig. 68: g)

This bone sucking tube is made from the metatarsal bone of an immature caribou.

L = 18.3 cm. D = 2.75 cm.

Cup Bottoms

KeDq-2:523 (6C/L, burned area above lower floor)

Wooden oval disk, split into several pieces.

KeDq-2:669 (8R2, Profile Cut-Level 2; Fig. 59: d)

Large oval wooden disk with one flat surface, one slightly convex surface, and flat edges. This may be a small bowl bottom.

L = 7.2 cm. W = 3.5 cm. Th = 0.7 cm.

Bowl or Dish Bottom

KeDq-2:592 (6C/L, midden above lower floor; Fig. 69: b)

Large, oval wood disk, biconvex in cross-section, with rounded edges.

L = 17.5 cm. W = 11.8 cm. Th = 1.4 cm.

Bowl

KeDq-2:525 (6C/L, burned area above lower floor; Fig. 69: a)

Wood bowl, split in half, with a flat bottom and roughly carved, thick, outflaring sides. The interior of the bowl is roughly hollowed out and is charred.

Pail Handle

KeDq-2:709 (----, midden above lower floor; Fig. 63: a)

Wood handle with square cross-section, tapering slightly to either end.

L = 24.3 cm. D = 1.2 cm.

Soapstone Cooking Vessels

KeDq-2:623 (6L2, midden above lower floor)

KeDq-2:668 (8C/L, Profile Cut-Level 2; Fig. 59: g)

Two miscellaneous soapstone body sherds.

KeDq-2:640 (Test Pit 5--Level 4)

Bevel-edged soapstone rim sherd from a straight-sided vessel.

KeDq-2:578 (6C/L, midden above lower floor)

Rim sherd from a globular shaped soapstone vessel; lip extends

from the outer edge of the rim, and is grooved along the top edge. A small suspension hole has been drilled through this lip. A second hole has been drilled alongside one broken edge.

KeDq-2:462 & 463 (Test Pit 1--Level 7; Fig. 56: d, e)

KeDq-2:617 (6L2, midden above lower floor in left side bench area)

Three sherds from soapstone cooking vessels have all been re-worked into mending patches, with drilled mending holes and/or re-ground broken edges.

Soapstone Lamp

KeDq-2:1087 (6L2, on lower floor)

One large, thick, soapstone sherd, with a rough outer surface and a smoothed inner surface, coated with seal oil, probably is a soapstone lamp, or kudlit, fragment.

Wick Trimmers

KeDq-2:301 (6C/L, Test Pit 2--Level 7)

KeDq-2:604 (Test Pit 1--Level 9-10)

KeDq-2:677 (6C/L, on lower floor; Fig. 63: e)

These three wooden sticks, burned at the end and with burned notches along their edges, have been identified as wick trimmers. They range from 18.8 cm. to 22.0 cm. in length and from 1.0 cm. to 1.9 cm. in diameter.

Community Activity and Personal Items

Pendants

KeDq-2:970 (6L2, on lower floor; Fig. 70: g)

This fragment of a carved ivory chain link pendant has a tear drop shaped lower element and a hemispherical upper element which is broken at one end.

Toys

KeDq-2:648 (6L2, midden above lower floor; Fig. 73: f)

This crudely carved wood doll figurine has stubby head and arm appendages and no legs or any other bodily decorations.

L = 5.8 cm. W = 2.5 cm. Th = 1.0 cm.

KeDq-2:702 (----, midden above lower floor; Fig. 73: d)

Toy wooden umiak figurine with rounded bottom surface and flat upper surface. Both ends are narrow and square.

L = 5.9 cm. W = 1.3 cm. Th = 0.2 cm.

KeDq-2:562 (Test Pit 1--Level 8)

Toy kayak carving, made of wood, with a rounded bottom, flat

top, and pinto ends.

L = 6.1 cm. W = 1.1 cm. Th = 0.3 cm.

KeDq-2:980 (6C/L, on lower floor; Fig. 74: d)

Miniature komatik runner made on a small wood slat, with an up-curving front end and three punched holes below the upper edge.

L = 14.0 cm. W = 3.1 cm. Th = 0.6 cm.

KeDq-2:551 (6C/L, burned area above lower floor; Fig. 71)

Tiny harpoon head made of bone. It appears to be self-bladed and has a line hole, a closed foreshaft socket, and a lateral basal spur that is bifurcated.

L = 2.6 cm. W = 0.7 cm. Th = 0.4 cm.

KeDq-2:593 (6C/L, midden above lower floor; Fig. 65: i)

Toy slate ulu blade with a stem along the upper edge. There is a "V"-shaped groove running along the top of the stem.

L = 2.9 cm. W = 1.9 cm. Th = 0.4 cm.

KeDq-2:567 (6C/L, midden above lower floor; Fig. 61: e)

KeDq-2:586 (6L2, midden above lower floor; Fig. 61: f)

Two ivory "chocks," square in shape with bevel-cut edges. These are possibly gaming pieces.

L = 3.2 cm. W = 2.9 cm. Th = 0.8 cm. (KeDq-2:567)

L = 5.0 cm. W = 3.6 cm. Th = 0.9 cm. (KeDq-2:586)

Miscellaneous and Unclassified Artifacts

Antler

KeDq-2:671 (8C/L, Profile Cut-Level 2; Fig. 59: a)

One unidentified antler object is a broad, flat implement that is pointed at one end and drilled at the other end with a line hole extending from the hole to the flat edge. This might be a fish stringing needle, but it seems to be too wide.

L = 14.2 cm. W = 2.3 cm. Th = 1.0 cm.

KeDq-2:974 (4C/L, on lower floor; Fig. 70: d)

Small, rectangular antler slat with a medial groove running along its length; possibly a support piece.

L = 3.4 cm. W = 1.0 cm. Th = 0.25 cm.

KeDq-2:710 (----, midden above lower floor; Fig. 67: c)

Elongated, flat antler slat drilled near one edge.

L = 7.0 cm. W = 1.5 cm. Th = 0.5 cm.

KeDq-2:538 (6C/L, burned area above lower floor)

KeDq-2:564 & 565 (6C/L, midden above lower floor)

Three cut and split antler tine fragments probably were raw material intended for subsequent manufacturing purposes.

Baleen

KeDq-2:518 (6C/L, burned area above lower floor; Fig. 72: b)

Dagger cut from baleen (probably a toy) has a long, pointed blade and a handle with an expanded hilt and a diamond-shaped butt.

L = 23.6 cm. W = 2.2 cm. Th = 0.2 cm.

KeDq-2:978 (6C/L, on lower floor)

A "ball" of baleen consists of three separate hoops of baleen tied together with narrower strips of the same material.

D = 9.0 cm.

KeDq-2:532 (6C/L, burned area above lower floor; Fig. 72: e)

KeDq-2:573 (6C/L, midden above lower floor; Fig. 72: c)

Two tied bundles of folded baleen strips.

KeDq-2:533 (6C/L, burned area above lower floor; Fig. 72: f)

Tied coil of baleen.

KeDq-2:979 (6C/L, on lower floor)

Knotted baleen strip.

Bone

KeDq-2:460 (Test Pit 1--Level 7; Fig. 56: c)

Bone implement, tapering from one broader end to a narrower wedge-shaped end.

L = 5.9 cm. W = 0.5 cm. Th = 0.8 cm.

KeDq-2:568 (6C/L; midden above lower floor)

Bone sliver pointed at one end, with a carved tab projecting sideways from the opposite end. Possibly a leister side barb.

L = 6.4 cm. W = 1.0 cm. Th = 0.6 cm.

KeDq-2:651 (6L2, midden above lower floor; Fig. 67: h)

Carved bone peg or shaft fragment, broken at both ends, and round in cross-section. There is a notch near one broken end.

L = (5.6 cm.) D = 0.6 cm.

KeDq-2:652 (6C/L, midden above lower floor; Fig. 58: f)

Tiny, wedge-shaped bone object with a tab-like projection extending out from either end. Possibly a support piece.

L = 2.8 cm. W = 0.7 cm. Th = 0.6 cm.

Ivory

KeDq-2:973 (4C/L, on lower floor; Fig. 70: h)

Small ivory tip fragment, biconvex in cross-section, probably broken off a harpoon or arrowhead.

L = (1.7 cm.) W = (0.6 cm.) Th = (0.3 cm.)

Slate

KeDq-2:303 (Test Pit 2--Level 7)

KeDq-2:570 & 575 (6C/L, above lower floor; Fig. 65: h; 64: f)

KeDq-2:595 (6L2, midden above lower floor; Fig. 65: b)

KeDq-2:696 (----, midden above lower floor; Fig. 65: g)

KeDq-2:975 (4C/L, on lower floor; Fig. 70: i)

Six partially ground and polished slate flakes.

KeDq-2:697 (----, midden above lower floor; Fig. 65: f)

Polished slate fragment, probably a piece of a knife blade.

KeDq-2:615 (6L2, midden above lower floor in left side bench area)

Large slate nodule with three prominent flake scars; probably a core.

Tooth

KeDq-2:606 (Test Pit 1--Level 9-10)

Root of a large tooth, cut off at a transverse angle.

KeDq-2:971 (6L2, on lower floor; Fig. 70: c)

Large, unworked polar bear canine.

Whale Bone

KeDq-2:274 (Test Pit 2--Level 7)

Cut whale rib slat with uneven, discontinuous hack marks across the cortical surface.

L = 26.0 cm. W = 2.5 cm. Th = 1.2 cm.

KeDq-2:594 (8C/L, midden above lower floor; Fig. 61: b)

Split whale rib segment, cut at one end and beveled on the cancellous side. Two holes have been drilled below this edge. The opposite end is broken and eroded.

L = 5.1 cm. W = 4.9 cm. Th = 1.3 cm.

Wood

KeDq-2:530 (6C/L, burned area above lower floor; Fig. 73: b)

Small, wood handle-shaped object with a square shank, a pointed kob at one end, and a deep, "V"-shaped notch in the opposite end.

L = 8.2 cm. D = 1.3 cm.

KeDq-2:566 (6C/L, midden above lower floor; Fig. 73: e)

Flat, round-ended fragment of a wood object, possibly the butt end of a handle.

L = (5.4 cm.) W = 2.8 cm. Th = 0.9 cm.

KeDq-2:670 (8C/L, Profile Cut-Level 2; Fig. 59: f)

Wood object with a round shaft with two small holes at one end,

and at the opposite end there are two long, wide grooves which join in the center beneath the upper surface.

L = 14.0 cm. D = 1.8 cm.

KeDq-2:275 (Test Pit 2--Level 7)

KeDq-2:459 (Test Pit 1--Level 7; Fig. 56: f)

KeDq-2:692 (6L2, midden above lower floor)

KeDq-2:705 (----, midden above lower floor; Fig. 73: c)

KeDq-2:986 (6C/L, on lower floor; Fig. 70: e)

Five wood plug or peg fragments, varying from round to rectangular in cross-section.

KeDq-2:276 (Test Pit 2--Level 7)

KeDq-2:703 (----, midden above lower floor; Fig. 63: f)

KeDq-2:976 (4C/L, on lower floor; Fig. 74: a)

Three fragments of wood slats were found; all are flat on one side and convex on the other.

KeDq-2:584 (6C/L, midden above lower floor)

Wood stake, square in cross section, thin and flat on one end and pointed at the opposite end.

L = 47.0 cm. D = 2.0 cm.

KeDq-2:665 & 666 (8L2, Profile Cut--Level 2; Fig. 59: e)

KeDq-2:707 (----, midden above lower floor; Fig. 63: g)

Three wood shanks, round to square in cross-section, with one or both ends carved, may be handles.

L = 14.3 cm. W = 1.7 cm. Th = 0.7 cm. (KeDq-2:665)

L = 11.7 cm. W = 2.4 cm. Th = 1.8 cm. (KeDq-2:666)

L = (14.7 cm.) W = 1.6 cm. Th = 0.9 cm. (KeDq-2:707)

KeDq-2:682 (8C/L, on lower floor; Fig. 72: d)

Long wood shaft, with a strip of baleen tied to one end. Possibly a rack or frame piece.

L = 28.0 cm.

Class B: Artifacts Modified by Contact

Maintenance, Manufacturing, and Processing Equipment

Tools

Ulu

KeDq-2:577 (6C/L, midden above lower floor; Fig. 57)

A small ulu was found which has a carved ivory handle and an iron blade. The asymmetrically-shaped blade is attached to the handle stem by means of an iron rivet.

L = 5.5 cm. W = 4.8 cm. Th = 1.3 cm.

Talaguak House 2--Upper Component

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Harpoon Heads

KeDq-2:596 (Test Pit 5--Level 2; Fig. 75: e)

The single harpoon head associated with this component is a Thule type 5 specimen made of bone. It has a bifurcated base with two pointed basal spurs forming a "V" at their juncture. The rounded fore-shaft socket is partially closed, and there are lashing holes on either side. The line hole passes through the ventral surface from side to side, and there are broad indentation for the harpoon line. The tip of this specimen is broken, but a portion of a blade slot running parallel to the line hole remains.

L = 5.9 cm. W = 2.4 cm. Th = 1.2 cm.

Endblades

KeDq-2:353 (6L2, midden above upper floor; Fig. 80: n)

This endblade is made of antler, and is triangular in shape with sharpened lateral edges and a sharpened distal point. A hole has been drilled near one basal corner, and in it is a fragment of a wood rivet.

L = 3.5 cm. W = 2.0 cm. Th = 0.2 cm.

KeDq-2:362 (6C/L, midden above upper floor; Fig. 77: i)

Triangular endblade made of slate, with slightly convex, sharp lateral edges. There is one partially drilled hole.

L = 2.5 cm. W = 2.4 cm. Th = 0.3 cm.

KeDq-2:337 (6C/L, midden above upper floor; Fig. 77: f)

KeDq-2:656 (8R2, Profile Cut--Level 1)

Two basal fragments of slate endblades.

KeDq-2:399 & 514 (6C/L, in midden above upper floor; Fig. 77: g, h)

Two tip fragments of slate endblades.

KeDq-2:502 (Test Pit 4--Level 4)

Partially ground, triangular slate flake; probably an endblade blank.

Fixed Foreshafts

KeDq-2:328 (6C/L, just below sod; Fig. 80: c)

Ivory harpoon or lance foreshaft, broken at the distal end with a scored, wedge-shaped proximal end. It is round in cross-section and slightly curved longitudinally.

L = (9.4 cm.) D = 1.0 cm.

KeDq-2:661 (8C/L, Profile Cut, Level 1)

This bone specimen is broken at both ends, but most of the scarf cut base element remains. The base has four holes in it, in which one wood and two bone rivets still remain. Just above the scarf face, two additional holes were drilled in at an angle, meeting to form a line hole.
L = (14.8 cm.) D = 1.4 cm.

Moveable Foreshaft

KeDq-2:439 (6C/L, in midden above upper floor; Fig. 80: e)

The single specimen of this type is very small and made of bone. The basal end is conical, and just above the base there is a drilled line hole. The opposite tip end is rounded. This specimen is oval in cross-section and curved longitudinally.
L = 11.9 cm. D = 1.0 cm.

Foreshaft Fragments

KeDq-2:345 (6C/L, midden above upper floor; Fig. 80: o)

KeDq-2:453 (6L2, midden above upper floor; Fig. 80: f)

Two foreshaft tip fragments, both made of bone, are conical in shape with rounded tips.

L = (2.2 cm.) D = 0.7 cm. (KeDq-2:345)

L = (9.8 cm.) D = 1.4 cm. (KeDq-2:453)

KeDq-2:327 (6C/L, in midden above upper floor; Fig. 78: c)

Bone foreshaft fragment, made of bone and broken at both ends. Rectangular cross-section, with a rounded depression at one end; just below the depression are two holes which converge at an angle below the surface of the bone.

L = (9.3 cm.) W = 2.2 cm. Th = 1.5 cm.

KeDq-2:355/360 (6L2 & 6C/L, in midden above upper floor; Fig. 78: f, e)

KeDq-2:370 (Test Pit 3, Level 2; Fig. 81: h)

Two bone foreshaft fragments, broken at both ends. 355/360 is square in cross-section, and 370 is round.

L = (15.7 cm.) D = 1.9 cm. (KeDq-2:355)

L = (12.2 cm.) D = 1.5 cm. (KeDq-2:360)

L = (5.6 cm.) D = 1.2 cm. (KeDq-2:370)

Finger Rests

KeDq-2:326 (6C/L, just below sod; Fig. 80: 1)

This ivory specimen has a flat, wide base and angled, tapering stem. Two holes have been drilled through the base from side to side.
L = 2.0 cm. D = 1.0 cm.

KeDq-2:1097 (Test Pit 5--Level 2; Fig. 68: e)

A second finger rest, also made of ivory, is triangular in shape with one hole drilled above the basal surface.

L = 3.4 cm. W = 2.0 cm. Th = 1.8 cm.

Dart Gear

Bird Dart Side Prong

KeDq-2:365 (6C/L, midden above upper floor; Fig. 80: d)

This curved specimen is made of bone and has a flat, basal tang with scoring along the surface opposite the mounting edge. The distal tip is broken, but appears to have been barbed.

L = 9.5 cm. D = 0.4 cm.

Dart Butt Ferrule

KeDq-2:346 (6C/L, in burned area above upper floor; Fig. 80: m)

This tiny ferrule, made of tooth, has oval-shaped sockets in both ends; one of these sockets is deeper than the other.

L = 1.5 cm. W = 0.8 cm. Th = 0.5 cm.

Bladder Inflation Nozzle

KeDq-2:342 (6C/L, in burned area above upper floor)

This specimen is carved from a thick piece of walrus hide. It has a thick, wedge-shaped base, a cylindrical mid-section that is scored for lashing, and an expanded, oval lip.

L = 2.6 cm. D = 1.5 cm.

Seal Float Gear

Float Bars

KeDq-2:352 (6L2, in midden above upper floor)

KeDq-2:493 (Test Pit 4, Level 3)

KeDq-2:690 (6C/L, in midden above upper floor)

Three wooden float bars; all are round in cross-section and taper to rounded ends.

L = 10.5 cm. D = 1.6 cm. (KeDq-2:352)

L = 15.8 cm. D = 3.2 cm. (KeDq-2:493)

L = 8.9 cm. D = 1.1 cm. (KeDq-2:690)

Float Mouthpiece

KeDq-2:335 (6C/L, in midden above upper floor)

This specimen is made of wood with a narrow, cylindrical mid-section and wide, round ends.

L = 3.5 cm. D = 3.4 cm.

KeDq-2:659 (8C/L, Profile Cut--Level 1)

This specimen is made of bone, and is rather crudely carved. It is round in cross-section and has a constricted mid-section.

L = 2.5 cm. D = 2.7 cm.

Mouthpiece Stoppers

KeDq-2:282 (Test Pit 1--Level 5)

KeDq-2:339 (6C/L, in midden above upper floor)

KeDq-2:469 (6L2, burned area above upper floor)

Three wood stoppers, all are round at one end and taper to a narrow rounded or pointed tip.

L = 4.4 cm. W = 1.5 cm. Th = 1.0 cm. (KeDq-2:282)

L = 3.5 cm. D = 1.0 cm. (KeDq-2:339)

L = 2.6 cm. D = 0.8 cm. (KeDq-2:469)

KeDq-2:367 (6C/L, in midden above upper floor)

Wedge-shaped wood plug.

L = 2.5 cm. D = 0.8 cm.

Bow and Arrow Equipment

Bow Parts

KeDq-2:284 (Test Pit 1--Level 5)

Wood lashing support fragment, with a raised lip at one end.

L = (2.6 cm.) W = 1.4 cm. Th = 0.6 cm.

KeDq-2:560 (Test Pit 6--Level 2; Fig. 76: e)

Wood nock end fragment of a bow.

L = (7.3 cm.) W = 1.3 cm. Th = 0.5 cm.

Marline Spike

KeDq-2:655 (8R2, Profile Cut--Level 1)

This artifact is made of bone, with a broad, rounded knob at one end and a narrower, wedge-shaped tip at the other end.

Arrowshafts

KeDq-2:466 (Test Pit 4--Level 2)

KeDq-2:498 & 501 (Test Pit 4--Level 4)

KeDq-2:634 (Test Pit 5--Level 3; Fig. 76: f)

Four wood arrowshafts were found. 466 has a scarf-cut face at one end that is scored for lashing. 198 is slightly tapered and broken at both ends. 501 has a thin, shallow slot at one tapered end. 634 is a nock end fragment which flattens out at one end and has a "V"-shaped nock. There is no indication of any fletching on this latter specimen.

L = (6.5 cm.) D = 0.8 cm. (KeDq-2:466)

L = (21.5 cm.) D = 0.9 cm. (KeDq-2:498)

L = (12.7 cm.) D = 0.7 cm. (KeDq-2:501)

L = (3.4 cm.) D = 1.2 cm. (KeDq-2:631)

Feather-Cutting Board

KeDq-2:361/279 (6C/L, in midden above upper floor; Fig. 78: a)

This rectangular slat of whale bone has cut marks across its cortical surface, which are especially pronounced along one edge. This artifact has been provisionally classified as a feather-cutting board. L = 16.7 cm. W = 4.9 cm. Th = 0.9 cm.

Arrowheads

KeDq-2:1105 (Test Pit 2--Level 1; Fig. 68: b)

This antler specimen is oval in cross-section, with a round-shouldered, conical tang and a slotted distal tip. There is a drilled hole just below the endblade slot.

L = 10.0 cm. W = 1.2 cm. Th = 0.7 cm.

KeDq-2:1106 (Test Pit 5--Level 1; Fig. 68: c)

A second arrowhead, also made of antler, is broken off at the base, where it has a round cross-section. There is a small, drilled hole just above the break. At the distal tip the arrowhead broadens out and is slit for an endblade.

(L) = 6.5 cm. W = 1.3 cm. Th = 0.8 cm.

KeDq-2:298 (Test Pit 2--Level 5)

This is a scarf-cut basal fragment of an arrowhead, made of bone.

(L) = 9.4 cm. W = 0.5 cm. Th = 0.4 cm.

Quiver Handle

KeDq-2:286 (Test Pit 1--Level 2)

This specimen, made of bone, is square in cross-section with slightly expanded, bevel ends through which large holes have been drilled at a slight angle. The edges of the holes are also beveled and smoothed.

Miscellaneous

Bola Ball

KeDq-2:454 (6L2, in midden above upper floor; Fig. 80: a)

One antler bola ball was found. Near the top edge two holes have been drilled from opposite side which converge in the center.

L = 4.2 cm. W = 3.6 cm. Th = 3.1 cm.

Gull Hook Shanks

KeDq-2:633 (Test Pit 5--Level 3; Fig. 76: d)

This wood gull hook shank has a knob at the upper end, and a broad, flat blade that tapers to a blunt point at the distal end. This

specimen is split from the knob to the groove across the blade.
L = 9.4 cm. W = 1.3 cm. Th = 0.7 cm.

KeDq-2:351 (6L2, in midden above upper floor)

A hank of baleen line tied to a broken wood shank with a narrow, sharp antler needle was also found. This is probably a broken gull hook.

Sling Handle

KeDq-2:341 (6C/L, in burned area above upper floor)

Fragment of a sling handle made of wood. It is notched along the one unbroken edge as well as along the tip.
L = (6.8 cm.) W = (2.0 cm.) Th = 1.3 cm.

Net Weight

KeDq-2:438 (6C/L, in midden above upper floor; Fig. 78: d)

Proximal end piece of a whale rib, cut and drilled with two holes near one edge. This has been provisionally identified as a net weight.

L = 10.5 cm. W = 5.1 cm. Th = 2.7 cm.

Transportation Equipment

Sled Parts and Gear

Sled Shoe Fragments

KeDq-2:637 (Test Pit 5--Level 3; Fig. 75: a)

KeDq-2:436 (6C/L, in midden above upper floor; Fig. 78: b)

Two fragments of sled shoes, made of whale bone. Both have drilled holes connected by lashing beds.

L = (3.8 cm.) W = 2.8 cm. Th = 1.1 cm. (KeDq-2:637)

L = (9.0 cm.) W = 6.5 cm. Th = 1.1 cm. (KeDq-2:436)

Dog Trace Buckle

KeDq-2:660 (8C/L, Profile Cut--Level 1)

This small ivory trace buckle is squarish in shape with one flat surface and one slightly convex surface. The line and toggle holes are drilled parallel to each other.

L = 2.8 cm. W = 2.0 cm. Th = 0.7 cm.

Draught Line Toggle

KeDq-2:344 (6C/L, in burned area above upper floor)

This small wooden toggle is oval in cross-section, with bevel-cut ends and a notched groove around the middle. One end has split.

L = 5.3 cm. Th = 0.9 cm.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handles

KeDq-2:397 (6C/L, in midden above upper floor)

This specimen is made of wood and is triangular in shape, narrowing from one end to the other. The inner face is flat, while the outer surface is convex. Both ends are broken; at the broader end there is a series of notches along both lateral edges.

L = (7.4 cm.) W = 0.9 cm. Th = 1.0 cm.

Knife Blades

KeDq-2:306 (Test Pit 2--Level 2)

KeDq-2:653 (8R2, Profile Cut--Level 1)

These two crude slate knife blades are made on flakes, with sharply ground cutting edges.

KeDq-2:624 (Test Pit 5--Level 1; Fig. 75: d)

Slate knife blade basal fragment, with broad, shallow side notches.

L = (2.0 cm.) W = 2.5 cm. Th = 0.3 cm.

Side Blades

KeDq-2:511 (6R2, in burned area above upper floor; Fig. 77: k)

KeDq-2:687 (6C/L, in midden above upper floor; Fig. 77: l)

These two small, oval-shaped slate disks have been ground sharp along one edge. They are probably side blades for knives, or, alternatively, for harpoon or lance heads.

L = 2.0 cm. W = 1.4 cm. Th = 1.5 cm. (KeDq-2:511)

L = 2.1 cm. W = 1.7 cm. Th = 0.2 cm. (KeDq-2:687)

Drill and Fire-Making Equipment

Mouthpiece Bearing

KeDq-2:1096 (Test Pit 2--Level 1; Fig. 68: f)

This drill mouthpiece bearing is made from a caribou astragalus. The outer surface is worn from use, and the distal articulatory fossa has been deepened and smoothed.

L = 4.4 cm. W = 2.7 cm. Th = 2.5 cm.

Tools

Whetstones

KeDq-2:371 (Test Pit 3--Level 2; Fig. 81: i)

This specimen is a long, flat, rectangular piece of schist ground to shape across both surfaces and along all four edges.

L = 7.0 cm. W = 2.3 cm. Th = 1.1 cm.

KeDq-2:437 (6C/L, in midden above upper floor; Fig. 77: a)

This large slate whetstone is rectangular in shape and has slightly convex grinding surfaces.

L = 8.1 cm. W = 4.5 cm. Th = 1.5 cm.

KeDq-2:455 (6L2, in burned area above upper floor; Fig. 77: j)

This round piece of slate has been snapped off a larger piece, and has one convex and one flat surface. It also has very smooth, rounded edges.

L = 2.5 cm. W = 2.8 cm. Th = 1.0 cm.

Hammerstone

KeDq-2:300 (Test Pit 2--Level 5)

This oblong hammerstone is heavily pecked at both ends.

L = 10.7 cm. W = 6.0 cm. Th = 3.2 cm.

Punch or Flaker

KeDq-2:628 (Test Pit 5--Level 2; Fig. 79: b)

This cut antler tine is dulled at the tip end from use as a punch or flaker.

L = 11.4 cm. W = 2.0 cm. Th = 1.1 cm.

Wedge

KeDq-2:340 (6C/L, in midden above upper floor)

This wooden wedge is square in cross-section and the upper end, and tapers to a wedge-shaped distal tip.

L = 8.9 cm. W = 2.6 cm. Th = 1.6 cm.

Stone Scrapers

KeDq-2:486 (Test Pit 3--Level 4; Fig. 81: f)

This piece of worked slate appears to be the broken base of a knife blade that has been reused as a scraper, since its broken edge is heavily worn.

L = (1.8 cm.) W = 1.8 cm. Th = 0.4 cm.

KeDq-2:686 (6L2, in midden above upper floor; Fig. 77: c)

This piece of slate is worn along its edges, from use as a scraper.

L = (7.4 cm.) W = (3.6 cm.) Th = 0.7 cm.

Scapula Scraper

KeDq-2:1098 (6L2, on upper floor; Fig. 68: d)

One caribou scapula scraper was found. On this specimen the working edge has broken off. A small hole was drilled in the center of the butt end, perhaps for attachment of a thong.

L = (6.2 cm.) W = (3.6 cm.) Th = 0.8 cm.

Skin Softener

KeDq-2:636 (Test Pit 5--Level 3; Fig. 79: c)

This oval-shaped disk has been cut from a caribou scapula, with the acromian process removed by a series of small drill holes. The edges of the specimen have been smoothed. It was probably used as a skin softener or urine scraper.

L = 10.5 cm. W = 9.3 cm. Th = 0.4 cm.

Awls

KeDq-2:674 (Test Pit 6--Level 2; Fig. 75: c)

Slate flake with one broad flat end, and one sharp, pointed end; probably used as an awl.

L = 2.3 cm. W = 1.7 cm. Th = 0.4 cm.

KeDq-2:490 (Test Pit 4--Level 3)

Long, split piece of bone worked to a sharp point at one end.

L = 14.3 cm. W = 2.0 cm. Th = 0.4 cm.

KeDq-2:631 (Test Pit 5--Level 3; Fig. 75: g)

Sharpened bird bone used as an awl or needle.

L = 7.6 cm. D = 0.4 cm.

Thimbles

KeDq-2:684 (6C/L, in midden above upper floor)

KeDq-2:693 (8C/L, Profile Cut--Level 1)

Two seal skin thimbles were found; both are oval in shape and slit along one edge to form a finger strap.

L = 2.0 cm. W = 2.5 cm. Th = 0.3 cm. (KeDq-2:684)

L = 2.3 cm. W = 2.6 cm. Th = 0.4 cm. (KeDq-2:693)

Wood Stakes

KeDq-2:492 (Test Pit 4--Level 3)

KeDq-2:500 (Test Pit 4--Level 4)

Two wood stakes were found, both oval in cross-section.

L = 13.5 cm. W = 1.9 cm. Th = 1.3 cm. (KeDq-2:492)

L = (14.0 cm.) D = 1.2 cm. (KeDq-2:500)

Household Equipment

Spoons and Ladles

KeDq-2:289 (Test Pit 1--Level 2)

This long, slender, paddle-shaped implement made of wood is probably a spoon blade. The handle of this specimen has broken off.

L = (12.5 cm.) W = 2.2 cm. Th = 1.0 cm.

KeDq-2:369 (Test Pit 3--Level 2; Fig. 81: c)

This antler spoon has a broad, flat blade, partially broken at one end, with a rectangular handle.

L = 10.1 cm. W = (4.0 cm.) Th = 1.0 cm.

KeDq-2:627 (Test Pit 5--Level 2; Fig. 79: d)

This specimen is a broad piece of antler which has been carved into a ladle, with the base of the antler forming the handle.

L = 19.5 cm. W = 13.5 cm. Th = 1.5 cm.

Cup Bottoms

KeDq-2:662 (8C/L, Profile Cut--Level 1)

KeDq-2:279 (Test Pit 1--Level 6)

KeDq-2:419 (6C/L, in midden above upper floor)

Three oval, wooden cup bottoms were found; one is complete (662), while the other two are fragmentary.

L = 4.1 cm. W = 2.6 cm. Th = 0.16 cm. (KeDq-2:662)

Pail Handles

KeDq-2:691 (Test Pit 5--Level 2; Fig. 76: i)

One complete specimen is a curved wood shaft, rectangular in cross-section with square, smoothed ends.

L = 26.0 cm. W = 1.8 cm. Th = 1.7 cm.

KeDq-2:632 (Test Pit 5--Level 3; Fig. 76: h)

Broken wood shaft, also rectangular in cross-section with a carved knob at one end, is classified as a pail handle.

L = (21.4 cm.) W = 2.3 cm. Th = 1.7 cm.

Soapstone Cooking Vessels

KeDq-2:359 (6C/L, in midden above upper floor)

This soapstone vessel fragment is from a flat-bottomed, square-sided vessel with slightly curved and insloping side walls.

KeDq-2:349 (6L2, in midden above upper floor)

Plain soapstone vessel rim sherd.

KeDq-2:415 (6C/L, in midden above upper floor)

Soapstone vessel bodysherd.

KeDq-2:472 (6L2, burned area above upper floor)

Soapstone vessel rim sherd re-worked into a patch.

Wick Trimmers

KeDq-2:283 (Test Pit 1--Level 5)

KeDq-2:333 (6C/L, in midden above upper floor)

KeDq-2:499 (Test Pit 4--Level 4)

KeDq-2:630 (Test Pit 5--Level 3)

Four short, rounded sticks of wood with burned ends have been classified as wick trimmers. They range in length from 8.7 cm. to 19.2 cm., and in diameter from 0.9 cm. to 2.2 cm.

Community Activity and Personal Items

Pendants

KeDq-2:389 (6C/L, in midden above upper floor; Fig. 80: j)

A round pendant with a short, straight stem with one hole drilled through the end, is made from a walrus tooth.

L = 2.6 cm. D = 1.6 cm.

Buttons

KeDq-2:468 (6L2, in burned area above upper floor; Fig. 80: k)

A small, ivory "winged" button has a short, conical base with a flat bottom and two round-tipped wings. A small hole has been drilled from the bottom of the base to one side just below the "V" of the wings.

L = 2.1 cm. W = 1.5 cm.

Tingmiujang

KeDq-2:638 (Test Pit 5--Level 3; Fig. 75: i)

A small ivory tingmiujang figurine has a flat base and a rounded body. The head of this specimen has broken off. Across the back of the tingmiujang, there are numerous tiny holes which form a geometric design.

L = 2.3 cm. W = 1.5 cm. Th = 0.9 cm.

Toys

KeDq-2:288 (Test Pit 1--Level 2)

Miniature toy hunting knife made of wood.

L = 5.6 cm. W = 1.0 cm. Th = 0.3 cm.

KeDq-2:626 (Test Pit 5--Level 1; Fig. 75: h)

Toy sling handle made of bone.

L = 6.0 cm. W = 0.9 cm. Th = 0.3 cm.

KeDq-2:489 (Test Pit 4--Level 3)

Broken oval disk, made of wood, is drilled through the center and has a fragment of a small wood peg inserted into the hole. This probably is a top.

L = 6.5 cm. W = 3.5 cm. Th = 0.8 cm.

Miscellaneous and Unclassified ArtifactsAntler

KeDq-2:280 (Test Pit 1--Level 4)

This unidentified antler implement is flat and blade shaped, with a blunt point at one end and square at the opposite end. There are two small holes at the square end.

L = 17.2 cm. W = 2.3 cm. Th = 0.8 cm.

KeDq-2:625 (Test Pit 5--Level 1; Fig. 79: e)

Rectangular slat of antler with bevelled lateral edges.

L = 9.0 cm. W = 2.2 cm. Th = 0.9 cm.

KeDq-2:348 (6C/L, in burned area above upper floor; Fig. 80: g)

Similar to the above, with two small, drilled holes.

L = 5.0 cm. W = 1.7 cm. Th = 0.5 cm.

KeDq-2:465 (Test Pit 4--Level 2)

Antler tine fragment with a hole drilled in it.

L = 4.7 cm. W = 4.0 cm. Th = 0.8 cm.

Bone

KeDq-2:278 (Test Pit 1--Level 6)

Long, thin bone shaft with a rectangular cross-section and one square cut end. Possibly a rim or frame piece.

L = (21.0 cm.) W = 1.2 cm. Th = 0.7 cm.

KeDq-2:281 (Test Pit 1--Level 4)

Articulatory end of a fossilized long bone from a small mammal, with four rows of parallel notches.

L = (2.4 cm.) W = (1.4 cm.) Th = (1.0 cm.)

KeDq-2:635 (Test Pit 5--Level 3; Fig. 79: a)

Piece of a caribou scapula blade with a series of drilled holes

along two edges.

L = 11.1 cm. W = 8.4 cm. Th = 0.4 cm.

KeDq-2:515 (6C/L, on upper floor; Fig. 80: i)

Eroded, rectangular slat of bone with a drilled hole near one end.

L = 3.8 cm. W = 1.2 cm. Th = 1.0 cm.

Ivory

KeDq-2:433 (6C/L, in midden above upper floor; Fig. 80: b)

Ivory shaft fragment, rectangular in cross-section and split lengthwise. One end is square, and there is a small hole at the opposite end.

L = (3.8 cm.) W = (2.7 cm.)

KeDq-2:485 (Test Pit 3--Level 3; Fig. 81: j)

Struck flake.

Mica

KeDq-2:363 (6C/L, in midden above upper floor)

Thick, egg-shaped piece of mica; possibly a mirror.

L = 4.4 cm. W = 3.2 cm. Th = 0.2 cm.

Skin

KeDq-2:654 (8R2, Profile Cut--Level 1)

Piece of sewn seal skin.

KeDq-2:307 (Test Pit 2--Level 3)

Cut strip of seal skin.

Slate

KeDq-2:512 & 513 (6R2, in burned area above upper floor; Fig. 77: e, d)

Two flat, rectangular pieces of slate, roughly smoothed and coated with burned seal oil, might have been used as pot supports.

L = 4.3 cm. W = 2.5 cm. Th = 0.6 cm. (KeDq-2:513)

L = 5.2 cm. W = 2.0 cm. Th = 0.5 cm. (KeDq-2:512)

KeDq-2:688 (6C/L, in midden above upper floor; Fig. 77: b)

Fragment of a chipped slate piece, partially smoothed. Possibly an adze fragment.

L = (4.4 cm.) W = 4.0 cm. Th = 1.0 cm.

Tooth

KeDq-2:292 (Test Pit 2--Level 5)

Mammalian incisor, with the tip cut off.

Wood

KeDq-2:295 (Test Pit 2--Level 5)

Tiny wedge-shaped wood object, possibly a prong or barb.

L = 2.7 cm. W = 0.7 cm. Th = 0.4 cm.

KeDq-2:357 (6L2, in midden above upper floor)

KeDq-2:483 (Test Pit 3--Level 3; Fig. 81: g)

Two wood plug fragments.

KeDq-2:338 (6C/L, in midden above upper floor)

KeDq-2:451 (6L2, in midden above upper floor)

KeDq-2:694 (Test Pit 5--Level 3; Fig. 76: a)

Three wood slat fragments.

KeDq-2:347 & 434 (6C/L, in midden above upper floor)

Two notched wood slat fragments.

Class B: Artifacts Modified By ContactMaintenance, Manufacturing, and Processing EquipmentToolsDrill Bit

KeDq-2:343 (6C/L, in burned area above upper floor; Fig. 82: e)

Short steel shank flattened out at one end and sharpened to a broad point. On the end opposite the point, the shank has a groove along part of its length.

L = 5.8 cm. D = 0.4 cm.

Ulu Blade

KeDq-2:334 (6C/L, in midden above upper floor; Fig. 82: l)

Large ulu blade cut from a sheet of steel. It originally had a tang that has since broken off.

L = 16.2 cm. W = 4.9 cm. Th = 0.1 cm.

Needle Case

KeDq-2:657 (8R2, Profile Cut--Level 1)

A crushed and badly eroded needle case was found. A portion of the incised design remains on one surface of this artifact; it is a long

straight line with short perpendicular line motif commonly seen on Thule "winged" needle cases. Inside of this needle case is at least one steel needle.

Domino

KeDq-2:382 (6C/L, in midden above upper floor; Fig. 80: h)

This domino piece has been cut from a thin slat of antler.

L = 3.6 cm. W = 1.2 cm. Th = 0.2 cm.

Class C: Imported Artifacts

Hunting and Fishing Equipment

Firearms

Cartridge Shells

KeDq-2:310 (Test Pit 3--Level 1; Fig. 81: d)

.22 calibre short rifle shell casing.

KeDq-2:356 (6L2, in midden above upper floor; Fig. 82: g)

KeDq-2:396, 412-414 (6C/L, in midden above upper floor; Fig. 82: h-k)

Five cartridge shell casings.

Tools

Thimble

KeDq-2:435 (6C/L, in midden above upper floor; Fig. 82: m)

Brass thimble.

Hardware

Spikes

KeDq-2:411 & 981 (6C/L, in midden above upper floor; Fig. 82: b)

Two machine made steel spikes.

KeDq-2:332 (6C/L, in midden above upper floor; Fig. 82: d)

KeDq-2:325 (6L2, in midden above upper floor; Fig. 82: c)

Steel spike shank fragments.

KeDq-2:309 (Test Pit 3--Level 1; Fig. 81A a)

Steel spike with square, machine made shank and a hand hammered, diamond-shaped head.

Bolt

KeDq-2:410 (6C/L, in midden above upper floor; Fig. 82: a)

Heavily encrusted steel bolt.

Household Items

Can Lid

KeDq-2:381 (6C/L, in midden above upper floor; Fig. 82: f)

Circular tin can lid with a triangular-shaped hinge along one edge and a riveted ring in the center.

Ceramics

KeDq-2:285 (Test Pit 1--Level 1)

Small ironstone rim sherd with a green transfer print design on a white underglaze, with a clear overglaze.

KeDq-2:293 (Test Pit 2--Level 5)

KeDq-2:331 (6C/L, in midden above upper floor; Fig. 83: e, g)

Two white glazed ironstone mug handle fragments.

Community Artifacts and Personal Items

Beads

KeDq-2:294 (Test Pit 2--Level 5)

KeDq-2:416 (6C/L, in midden above upper floor; Fig. 83: k, l)

Two extremely small blue glass seed beads.

KeDq-2:444 (6C/L, in midden above upper floor)

Blue glass seed bead.

KeDq-2:308 (Test Pit 3--Level 1; Fig. 81: b)

Blue glass tube bead.

KeDq-2:417 (6C/L, in midden above upper floor; Fig. 83: j)

Light blue glass round bead.

KeDq-2:297 (Test Pit 2--Level 5)

Broken round glass bead; blue-green in color with rows of blue and red dots on white circles.

KeDq-2:418 (6C/L, in midden above upper floor; Fig. 83: i)

This interesting specimen appears to be a compound bead with a blue core and a white outer layer with four navy blue stripes across it, similar to the Cornaline d'Aleppo compound beads made in Venice. However, on this specimen the design is entirely painted on, and in fact it is a simple tube bead rather than a compound bead.

Ceramic Figurine

KeDq-2:380 (6C/L, in midden above upper floor; Fig. 83: m)

Several ceramic pieces bearing this catalog number were put

together to reconstruct a hollow, painted ceramic figurine. The red, black, and light brown design looks to me like a smiling bear climbing a tree, but several of my colleagues have suggested that it rather looks like a smiling bear plucking a base fiddle.

Clay Pipes

KeDq-2:291 (Test Pit 2--Level 5; Fig. 83: c)

KeDq-2:403, 442, 443 (6C/L, in midden above upper floor)

Stem fragments of clay pipes with round, molded bits.

KeDq-2:350 (6L2, in midden above upper floor; Fig. 83: n)

KeDq-2:378 & 390 (6C/L, in midden above upper floor; Fig. 83: p)

Stem fragments of clay pipes with whittled bits.

KeDq-2:296 (Test Pit 2--Level 6; Fig. 83: o)

KeDq-2:383, 391, 395, 400, 402, 405, 407-409 (6C/L, in midden above upper floor; Fig. 83: q)

Ten miscellaneous clay pipe stem fragments.

KeDq-2:354 (6L2, in midden above upper floor; Fig. 83: r)

KeDq-2:398 & 440 (6C/L, in midden above upper floor; Fig. 83: s, d)

Three decorated stem fragments all have a raised, beaded rectangle with a cross-over loop at the ends. Inside of the rectangles were letters presumably representing the name of the maker. Unfortunately, these specimens are all so worn that the name cannot be discerned.

KeDq-2:392-394, 401, 404, 406 (6C/L, in midden above upper floor; Fig. 83: b, f, h)

KeDq-2:420 (6L2, in midden above upper floor)

Seven miscellaneous clay pipe bowl fragments; most of these are blackened on the inside.

KeDq-2:441 (6C/L, in midden above upper floor; Fig. 83: a)

Decorated clay pipe bowl fragment, with a simple roulette below the rim.

KeDq-2:667 (8C/L, Profile Cut--Level 1; Fig. 59: i)

Decorated clay pipe bowl fragment, with a small portion of a raised design along one edge. However, not enough of the design is intact to permit identification.

Miscellaneous and Unclassified

Metal

KeDq-2:336 (6C/L, in midden above upper floor)

Triangular piece of copper foil.

KeDq-2:364 (6C/L, in midden above upper floor)

Small piece of cut tin.

Wood

KeDq-2:330 (Test Pit 3--Level 1)

KeDq-2:365 (6C/L, in midden above upper floor)

Two fragments of boards.

Talaguak House 5

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Harpoon Head

KeDq-2:329 (Test Pit 3--Level 1; Fig. 84: a)

One Thule type 2 harpoon head was found. This specimen, in rather poor condition, is made of antler, and has a curved base with a pointed spur on the right side. On either side of the open foreshaft socket are drilled line holes; on the reverse side these holes are connected by lashing grooves. The round line hole is double drilled. There are two sets of asymmetric barbs on the blade and the distal tip is slotted perpendicular to the line hole, for an endblade. There are two lashing holes below the endblade slot; on both sides of the harpoon head these holes are connected by lashing grooves.

L = 14.0 cm. W = 3.2 cm. Th = 0.9 cm.

Endblades

KeDq-2:473 (6C/L, midden under fall rocks in 6m room; Fig. 87: 1)

Triangular slate endblade, with three beveled facets on each face.

L = 3.7 cm. W = 2.1 cm. Th = 0.3 cm.

KeDq-2:557 (4L2, below slab floor in 4m room; Fig. 86: g)

Basal fragment of a slate endblade, broken across a hole drilled into the center of the blade.

L = (1.2 cm.) W = 2.5 cm. Th = 0.3 cm.

Fixed Lance Head

KeDq-2:375 (Test Pit 3--Level 2; Fig. 84: f)

Bone lance head fragment with a scored, scarf-cut base. Tip is broken off across two drilled holes.

L = (7.3 cm.) W = (1.2 cm.) Th = 0.4 cm.

Foreshaft Socket

KeDq-2:445 (4L2, midden among fall rocks in 4m room; Fig. 85: f)

Antler harpoon foreshaft socket with scarf-cut base and a deep, conical socket in the distal end. Two rivet holes have been drilled into the base, one contains a bone rivet.

L = 11.1 cm. W = 3.1 cm. Th = 1.7 cm.

Seal Float Gear

Float Bars

KeDq-2:683 (4L2, Below slab floor in 4m room; Fig. 86: a)

KeDq-2:376 (Test Pit 3--Level 2; Fig. 84: k)

Two wooden float bars, both round in cross-section with plain rounded ends.

L = 16.2 cm. D = 3.2 cm. (KeDq-2:683)

L = 8.7 cm. D = 2.0 cm. (KeDq-2:376)

Mending Disk

KeDq-2:449 (4L2, midden among fall rocks in 4m room; Fig. 85: h)

Small, oval disk made of bone; possibly a seal float mending disk although it lacks the lashing groove around its edge.

L = 4.0 cm. W = 2.3 cm. W = 1.0 cm.

Ice Hunting Gear

Wound Flag

KeDq-2:506 (4C/L, midden deposit in stone alcove in 6m room; Fig. 87: f)

One split, wood screw-type wound plug was found.

L = 4.5 cm. D = (1.7 cm.)

Seal Drag Toggle

KeDq-2:384 (4L2, midden among fall rocks in 4m room; Fig. 85: q)

Wood toggle, round in cross-section and slightly curved with plain round ends. There is a carved groove around the middle and a small hole drilled through one end.

L = 10.0 cm. D = 2.0 cm.

Bow and Arrow Equipment

Arrowheads

KeDq-2:554 (4L2, below slab floor in 4m room; Fig. 86: b)

This antler specimen has a square shouldered, conical tang with two offset knobs, and a round shaft with an asymmetrically pointed,

tapering blade. There are no barbs on the blade.

L = 13.0 cm. W = 1.2 cm. Th = 1.0 cm.

KeDq-2:368 (Test Pit 3--Level 1; Fig. 84: b)

Bone arrowhead tip fragment with two long, symmetrical barbs.

L = (11.5 cm.) W = (1.4 cm.) Th = 0.6 cm.

Fishing Equipment

Cod Jigging Hook

KeDq-2:559 (4L2, below slab floor in 4m room; Fig. 86: d)

This specimen is made of a seal radius, with three holes drilled into the distal end for insertion of the barbs. At the opposite, square-carved end a line hole has been drilled.

L = 5.4 cm. D = 1.8 cm.

Miscellaneous

Shaft Fragments

KeDq-2:556 (4L2, below slab floor in 4m room)

Wood shaft fragment, broken on both ends. Diameter is 0.8 cm., hence this probably represents an arrow or dart shaft.

KeDq-2:478 (6L2, on top of slab floor in 6m room; Fig. 87: b)

Butt end of a wood shaft, rectangular in cross-section. Possibly a piece of a summer harpoon.

L = 16.0 cm. W = 4.2 cm. Th = 2.8 cm.

Other

KeDq-2:374 (Test Pit 3--Level 2; Fig. 84: d)

Tip of a bone harpoon or lance head. It is slotted for an end-blade and has two rivet or lashing holes.

KeDq-2:424 (Test Pit 3--Level 2; Fig. 84: c)

Small antler tip fragment, probably from an arrowhead.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handle

KeDq-2:423 (Test Pit 3--Level 2; Fig. 84: h)

Bone knife handle tip fragment of a side-slotted knife handle. The handle had split along the blade slot, and this distal end portion had been removed by breaking across a series of small drilled holes.

Tools

Whetstone

KeDq-2:387 (4L2, midden among fall rocks in 4m room; Fig. 85: j)

One schist (?) specimen was found; it is rectangular in shape with ground sides and edges.

L = 5.0 cm. W = 3.5 cm. Th = 2.2 cm.

Stone Maul

KeDq-2:446 (4L2, midden among fall rocks in 4m room; Fig. 85: a)

This artifact is rectangular in cross-section with partially ground surfaces. This distal end is wedge-shaped and blunt, while the poll end is rounded and partially broken.

L = 12.8 cm. W = 4.7 cm. Th = 2.5 cm.

Wedges

KeDq-2:555 (4L2, below slab floor in 4m room; Fig. 86: c)

KeDq-2:689 (Test Pit 2--Level 1; Fig. 84: i)

Two antler wedges.

L = 9.7 cm. W = 2.6 cm. Th = 1.3 cm. (KeDq-2:555)

L = 7.2 cm. W = 3.5 cm. Th = 1.9 cm. (KeDq-2:689)

Awls

KeDq-2:290 (Test Pit 2--Level 1)

KeDq-2:475 (6C/L, midden above slab floor in 6m room; Fig. 87: j)

Two caribou ulna awl preforms were found; these have been incised for splitting but the excess bone has not been broken away.

Household Equipment

Soapstone Cooking Vessels

KeDq-2:386 (4L2, midden among fall rocks in 4m room; Fig. 85: e)

Broadly curved, soapstone vessel rim fragment.

KeDq-2:430 (4L2, midden among fall rocks in 4m room; Fig. 85: b)

Plain, slightly curved body sherd.

KeDq-2:287 (Test Pit 2--Level 1; Fig. 84: j)

Triangular-shaped mending patch with three beveled edges and three drilled holes along one edge. One of these holes contains a soapstone rivet.

Soapstone Lamps

KeDq-2:432 (4L2, midden among fall rocks in 4m room; Fig. 85: d)

This very thick rim fragment with an insloping interior surface, was classified as a kudlit fragment.

KeDq-2:553 (4L2, below slab floor in 4m room; Fig. 86: f)

Small, oval lamp with a pecked, cup-shaped interior depression. This may be a Dorset artifact.
L = 8.2 cm. W = 6.8 cm. Th = 3.3 cm.

Community Activity and Personal Items

Toys

KeDq-2:558 (4L2, below slab floor in 4m room; Fig. 86: e)

Toy wooden arrow with a flat, "V"-shaped nock end, a round shaft, and a scarf-cut distal end.
L = 6.2 cm. D = 0.3 cm.

KeDq-2:505 (6L2, on slab floor in 6m room; Fig. 87: c)

Toy leister, with two half-round wood side prongs lashed to a (broken) wood shaft with baleen filament.

Miscellaneous and Unclassified Artifacts

Antler

KeDq-2:448 (4L2, midden among fall rocks in 4m room; Fig. 85: g)

Wedge shaped piece of antler.
L = 11.0 cm. W = 3.5 cm. Th = 1.5 cm.

Bone

KeDq-2:450 (4L2, midden among fall rocks in 4m room; Fig. 85: i)

Small bone buckle split across two holes.

KeDq-2:372 (Test Pit 3--Level 2; Fig. 84: g)

Bone fragment with two drilled holes.
L = 2.4 cm. W = 1.3 cm. Th = 0.1 cm.

KeDq-2:474 (6C/L, on top of slab floor in 6m room; Fig. 87: i)

Sharp, pointed bone piece.
L = 6.6 cm. W = 1.0 cm. Th = 0.2 cm.

KeDq-2:422 (Test Pit 1--Level 3)

Grooved bone fragment.

KeDq-2:1089 (Test Pit 1--Level 1)

Round tipped, flat bone piece.
(L) = 6.2 cm. (W) = 1.4 cm. Th = 0.5 cm.

Ivory

KeDq-2:373 (Test Pit 3--Level 2; Fig. 84: c)

Drilled ivory fragment.

KeDq-2:504 (6C/L, midden among fall rocks in 6m room; Fig. 87: h)

Pointed ivory fragment.

Mica

KeDq-2:377 & 426 (Test Pit 3--Level 2)

These two pieces of cut mica were cataloged as artifacts.

Several other, smaller pieces were found but not cataloged.

Soapstone

KeDq-2:429 (4L2, midden among fall rocks in 4m room; Fig. 85: c)

Soapstone flake, polished across outer surface.

Stone

KeDq-2:388 (4L2, midden among fall rocks in 4m room; Fig. 85: p)

Small pebble of feldspar (?), shaped into a rectangle and polished.

L = 1.5 cm. W = 0.9 cm. Th = 0.7 cm.

Tooth

KeDq-2:431 (4L2, midden among fall rocks in 4m room)

Hollowed out polar bear canine.

Whale Bone

KeDq-2:358 (Test Pit 2--Level 2)

Long, narrow slat of whale bone, lateral edges are worn and there are hack marks across the cortical surface.

L = 24.0 cm. W = 2.2 cm. Th = 1.1 cm.

Wood

KeDq-2:695 (4C/L, midden in stone alcove in 6m room; Fig. 87: d)

Large, carved piece of wood, split in half length-wise. At one paddle-shaped end there is a notch in one corner.

L = 19.0 cm. W = (3.5 cm.) Th = 0.9 cm.

KeDq-2:477 (6C/L, on top of slab floor in 6m room; Fig. 87: e)

Short, thick wood plug.

L = 4.3 cm. D = 2.1 cm.

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KeDq-2:421 (Test Pit 1--Level 3; Fig. 84: 1)

KeDq-2:507 (6C/L, on top of slab floor in 6m room; Fig. 87: g)

Two small, worked fragments of wood.

Class C: Imported Artifacts

Miscellaneous

Wooden Thread Spool

KeDq-2:503 (6C/L, among fall rocks; Fig. 87: a)

This artifact was found in a disturbed context in House 5 and is interpreted as an historic period intrusion, not associated with the rest of the artifacts representing a Thule culture occupation of the house.

Talaguak House 7

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Loose Lance Head

KeDq-2:853 (4C/L, below sod above right side bench; Fig. 88: b)

Basal fragment of a large, loose lance head made of ivory. Flat oval cross-section, with a rounded, open foreshaft socket. Base is straight, with no spurs. Upper portion of the lance head has been cut off. Numerous holes have been drilled through the remaining portion, possibly so it could be used as an adjuqaq.
L = 4.8 cm. W = 3.4 cm. Th = 1.5 cm.

Endblade

KeDq-2:304 (Test Pit 1--Level 2; Fig. 89: j)

Triangular slate endblade, faceted on both faces and broken at one basal corner.

L = 3.0 cm. W = 2.3 cm. Th = 0.3 cm.

Moveable Foreshaft

KeDq-2:317 (Test Pit 2--Level 2; Fig. 89: e)

Basal fragment of a moveable foreshaft, made of bone. This specimen has a wedge-shaped base. The shank is broken off just above the base.

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Foreshaft Fragments

KeDq-2:316 (Test Pit 2--Level 2; Fig. 89: d)

KeDq-2:882 (4C/L, midden in entrance tunnel; Fig. 88: d)

KeDq-2:867 (4L2, midden above slab floor; Fig. 88: g)

Three distal end fragments of harpoon or lance foreshafts are all made of bone. Two (316, 882) have rounded distal tips, while the other (867) has a wedge-shaped tip. These specimens range in length from 7.6 cm. to 15.8 cm., and in diameter from 0.9 to 1.5 cm.

KeDq-2:311 (Test Pit 2--Level 1; Fig. 89: g)

Bone foreshaft fragment, broken at both ends. Rectangular in cross-section.

L = (11.0 cm.) W = 2.0 cm. Th = 1.3 cm.

Moveable Lance Head

KeDq-2:305 (Test Pit 1--Level 2; Fig. 89: f)

This specimen is made of bone, and is rectangular in cross-section with a tapered, square-cut base. Above the base are two drilled holes, and the distal portion of the shaft has been cut off above these holes. This specimen may have been used as a towing gear piece after it was re-worked from a lance head.

L = 11.4 cm. W = 3.2 cm. Th = 1.2 cm.

Dart Gear

Float Mouthpiece

KeDq-2:861 (4C/L, midden among fall rocks; Fig. 88: e)

Oval shaped ivory mouthpiece; short with a constricted neck, and flat flanges at either end. The entire surface is heavily pitted.

L = 3.3 cm. W = 2.2 cm. Th = 1.7 cm.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Blades

KeDq-2:858 (4C/L, midden above slab floor; Fig. 91: a)

Small, lamellar slate flake with ground and sharpened lateral edges.

L = (1.9 cm.) W = 1.7 cm. Th = 0.3 cm.

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Tools

Whetstones

KeDq-2:856 (4C/L, midden on top of sleeping platform; Fig. 91: e)

Oval whetstone with smoothed, rounded edges and flat faces, made of slate.

L = 8.8 cm. W = 4.3 cm. Th = 1.7 cm.

KeDq-2:868 (4L2, midden on left side bench; Fig. 91: b)

KeDq-2:855 (4C/L, midden on top of sleeping platform; Fig. 91: c)

Two small, rectangular whetstone, made of slate.

L = 5.2 cm. W = 2.7 cm. Th = 1.1 cm. (KeDq-2:868)

L = 6.5 cm. W = 3.4 cm. Th = 1.1 cm. (KeDq-2:855)

KeDq-2:1081 (4L2, burned soil on left side bench; Fig. 91: d)

Rectangular slate whetstone with partially smoothed edges and faces.

L = 7.2 cm. W = 3.2 cm. Th = 1.7 cm.

KeDq-2:1084 (4L2, burned soil under left side bench)

Fragment of a large, rectangular slate whetstone.

L = (4.5 cm.) W = 4.7 cm. Th = 2.4 cm.

Wedges

KeDq-2:318 (Test Pit 2--Level 2; Fig. 89: h)

Wedge cut from a piece of antler.

L = 7.5 cm. W = 2.5 cm. Th = 1.5 cm.

KeDq-2:319 (Test Pit 2--Level 2)

Wedge made of bone

L = 6.0 cm. W = 2.1 cm. Th = 1.2 cm.

Stone Scrapers

KeDq-2:872 (6C/L, sod zone above sleeping platform; Fig. 90: a)

Large, elongated slate flake, retouched along the edges into an oval-shaped scraper. Both ends of this specimen have been worn smooth.

L = 7.15 cm. W = 3.4 cm. Th = 0.65 cm.

KeDq-2:875 (6C/L, midden on top of sleeping platform; Fig. 88: f)

Small, polished oval slate disk; one sharp, lateral edge has been worn smooth from scraping, and the other edges are thicker and flat.

L = 3.3 cm. W = 2.8 cm. Th = 0.5 cm.

Scraper Handle

KeDq-2:916 (2C/L, midden in entrance tunnel; Fig. 90: b)

This specimen is made from a split piece of antler with one end

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cut flat, and the opposite end cut to a rounded, scarf-faced tip. This tip is scored across the outer surface for lashing.
 L = 7.8 cm. W = 3.0 cm. Th = 1.2 cm.

Scapula Scraper

KeDq-2:869 (4L2, below sod above left side bench; Fig. 90: c)

This specimen, made from a caribou scapula, is damaged along the distal edge. The acromian process has been removed by breaking it off across a line of small drilled holes. The articulatory surface also has been cut off, and has been drilled with three holes, probably for lashing the scraper onto a handle.

L = 8.6 cm. W = 5.5 cm. Th = 1.55 cm.

Boot Creaser

KeDq-2:857 (4C/L, midden among fall rocks; Fig. 90: e)

This artifact is made from a long piece of antler. The thick end of the antler base forms the handle, and the shank has been thinned and tapered by splitting the piece along incised grooves. The distal tip is wedge-shaped, and is heavily worn from use.

L = 24.3 cm. W = 4.1 cm. Th = 2.2 cm.

Rubbing Stones

KeDq-2:320 & 321 (Test Pit 2--Level 2; Fig. 89: b, c)

Two flat, oblong stones have smoothly ground surfaces and rounded, worn ends.

Wood Stake

KeDq-2:912 (2C/L, midden in entrance tunnel; Fig. 90: d)

Wooden stake, tapered with rectangular cross-section.

L = 21.1 cm. W = 1.4 cm. Th = 1.0 cm.

Household Equipment

Platter or Tray

KeDq-2:915 (2C/L, midden in entrance tunnel)

A large, oval, wood platter or tray bottom was found. This specimen has split in half lengthwise. The edges are slightly beveled, and at one end two small holes have been drilled along the edge. One of these holes has a small wood peg in it. There are also two holes at the center of the piece, and in one of these is the remains of a wood peg.

L = (24.2 cm.) W = (5.4 cm.) Th = 0.8 cm.

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Soapstone Cooking Vessels

KeDq-2:314 (Test Pit 2--Level 2; Fig. 89: a)

Basal corner fragment of a square or rectangular, straight sided vessel, made of soapstone.

KeDq-2:870 (4L2, midden on left side bench)

Rim sherd from a thick, globular vessel with a suspension hole drilled through the rim from the top edge to the inner surface just below the lip.

KeDq-2:862 (4C/L, midden below fall rocks)

Small, exfoliating soapstone rim sherd.

Wick Trimmer

KeDq-2:854 (4C/L, midden on top of sleeping platform)

Short wick trimmer made of wood, rounded at both ends.

L = 9.9 cm. D = 1.7 cm.

Community Activity and Personal Items

Toys

KeDq-2:863 (4C/L, midden in entrance tunnel)

KeDq-2:911 (2C/L, midden in entrance tunnel)

Two toy wooden komatik runners were found. Both have upswept front ends, and several holes punched below the top edge.

L = 13.6 cm. W = 2.3 cm. Th = 1.2 cm. (KeDq-2:863)

L = 13.7 cm. W = 2.4 cm. Th = 1.3 cm. (KeDq-2:911)

Miscellaneous and Unclassified

Antler

KeDq-2:873 (6C/L, midden on top of sleeping platform)

This piece of antler has two deeply incised grooves across one surface, and one lateral edge has been snapped off along a third groove.

L = 9.2 cm. W = 2.3 cm. Th = 1.2 cm.

Baleen

KeDq-2:859 (4C/L, midden above slab floor)

Cut strip of baleen with one rounded end.

Bone

KeDq-2:913 (2C/L, midden in entrance tunnel)

Fragment of a caribou scapula blade, removed by breaking across

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a line of small, drilled holes.

KeDq-2:1080 (4R2, just below sod zone)

Fragment of mammal long bone, both lateral edges broken across lines of small, drilled holes.

Mica

KeDq-2:315 (Test Pit 2--Level 2; Fig. 89: i)

Several small, miscellaneous pieces of mica were found. This particular specimen was cut into a rectangular shape, and was about 1 mm thick.

Skin

KeDq-2:1083 (4L2, burned soil below left side bench)

Thick piece of seal skin, sewn with braided sinew thread.

Whale Bone

KeDq-2:914 (2C/L, midden in entrance tunnel; Fig. 88: c)

Drilled whale bone shaft, triangular in cross-section, with one end cut straight across and one end broken. The surfaces of this piece are heavily scored. A hole has been drilled from the flat end to one of the sides. At the opposite, broken end, there are two holes drilled through the shaft. Two incised line grooves extend from these holes to the broken edge. This may be a fixed foreshaft fragment.

L = (6.9 cm.) W = 2.3 cm.

Wood

KeDq-2:865 & 1026 (2C/L, midden in entrance tunnel)

KeDq-2:881 (4C/L, midden in entrance tunnel)

Three wood slat fragments were found. They range in length from 7.4 cm. to 19.8 cm., in width from 1.3 to 3.3 cm., and in thickness from 0.6 cm. to 0.8 cm.

KeDq-2:876 (6C/L, midden on top of sleeping platform)

KeDq-2:917 (2C/L, midden in entrance tunnel)

Two small, worked sticks.

L = 5.7 cm. D = 0.4 cm. (KeDq-2:876)

L = 7.0 cm. D = 1.0 cm. (KeDq-2:917)

KeDq-2:880 (2C/L, midden in entrance tunnel)

KeDq-2:1085 (4L2, burned soil under side bench)

Two small notched wood shaft fragments.

Painting

Harpoon

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Class B: Artifacts Modified by Contact

Hunting and Fishing Equipment

Harpoon and Lance Gear

Harpoon Head

KeDq-2:1097 (4R2, just below sod above right side bench; Fig. 88: a)

One ivory Thule type 5 harpoon head was found. This specimen has cleft basal spurs, semi-closed, conical foreshaft socket, and side to side line holes across one face. There are broad, down-sloping line grooves extending from the line holes to both lateral edges. The tip is broken off but there is a remnant of a blade slot perpendicular to the line hole, and there are two side blade slots perpendicular to the endblade. A fragment of a metal side blade remains in the left slot. On the opposite, dorsal face of the harpoon head a small hole has been drilled which extends into the inside of the line hole.

L = (8.0 cm.) W = 2.5 cm. Th = 1.6 cm.

Wick Trimmer

KeDq-2:864 (2C/L, midden in entrance tunnel)

Small wick trimmer made on a narrow piece of wood with blue paint on one surface.

L = (9.7 cm.) W = 0.9 cm. Th = 0.6 cm.

Class C: Imported Artifacts

Community Activity and Personal ItemsBeads

KeDq-2:312 & 313 (Test Pit 2--Level 1, below floor slabs; Fig. 89: 1, m)

Two small blue glass tube beads.

Miscellaneous and Unclassified ArtifactsWood

KeDq-2:871 (4L2, in sod zone)

Fragment of a wood board.

Talaguak House 9

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Harpoon Heads

KeDq-2:956 (6C/L, lower midden; Fig. 92: a)

This defective Thule type 2 harpoon head is made of antler. It has an open foreshaft socket with a groove for a reinforcement bar at the upper end, and lashing slots on either side. There are grooves extending along the lateral edges of the base from the lashing slots to the shoulders of the base at their juncture with the midsection. There is a strong, conical shaped spur on the right side of the basal edge, and the juncture of the basal edge and spur form an oblique angle. There is a round line hole drilled through the midsection. The blade of this specimen has broken off just above the line hole.

L = (11.3 cm.) W = 2.6 cm. Th = 1.3 cm.

KeDq-2:957 (6C/L, lower midden; Fig. 92: b)

A second defective Thule type 2 harpoon head was found, this one also made of antler. It too has a rectangular, open foreshaft socket with lashing grooves along either side, and a prominent spur on the right side of the base. A round line hole has been drilled through the midsection. The blade appears to have only a single barb, although it is too eroded to determine if a second barb has broken off.

L = (10.9 cm.) W = 2.0 cm. Th = 1.4 cm.

KeDq-2:951 (6L2, lower midden; Fig. 92: c)

Thule type 3 specimen made of bone. Although badly crushed and eroded, this specimen has an open foreshaft socket with drilled lashing holes on either side, and a large, round, double-drilled line hole. At the distal tip there is an endblade slot parallel to the line hole, with a hole drilled just below the endblade slot. On the dorsal side of the harpoon head, there are lashing grooves connecting two pairs of lashing holes.

L = (6.5 cm.) W = 2.15 cm. Th = 1.1 cm.

Endblades

KeDq-2:889 (6L2, lower midden; Fig. 95: k)

This bone endblade is elongated and triangular in shape; it has faceted faces and a hole drilled along the midline near the base.

L = 6.8 cm. W = 2.2 cm. Th = 0.6 cm.

KeDq-2:1061 (8L2, lower midden; Fig. 95: o)

Nephrite endblade, triangular in shape with beveled faces and a hole drilled near the distal tip. The lateral edges have been ground sharp.

L = 3.6 cm. W = 3.4 cm. Th = 0.4 cm.

KeDq-2:1033 (6L2, lower midden; Fig. 95: f)

Nephrite endblade, ovoid in shape with sharp lateral edges, faceted faces, and two double-drilled holes in the center.

L = 3.4 cm. W = 2.55 cm. Th = 0.5 cm.

KeDq-2:850 (6L2, midden deposit in hearth; Fig. 95: b)

Slate endblade with flat faces, sharp lateral edges, and a rounded distal tip.

L = 2.5 cm. W = 1.5 cm. Th = 0.3 cm.

KeDq-2:1043 (6C/L, on slab floor; Fig. 95: h)

Triangular slate endblade, with faceted faces and sharp lateral edges.

L = 2.8 cm. W = 2.3 cm. Th = 0.45 cm.

KeDq-2:1017 (8C/L, on slab floor; Fig. 95: c)

Lateral edge fragment of a slate endblade with a small notch or indentation along the edge.

L = (1.85 cm.) W = (1.8 cm.) Th = 0.4 cm.

KeDq-2:852 (6L2, midden near sleeping platform support; Fig. 95: i)

KeDq-2:991 (6L2, on slab floor; Fig. 95: g)

KeDq-2:900 & 1039 (6L2, lower midden; Fig. 95: d, j)

KeDq-2:838 (6C/L, midden above sleeping platform; Fig. 95: e)

Slate endblade fragments, all broken across drilled holes.

KeDq-2:842 (6C/L, midden above sleeping platform; Fig. 95: a)

Small, triangular slate endblade blank.

L = 2.0 cm. W = 1.7 cm. Th = 0.4 cm.

KeDq-2:893 (6L2, lower midden; Fig. 95: m)

Basal fragment of a large, elongated endblade with faceted faces. There are two double-drilled holes in the center of the blade. This artifact was probably used on a lance.

L = (3.6 cm.) W = 2.9 cm. Th = 0.6 cm.

KeDq-2:966 (4C/L, lower midden; Fig. 95: n)

Large, sharply pointed tip fragment of a slate lance endblade. Both faces are faceted, and there are shallow notches on both lateral edges. This specimen is broken in half across a drilled hole in the center of the blade.

L = (4.35 cm.) W = 3.1 cm. Th = 0.8 cm.

KeDq-2:1044 (6C/L, on slab floor; Fig. 95: l)

Large slate lance endblade; ovoid in shape with a broken distal tip. One face is flat while the other is faceted; a double-drilled hole has been drilled near the base.

L = (4.9 cm.) W = 3.75 cm. Th = 0.7 cm.

Moveable Foreshaft

KeDq-2:1046 (4L2, on slab floor; Fig. 94: c)

This very eroded specimen is made of antler and has a round base

and a narrow, rounded tip. An oval hole has been carved near the base. This may be a Dorset artifact.

L = 17.7 cm. W = 2.1 cm. Th = 0.9 cm.

Moveable Lance Head

KeDq-2:1077 (6C/L, depression in floor; Fig. 92: d)

This specimen, made of antler, has a conical base and a pointed tip with two highly asymmetric barbs. Two line holes have been drilled just above the base. Its large size suggests use against larger sea mammals such as walrus or whales.

L = 24.8 cm. W = 3.6 cm. Th = 1.45 cm.

Foreshaft Sockets

KeDq-2:1047 (4L2, on slab floor; Fig. 94: b)

This antler specimen has a thick distal end in which a deep, conical socket has been carved. The basal end is scarf-cut and heavily scored. There are three rivet holes just above the base.

L = 15.2 cm. W = 3.6 cm. Th = 3.0 cm.

KeDq-2:934 (8C/L, lower midden; Fig. 94: a)

This antler specimen is hollow from one end to the other. The narrow basal end is beveled from the inside for insertion of the harpoon shaft; the wider distal end has score marks around the outer edge for lashing the foreshaft.

L = 9.2 cm. D = 3.3 cm.

KeDq-2:932 (6L2, lower midden)

Distal fragment of an antler foreshaft socket similar to the one described above.

Ice Picks

KeDq-2:884 (6L2, in support box)

This proximal end fragment is made of whale bone, and is triangular in cross-section and is heavily scored across all surfaces.

L = (6.2 cm.) D = (1.9 cm.)

KeDq-2:891 (6L2, lower midden; Fig. 94: e)

Ice pick fragment made of ivory. The distal end tapers to a rounded point, while the proximal end is wider and triangular in cross-section.

L = (9.0 cm.) D = 1.9 cm.

KeDq-2:1009 (6L2, in hearth on floor; Fig. 94: f)

This complete specimen is made of antler. The distal end has been worked to a rounded, wedge-shaped point, while the proximal end has been cut to a tapered, triangular tang that is scored for lashing to the harpoon or lance shaft.

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KeDq-2:1067 (8L2, lower midden; Fig. 94: d)

This ivory specimen has a long, heavily scored tang that is flat on one side and rounded on the other. The distal tip is short and round in cross-section, and tapers to a rounded point. One asymmetric hole has been drilled through the distal end just below the tang.

L = 10.75 cm. W = 2.5 cm. Th = 1.6 cm.

Dart Gear

Harpoon Dart Head

KeDq-2:935 (8C/L, lower midden; Fig. 93: a)

This dart head is made of ivory, and is round in cross-section and tapers from the base to the distal tip. The distal end has four unilateral barbs and a rounded, wedge-shaped tip. The base is also rounded and wedge-shaped, with a rectangular hole just above the base.

L = 12.35 cm. D = 1.4 cm.

Bird Dart Side Prongs

KeDq-2:940 (6L2, lower midden; Fig. 93: e)

This specimen, made of antler, is an eroded left side prong with a single barbed, distal tip and a wedge shaped base.

L = 10.3 cm. W = 1.6 cm. Th = 0.7 cm.

KeDq-2:941 (6L2, lower midden; Fig. 93: d)

This unfinished specimen, also made of ivory, is a left side prong with a straight shaft, a broad barb on the inner side of the distal end, and a wedge shaped base with a small knob at the basal end.

L = (11.5 cm.) W = 1.75 cm. Th = 0.8 cm.

KeDq-2:1008 (6L2, in hearth on floor; Fig. 93: b)

Right side prong made of antler with a curved shaft, a broad bilateral barb on the distal end, and a knobbed, wedge-shaped tang at the proximal end.

L = 12.8 cm. W = 1.5 cm. Th = 0.85 cm.

KeDq-2:1030 (8C/L, on slab floor; Fig. 93: c)

Left side prong, made of antler, with a curved shaft, three short barbs on the inner side of the distal end, and a broken base.

L = (9.9 cm.) W = 1.1 cm. Th = 0.7 cm.

Seal Float Gear

Float Bars

KeDq-2:1000 (6C/L, in congealed, oily deposit on floor; Fig. 93: g)

Wood float bar, round in cross-section with a thick midsection and tapered, rounded ends.

L = 10.3 cm. D = 1.75 cm.

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Ice Hunting Gear

Wound Pins

KeDq-2:848 (6L2, in hearth; Fig. 105: a)

This specimen is made of ivory and has a rounded knob at one end, below which there is a constricted, round neck. The pointed shank is square in cross-section.

L = 9.6 cm. D = 0.6 cm.

KeDq-2:955 (6L2, lower midden; Fig. 105: b)

Wooden wound pin shank fragment, oval in cross-section with a rounded, wedge-shaped, distal tip.

L = (7.9 cm.) W = 1.0 cm. Th = 0.8 cm.

Seal Drag Handle

KeDq-2:903 (6C/L, lower midden at edge of hearth; Fig. 105: c)

This specimen is made from a seal tarsal bone, drilled through both ends.

L = 8.5 cm. W = 2.2 cm. Th = 2.1 cm.

Seal Drag Toggles

KeDq-2:999 (6C/L, on slab floor; Fig. 105: d)

This wooden specimen is rectangular in cross-section with one flat side, and a broad central groove around the other three rounded sides. Both ends are beveled.

L = 8.2 cm. W = 2.7 cm. Th = 2.1 cm.

KeDq-2:1028 (6L2, on floor)

This fragmentary wood specimen is rectangular in shape and has been notched across one end. It is tentatively classified as a drag handle.

L = (4.7 cm.) D = 1.5 cm.

Bow and Arrow Equipment

Bow Part

KeDq-2:964 (4C/L, lower midden; Fig. 105: g)

End fragment of a wood bow, oval in cross-section and slightly constricted between the notch end and the opposite, broken end.

L = (19.7 cm.) W = 2.0 cm. Th = 1.05 cm.

Arrowshaft

KeDq-2:1057 (4C/L, on floor; Fig. 105: f)

Wood arrowshaft fragment, round to rectangular in cross-section,

broken at both ends. Part of the arrowhead socket remains at one end.
L = (22.5 cm.) D = 1.15 cm.

Quiver Handle

KeDq-2:896 (6L2, in support box; Fig. 105: e)

One small ivory quiver handle was found. This specimen is slightly curved and has expanded, round ends with drilled holes. One of the ends has broken off across the hole. There is a faint incised design along one surface of the handle.

L = (6.9 cm.) W = 0.7 cm. Th = 0.6 cm.

Fishing Equipment

Leister Side Prong

KeDq-2:906 (6C/L, lower midden; Fig. 93: f)

This small, eroded specimen has a straight, round shaft with a broad barb at the distal end. The basal element has broken off.

L = (10.9 cm.) D = 0.9 cm.

Leister Barb

KeDq-2:1076 (8L2, lower midden; Fig. 96: a)

One large ivory side barb was found. This specimen is rectangular in cross-section with one straight lateral edge and one curved lateral edge which tapers to a sharp point. Three lashing holes have been drilled through the broad proximal end.

L = 11.35 cm. W = 2.1 cm. Th = 1.25 cm.

Cod Jigging Hook

KeDq-2:1001 (6C/L, in congealed oily deposit on floor; Fig. 96: d)

This delicately made specimen has been carved from a seal radius, and has a thin, cylindrical shank extending from the broad distal articulatory surface. At the end of the shank is a small, drilled line hole. Three slightly larger holes have been drilled around the edge of the opposite end, into which small bird beaks have been inserted to form a triple barbed hook.

L = 4.7 cm. D = 1.7 cm.

Miscellaneous

Gull Hook

KeDq-2:1019 (4C/L, in hearth on floor; Fig. 96: b)

This specimen consists of a wood shank with a knob at the upper end and a broad, sharp-edged blade which tapers to a point at the opposite end. A thin bone or antler needle has been lashed across the

blade with baleen line.

L = 10.2 cm. W = 1.5 cm. Th = 0.9 cm.

Sling Handle

KeDq-2:1058 (4L2, on floor; Fig. 96: f)

A small, complete sling handle was found, made from a flat piece of wood. The rounded handle has a thumb groove along one lateral edge. One side of the handle is convex, while the other side has a broad, circular indentation. The shank tapers to the distal tip, which is notched along one edge. Two parallel grooves extend along the shank from the handle to the distal tip.

L = 21.0 cm. W = 2.75 cm. Th = 1.1 cm.

Net Weight

KeDq-2:1101 (8L2, lower midden; Fig. 96: e)

This artifact has been carved from a dense piece of antler; it is oval in cross-section with a broad groove encircling one end.

L = 4.7 cm. W = 4.75 cm. Th = 2.9 cm.

Shaft Fragments

KeDq-2:953 & 954 (6L2, lower midden; Fig. 106: c, b)

These wooden shaft fragments both appear to be from harpoons or lances. They are oval in cross-section, cut straight across one end and broken across the opposite end.

L = (16.7 cm.) W = 3.0 cm. Th = 2.2 cm. (KeDq-2:953)

L = (12.5 cm.) D = 3.2 cm. (KeDq-2:954)

KeDq-2:993 (6L2, on floor; Fig. 106: a)

This thick wood shaft fragment has a scarf-cut lashing element at the one unbroken end. It is also probably from a harpoon or lance.

L = (13.0 cm.) D = 2.7 cm.

KeDq-2:1086 (0L2, lower midden; Fig. 106: d)

This wide, tapering wood shaft fragment also has a scarf-cut lashing element at one end. Five rivet holes have been drilled into the flat side of the lashing element, two of which still contain wood rivets.

L = (25.5 cm.) W = 3.8 cm. Th = 2.0 cm.

Other

KeDq-2:933 (8C/L, lower midden; Fig. 96: c)

A single barbed tip fragment, made of antler, is probably from an arrowhead or a leister side prong.

L = (8.0 cm.) W = 1.4 cm. Th = 0.4 cm.

Transportation Equipment

Sled Parts and Gear

Sled Shoes

KeDq-2:844 & 845 (6L2, upper midden; Fig. 102: a, c)

These two whale bone sled shoe fragments were found in the upper cultural deposit and therefore are not associated with the Thule occupation of the house. One of the shoes has six pairs of holes, each connected by lashing grooves. The other specimen has only one hole, containing a fragment of a whale bone peg.

L = 32.2 cm. W = 4.8 cm. Th = 1.0 cm. (KeDq-2:844)

L = (25.5 cm.) W = (3.8 cm.) Th = 0.85 cm. (KeDq-2:845)

KeDq-2:1024 (6C/L, beneath floor 1; Fig. 102: b)

This whale bone specimen has split lengthwise and is broken at one end. It has six holes along its length; the two holes nearest the intact end are connected by a lashing groove, while the hole nearest the opposite, broken edge, has a lashing groove extending the break. The lashing grooves run at a slight angle to the lateral edge.

L = (25.0 cm.) W = (3.1 cm.) Th = 1.8 cm.

Draught Line Toggles

KeDq-2:1050 (6L2, on floor; Fig. 101: c)

This broken specimen is made of ivory, with tapered, rounded ends and a drilled hole through the center.

L = (3.7 cm.) W = 1.0 cm. Th = 0.6 cm.

KeDq-2:1052 (4L2, on floor; Fig. 101: b)

This small toggle, made of wood, is triangular in shape and has a hole drilled through the middle, through which a skin line has been tied.

L = 2.8 cm. W = 1.2 cm. Th = 0.7 cm.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handles

KeDq-2:1014 (6L2, in hearth on floor; Fig. 100: a)

This whale bone knife handle is oval in cross-section and is broken across both ends. There is a remnant of a blade slot at one end, and there is also a side blade slot along this same end. At the opposite end is a drilled suspension line hole.

L = (7.85 cm.) W = 2.7 cm. Th = 1.0 cm.

Polished Slate Knife Blades

KeDq-2:987 (6L2, on floor; Fig. 100: b)

This complete specimen has a broad, round-tipped blade that is ground sharp along the bottom edge, with smoothly polished sides and a roughly flaked upper edge. There is a wide, thick tang element which has a hole partially drilled into it from one side.

L = 6.35 cm. W = 3.0 cm. Th = 0.85 cm.

KeDq-2:1059 (6L2, lower midden; Fig. 100: c)

This is a long, thin, lanceolate shaped blade with one sharply ground edge, and polished across both sides.

L = 6.7 cm. W = 2.8 cm. Th = 0.4 cm.

KeDq-2:988 & 989 (6L2, on floor; Fig. 100: d, e)

Two fragments of polished slate knife blades, both with one sharply ground edge.

Flake Knives

KeDq-2:992 & 1073 (6L2, on floor; Fig. 100: g, h)

Two slate flakes, both ground sharp along one edge.

L = 5.3 cm. W = 3.6 cm. Th = 0.6 cm. (KeDq-2:992)

L = 3.1 cm. W = 1.2 cm. Th = 0.3 cm. (KeDq-2:1073)

KeDq-2:886 (6L2, in support box; Fig. 100: f)

Large rhyolite flake, sharpened and worn along two edges.

L = 4.95 cm. W = 4.6 cm. Th = 0.8 cm.

Drill and Fire-Making Equipment

Drill Mouthpiece Bearing

KeDq-2:1069 (6L2, lower midden; Fig. 104: a)

This very eroded caribou astragalus has an enlarged and smoothed distal articulatory fossa.

L = 3.25 cm. W = 2.0 cm. Th = 1.6 cm.

Drill Bits

KeDq-2:944 (6L2, lower midden; Fig. 104: b)

This drill bit, made of translucent green jade or jadeite, is rounded in cross-section with a slightly flared, pointed tip.

L = (2.3 cm.) D = 0.8 cm.

KeDq-2:950 (6L2, lower midden; Fig. 104: c)

Another drill bit, made of nephrite, is similar to the one described above.

L = (1.9 cm.) D = 0.9 cm.

Hand Drills

KeDq-2:895 (6L2, lower midden; Fig. 104: d)

This is a fragment of a hand drill made of bone. The upper end is broad and flat, and tapers to a short, round shank with a slightly flared, pointed tip.

L = (6.8 cm.) W = 1.7 cm. Th = 0.5 cm.

KeDq-2:996 (4L2, on floor; Fig. 104: e)

This complete specimen is made from a left fibula of a seal. The fused distal epiphysis forms the handle end, and the shank has been carved down to a sharp, pointed tip at the opposite end.

L = 11.4 cm. W = 2.1 cm. Th = 1.5 cm.

Fire Drill Spindle

KeDq-2:1012 (6L2, in hearth on floor; Fig. 104: f)

Short, cylindrical piece of wood with smoothed, conical ends. One end is burned, and there is also a burned notch along the shank.

L = 9.7 cm. D = 2.15 cm.

House-Building Equipment

Snowknife Handle

KeDq-2:958 (4L2, lower midden; Fig. 108: a)

This very eroded specimen, made of antler, is crescentic in shape and is broken at one end. It has tentatively been classed as a snowknife handle.

L = (9.4 cm.) W = 3.6 cm. Th = 1.7 cm.

Snowknife Blade

KeDq-2:1011 (6L2, in hearth on floor; Fig. 108: b)

This wide snowknife blade is made of ivory, with a sharpened cutting edge that curves upward to a broad, rounded point (now broken). The opposite end has four large holes for attachment to a handle.

L = (17.5 cm.) W = 6.55 cm. Th = 0.7 cm.

Tools

Whetstones

KeDq-2:824 (8L2, midden above sleeping platform; Fig. 97: a)

Large, rectangular whetstone, made of sandstone. Polished along all four edges and on one side.

L = 10.6 cm. W = 5.2 cm. Th = 2.3 cm.

KeDq-2:888 & 943 (6L2, lower midden; Fig. 97: c, b)

Two rectangular slate whetstones were found. One is polished along all edges and sides (943), while the other exhibits rough ends broken off along incised grooves.

L = 6.3 cm. W = 4.1 cm. Th = 1.05 cm. (KeDq-2:888)

L = 7.0 cm. W = 4.1 cm. Th = 1.35 cm. (KeDq-2:943)

KeDq-2:1021 (40C/L, in hearth on floor; Fig. 97: d)

Rectangular slate whetstone, polished along four edges and on one side.

L = 9.2 cm. W = 3.7 cm. Th = 1.2 cm.

KeDq-2:822 (6C/L, midden above sleeping platform; Fig. 97: g)

Fragment of a rectangular sandstone whetstone.

L = (4.7 cm.) W = (1.9 cm.) Th = 0.9 cm.

KeDq-2:823 (8L2, midden above sleeping platform; Fig. 97: i)

Fragment of a rectangular schist whetstone.

L = (2.7 cm.) W = 2.1 cm. Th = 0.5 cm.

KeDq-2:832 (4L2, lower midden in entrance tunnel; Fig. 97: h)

Fragment of a rectangular slate whetstone.

L = (4.2 cm.) W = 3.7 cm. Th = 0.6 cm.

KeDq-2:887 (6L2, lower midden; Fig. 97: f)

Bar shaped whetstone, made of sandstone. All edges are polished.

L = 5.15 cm. W = 1.3 cm. Th = 1.1 cm.

KeDq-2:901 (6C/L, lower midden; Fig. 97: e)

Bar shaped whetstone made of slate; all edges are polished.

L = 7.1 cm. W = 2.1 cm. Th = 2.0 cm.

Stone Axe

KeDq-2:902 (6C/L, in depression in floor; Fig. 99: a)

This specimen is made of translucent green nephrite or jadeite.

It is roughly oval in shape, with a shallow concavo-convex cross-section. Both surfaces have been roughly flaked, and polished only on the high spots. The cutting edge is also flaked and only slightly polished.

L = 9.8 cm. W = 6.8 cm. Th = 2.2 cm.

Hand Pick

KeDq-2:904 (6C/L, depression in floor; Fig. 99: e)

This small ivory tusk has been cut off at the thick end; the distal tip is heavily battered from use as a pick.

L = 11.8 cm. D = 2.45 cm.

Adze Blade

KeDq-2:1007 (6L2, in hearth on floor; Fig. 99: b)

This large adze blade is made of slate; it is long and rectangular in shape with one flat and one convex surface. The butt end is thick and blunt, while the blade end has been ground down to a sharp edge.

L = 11.35 cm. W = 5.0 cm. Th = 1.35 cm.

KeDq-2:949 (6L2, lower midden; Fig. 99: d)

Polished nephrite adze blade fragment.

L = (2.4 cm.) W = (3.1 cm.) Th = 1.2 cm.

KeDq-2:945 (6L2, lower midden Fig. 99: c)

Polished slate adze blade fragment.

L = (2.8 cm.) W = (3.0 cm.) Th = 1.1 cm.

Wedge

KeDq-2:1078 (6C/L, depression in floor; Fig. 99: f)

Antler wedge, scored across both surfaces and battered at the distal end.

L = 9.0 cm. W = 3.0 cm. Th = 1.3 cm.

Ulu Blade

KeDq-2:833 (6C/L, midden above sleeping platform; Fig. 107: a)

This complete specimen is made of slate, with a crescentic blade edge and a large, thick stem.

L = 6.9 cm. W = 4.4 cm. Th = 0.6 cm.

Stone Scraper

KeDq-2:1072 (6L2, lower midden; Fig. 107: b)

This scraper is made from a large slate flake, polished across both surfaces and heavily worn along one edge.

L = 4.4 cm. W = 4.1 cm. Th = 0.7 cm.

KeDq-2:885 (6L2, in support box; Fig. 107: c)

KeDq-2:910 (6C/L, lower midden)

Two scrapers made of large slate flakes, ground along the edges.

L = 4.1 cm. W = 2.8 cm. Th = 0.6 cm. (KeDq-2:885)

L = (2.9 cm.) W = 2.5 cm. Th = 0.7 cm. (KeDq-2:910)

Scapula Scraper

KeDq-2:1013 (6L2, in hearth on floor; Fig. 107: d)

This specimen has a curved working edge and a rounded handle. The acromian process has been sliced off.

L = 9.65 cm. W = 4.45 cm. Th = 2.3 cm.

Bone Scraper

KeDq-2:827 (4C/L, lower midden in entrance tunnel; Fig. 107: e)

This scraper has been cut from the distal end of a caribou leg bone. It has a curved working edge that is worn from use.

L = 7.3 cm. W = 2.3 cm. Th = 0.35 cm.

Boot Creaser

KeDq-2:1090 (6L2, upper layer of left hearth; Fig. 107: f)

This bone artifact has a cylindrical handle end and a tapered, pointed distal end that is worn from use.

L = 9.75 cm. W = 1.8 cm. Th = 0.5 cm.

Awls or Bodkins

KeDq-2:930 (8C/L, lower midden; Fig. 107: i)

KeDq-2:1068 (8L2, lower midden; Fig. 107: h)

Two slender, pointed bone implements are probably awls or bodkins.

L = 8.5 cm. D = 0.4 cm. (KeDq-2:931)

L = 9.4 cm. D = 0.4 cm. (KeDq-2:1068)

KeDq-2:931 (8C/L, lower midden; Fig. 107: g)

Awl or bodkin made of antler.

L = 8.0 cm. D = 0.65 cm.

Household Equipment

Spoon

KeDq-2:1003 (4L2, on floor; Fig. 103: a)

This specimen is made from a seal scapula. It has a rounded bowl and a short, square stem.

L = 8.9 cm. W = 4.2 cm. Th = 1.0 cm.

Scoop

KeDq-2:1010 (6L2, in hearth on floor; Fig. 103: b)

Fragment of a large scoop made from a thin, hollowed out piece of antler, split lengthwise and broken off at one end. The opposite end has been cut square and beveled.

L = 12.7 cm. W = 3.7 cm. Th = 0.2 cm.

Cup Bottom

KeDq-2:1049 (4C/L, lower midden)

Oval shaped wooden cup bottom, split along one lateral edge.

L = 6.65 cm. W = (2.45 cm.) Th = 0.7 cm.

Meat Tray

KeDq-2:962 (4C/L, lower midden)

Large meat tray carved from a whale scapula.

L = (40.0 cm.) W = 36.0 cm. Th = 4.0 cm.

Soapstone Vessel Fragments

KeDq-2:894 (6L2, lower midden)

Rim sherd from a small, thin-walled, globular soapstone vessel; smooth on both surfaces with a simple, rounded rim.

KeDq-2:898 (6L2, lower midden; Fig. 103: d)

Rim sherd similar to the above, with a flat rim that is grooved along the outer side just below the lip, terminating at a notch.

KeDq-2:1055 (8L2, lower midden)

KeDq-2:1070 (4C/L, on floor; Fig. 103: c)

Two rim sherds from large, rectangular vessels with thick walls and flat rim edges.

Soapstone Lamp Fragments

KeDq-2:897 (6L2, lower midden)

One thick rim fragment of a seal oil lamp, or kudlit, was found.

Wick Trimmers

KeDq-2:907 (6C/L, on floor; Fig. 103: e)

KeDq-2:1029 & 1102 (6L2, on floor; Fig. 103: f)

KeDq-2:1088 (6C/L, in hearth on floor)

KeDq-2:1095 (4L2, in hearth; Fig. 103: g)

Five burned wood sticks, all classified as wick trimmers.

Lengths range from 5.3 cm. to 21.0 cm.; diameters from 1.0 cm. to 1.8 cm.

Community Activity and Personal Items

Pendants

KeDq-2:939 (6L2, lower midden; Fig. 101: i)

Polar bear canine pendant, drilled for suspension through the top of the root.

L = 7.85 cm. W = 2.3 cm. Th = 1.5 cm.

KeDq-2:1042 (6C/L, on floor; Fig. 101: g)

Small, round, flat ivory disk pendant, decorated on one side with a dotted design.

D = 1.85 cm. Th = 0.2 cm.

KeDq-2:1104 (6L2, left hearth area, on floor; Fig. 101: h)

Small mammal canine, drilled for suspension at the root.

L = 2.6 cm. W = 0.8 cm. Th = 0.55 cm.

Bead

KeDq-2:928 (8L2, lower midden; Fig. 101: f)

Small, flat, polished nephrite disk, probably an unfinished bead. This may be a Dorset artifact.

D = 1.2 cm. Th = 0.45 cm.

Amulet Boxes

KeDq-2:851 (6L2, in hearth)

Thin, fragile, partly broken box bottom. This may be a Dorset artifact.

L = (6.5 cm.) W = (3.2 cm.) Th = 0.4 cm.

KeDq-2:1002 (6C/L, in congealed, oily deposit on floor; Fig. 101: j)

Egg-shaped wood amulet box bottom. The interior of the box has been gouged out into a deep, oval depression.

L = 9.9 cm. W = 4.3 cm. Th = 2.3 cm.

KeDq-2:990 (6L2, on floor; Fig. 101: k)

Wood amulet box lid, fits #1002.

L = 9.3 cm. W = 3.9 cm. Th = 1.5 cm.

Drilled Bear Mandible

KeDq-2:969 (4C/L, lower midden; Fig. 101: a)

This mandible from a juvenile polar bear has been broken just anterior to the ascending ramus along a line of closely spaced, small drilled holes.

Toys

KeDq-2:995 (6L2, on floor; Fig. 101: d)

Toy Thule type 2 harpoon head, made of ivory, with a sharply pointed, symmetrically barbed blade, and an open foreshaft socket with one lashing hole on either side of the socket. There is a single spur on the left side of the base. Tiny strands of sinew lashing encircles the base, passing through the lashing holes, and a length of braided sinew has been tied through the line hole. Impressive attention to detail has been paid in making this artifact.

L = 4.2 cm. W = 1.35 cm. Th = 0.35 cm.

KeDq-2:1056 (8L2, lower midden)

Small, squarish toy kudlit, made of soapstone.

L = 3.6 cm. W = 2.7 cm. Th = 1.6 cm.

Miscellaneous and Unclassified ArtifactsAntler

KeDq-2:819 (4L2, lower midden; Fig. 98: a)

Large piece of cut and split antler, probably intended for use as raw material.

L = 17.0 cm. W = 4.8 cm. Th = 1.8 cm.

KeDq-2:994 (6L2, lower midden; Fig. 98: c)

Antler tine grooved in one end for fastening a blade; probably an adze or scraper socket.

L = 11.5 cm. W = 8.9 cm. Th = 2.1 cm.

KeDq-2:998 (6L2, hearth on floor; Fig. 98: h)

Piece of antler cut into a square.

L = 4.65 cm. W = 3.85 cm. Th = 0.95 cm.

KeDq-2:1091 (6L2, in upper layer of left hearth)

Cut antler tine.

L = 11.5 cm. D = 1.7 cm.

Bone

KeDq-2:820 (8L2, midden above sleeping platform; Fig. 98: b)

Broken bone shaft with one scarf-cut end.

L = (14.2 cm.) W = 1.8 cm. Th = 1.8 cm.

Ivory

KeDq-2:1027 (6L2, on floor; Fig. 98: g)

Small ivory peg, triangular in cross-section.

L = 3.9 cm. D = 0.65 cm.

KeDq-2:1074 (6C/L, on floor; Fig. 101: e)

Small, hourglass shaped object with cup shaped depression in both ends and a small hole near the central constriction.

L = 2.25 cm. W = 1.4 cm. Th = 1.1 cm.

KeDq-2:1093 (no provenience; Fig. 98: f)

Small piece of cut ivory, rectangular in shape with rounded ends and grooved on both sides.

L = 4.7 cm. W = 1.1 cm. Th = 0.6 cm.

Skin

KeDq-2:963 (4C/L, lower midden)

Piece of cut seal skin.

Slate

KeDq-2:829 (4C/L, lower midden)

Large bifacial preform made on red slate, rectangular in shape.

L = 17.0 cm. W = 9.9 cm. Th = 3.25 cm.

Stone

KeDq-2:1015 (6L2, hearth on floor)

Elongated, hemispherically shaped slate (?) object, highly polished.

L = 2.4 cm. W = 1.35 cm. Th = 0.75 cm.

KeDq-2:1032 (6L2, lower midden)

Small quartzite ball.

D = 1.85 cm.

Tooth

KeDq-2:883 (6L2, in support box; Fig. 98: e)

KeDq-2:997 (6L2, in hearth on floor; Fig. 98: d)

Two unworked polar bear canines.

Wood

KeDq-2:892 (6L2, in support box)

Small wood cylinder, slightly charred.

L = 3.1 cm. D = 1.7 cm.

KeDq-2:947 & 948 (6L2, lower midden)

Notched and perforated wood slat fragment.

L = 10.9 cm. W = 2.4 cm. Th = 0.9 cm. (KeDq-2:947)

L = (34.0 cm.) W = 3.1 cm. Th = 0.85 cm. (KeDq-2:948)

KeDq-2:965 & 967 (4C/L, lower midden)

Notched and perforated wood slat fragment.

L = (4.4 cm. W = (0.9 cm.) Th = 0.6 cm. (KeDq-2:965)

L = 9.1 cm. W = 1.5 cm. Th = 1.1 cm. (KeDq-2:967)

KeDq-2:1006 (6L2, in hearth on floor)

Carved wooden ball fragment.

L = 4.5 cm. W = (3.9 cm.)

KeDq-2:1020 (4C/L, in hearth on floor)

Cut wooden block.

L = 3.15 cm. W = 2.35 cm. Th = 2.0 cm.

KeDq-2:1025 (6C/L, beneath floor 1)

Cut wooden block.

L = 4.5 cm. W = 3.5 cm. Th = 1.8 cm.

KeDq-2:1031 (6C/L, on floor)

Oval wood button, unperforated.

L = 3.8 cm. W = 2.5 cm. Th = 0.9 cm.

KeDq-2:1041 (6C/L, on floor)

Carved, toggle shaped piece of wood.

L = 8.8 cm. W = 2.5 cm. Th = 0.8 cm.

KeDq-2:1045 (6C/L, on floor)

Small wood cylinder.

L = 3.6 cm. D = 1.9 cm.

KeDq-2:1051 (4L2, on floor)

Tapered wooden pin with a hole drilled through the wider end.

Possibly a threading needle or adjuqaq pin.

L = 8.3 cm. D = 0.65 cm.

KeDq-2:1092 (6L2, in upper layer of left hearth)

Wood shaft fragment.

L = (10.6 cm.) W = 1.3 cm. Th = 0.7 cm.

KeDq-2:1094 (6L2, lower midden)

Wood handle piece; rounded on one end with a knob on the opposite end.

L = 20.0 cm. D = 1.5 cm.

KeDq-2:1103 (6L2, on floor)

Cut and notched piece of wood.

L = (13.4 cm.) W = 2.3 cm. Th = 1.8 cm.

Talaguak House 11

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Endblades

KeDq-2:765 (10C/L, midden above sleeping platform; Fig. 109: a)

Polished slate endblade with broken tip. Both faces are faceted and the lateral edges have been ground sharp. There is a double drilled rivet hole in the center of the blade near the base.

L = (3.35 cm.) W = 3.4 cm. Th = 0.4 cm.

KeDq-2:804 (8L2, burned soil below lamp platform; Fig. 109: b)

Tip fragment of a slate endblade, with a remnant of a double drilled rivet hole along one lateral edge. One face appears to be faceted.

L = (3.3 cm.) W = (2.2 cm.) Th = 0.34 cm.

Fixed Foreshafts

KeDq-2:744 (10C/L, midden below sod; Fig. 110: b)

This specimen is made of antler, and has an oval cross-section and a rounded distal tip. There is a slightly tapered, scarf-cut base, lightly scored across both sides.

L = 14.2 cm. W = 1.8 cm. Th = 0.9 cm.

KeDq-2:780 (6L2, midden in entrance tunnel; Fig. 110: c)

Fixed foreshaft made of antler, rectangular in cross-section and tapering to a narrow, round-tipped distal end. The basal end is thicker, square, and scored across one surface.

L = 18.3 cm. W = 1.4 cm. Th = 0.8 cm.

Moveable Foreshaft

KeDq-2:722 (8R2, midden below sod; Fig. 110: d)

Moveable foreshaft made of bone; oval in cross-section, tapering from the base to the round, slightly flattened tip. The basal end has broken off across the line hole.

L = (28.2 cm.) W = 2.5 cm. Th = 1.4 cm.

Foreshaft Fragments

KeDq-2:758 (10C/L, burned soil below lamp platform)

Bone foreshaft fragment, tapering to a rounded tip.

L = (4.45 cm.) D = (1.0 cm.)

KeDq-2:779 (6L2, midden in entrance tunnel; Fig. 110: a)

Whale bone foreshaft fragment, tapering to a rounded tip. Broken just below a partially drilled hole.

L = (9.5 cm.) D = (1.3 cm.)

Harpoon Finger Rest

KeDq-2:766 (10C/L, midden below lamp platform; Fig. 109: c)

Ivory finger rest; oval in cross-section with a flat base and curved stem, and drilled lashing holes.

L = 1.9 cm. W = 1.55 cm. Th = 1.25 cm.

Ice Pick

KeDq-2:762 (10C/L, midden beneath sleeping platform supports; Fig. 109: d)

Small wedge-shaped end fragment of a harpoon ice pick made of ivory, heavily scored across three sides.

L = (2.7 cm.) W = (2.3 cm.) Th = (1.6 cm.)

Seal Float Gear

Float Bars

KeDq-2:798 (8C/L, burned soil below lamp platform; Fig. 109: h)

Small wood float bar, round in cross-section with tapered, knobbed end.

L = 7.0 cm. D = 1.4 cm.

KeDq-2:815 (10C/L, on slab floor; Fig. 109: i)

Small wood float bar, similar to the above.

L = 8.5 cm. D = 1.8 cm.

Ice Hunting Gear

Wound Plugs and Pins

KeDq-2:784 (8L2, midden above bedrock; Fig. 109: g)

Antler wound plug, heavily eroded. Broad, oval shaped top with a short, pointed stem. Three holes have been drilled through the top of the head, which have antler pegs in them. The function of the pegs is unknown.

L = 5.2 cm. D = 2.7 cm.

KeDq-2:785 (10C/L, wet midden in entrance tunnel; Fig. 109: e)

Nail-shaped wound pin made of ivory. The shank is square in cross-section and pointed, while the head is rounded, with a constricted neck just above the shank.

L = 9.0 cm. D = 0.7 cm.

Fishing Equipment

Leister Side Prong

KeDq-2:808 (8C/L, midden in entrance tunnel; Fig. 111: a)

Distal tip fragment of a bone leister side prong. Has rounded tip, broken just below an angular side barb socket.

Leister Barbs

KeDq-2:747 (8C/L, midden below sod; Fig. 111: e)

Small bone barb with a tapered, wedge-shaped base; broken at the distal tip.

L = (6.1 cm.) D = 0.4 cm.

KeDq-2:756 (10C/L, burned soil below lamp platform; Fig. 111: c)

Small bone barb with pointed distal tip; opposite end is flat and blunt tipped, with a small hole drilled through the widest part.

L = 6.7 cm. W = 0.8 cm. Th = 0.5 cm.

KeDq-2:787 (10C/L, wet midden in entrance tunnel; Fig. 111: d)

Small bone barb with pointed distal tip; opposite end is flat and blunt tipped.

L = 7.3 cm. W = 0.6 cm. Th = 0.3 cm.

KeDq-2:809 (midden in entrance tunnel; Fig. 111: b)

Proximal end fragment of a bone side barb, similar to the one above, with two holes drilled through the flat section.

KeDq-2:921 (8C/L, wet midden in entrance tunnel; Fig. 111: f)

Antler barb with wedge shaped base, pointed distal tip.

L = 8.3 cm. D = 1.5 cm.

Cod Jigging Hook

KeDq-2:918 (8C/L & 8R2, on lamp platform; Fig. 111: g)

Cod jigging hook made from the distal end of a seal radius. The distal articulatory surface has three holes drilled around its circumference, one of which still contains a fragment of a bone barb. The opposite end has been carved into a square shank, and at the end there is a small hole with a bone peg in it.

L = 6.0 cm. W = 1.1 cm. Th = 0.7 cm.

Gorge

KeDq-2:782 (6C/L, between floor slabs; Fig. 111: h)

Antler gorge, square in cross-section, tapering to wedge shaped ends. Small line holes in the center of the gorge appear to be drilled; however, this may be a Dorset artifact.

L = 7.8 cm. W = 0.5 cm. Th = 0.4 cm.

Miscellaneous

Shaft Fragment

KeDq-2:812 (8C/L, burned soil below lamp platform)

Wood shaft fragment broken at both ends and saturated with oily residue.

L = (9.1 cm.) D = 0.7 cm.

Other

KeDq-2:760 (10C/L, on slab floor; Fig. 109: f)

Tip fragment of a bone lance head, split through the endblade slot and broken across the rivet hole.

L = (4.1 cm.) W = (2.65 cm.) Th = (0.6 cm.)

Transportation Equipment

Sled Parts and Gear

Sled Shoe

KeDq-2:724 (8R2, midden below sod)

Edge fragment of a whale bone sled shoe. One end is broken across two drilled peg or lashing holes.

L = (22.1 cm.) W = (3.4 cm.) Th = 1.7 cm.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handles

KeDq-2:817 (6C/L, midden in entrance tunnel; Fig. 113: a)

Wood composite knife handle piece. Flattened oval cross-section, with rounded butt end. Bottom edge of the handle is cut into a series of steps which terminate at the narrow, wedge-shaped distal end. There is a lip to contain lashing at the top edge of the distal tip.

L = 12.1 cm. W = 4.0 cm. Th = 1.9 cm.

Tools

Whetstones

KeDq-2:726 (8R2, midden below sod; Fig. 113: e)

Thin, flat, rectangular slate whetstone, polished across both surfaces with rough edges.

L = 4.1 cm. W = 3.6 cm. Th = 0.5 cm.

KeDq-2:729 (10C/L, midden below sod)

Rectangular whetstone made of quartz. Square in cross-section, with one highly polished surface. There is a shallow groove along one lateral edge of the polished surface.

L = 9.5 cm. W = 3.2 cm. Th = 3.6 cm.

KeDq-2:739 (10C/L, midden on sleeping platform)

Corner fragment of a schist whetstone, ground and polished across all surfaces and edges.

L = (4.0 cm.) W = (1.3 cm.) Th = (1.1 cm.)

KeDq-2:764 (10C/L, midden on sleeping platform; Fig. 113: d)

Rectangular slate whetstone, ground and polished across all surfaces and edges.

L = 5.25 cm. W = 3.45 cm. Th = 0.8 cm.

Adze Blade

KeDq-2:741 (10C/L, midden below sod)

Corner fragment of a ground slate adze blade.

L = (5.6 cm.) W = (1.15 cm.) Th = 1.1 cm.

Ulu Blades

KeDq-2:740 (10C/L, midden below sod; Fig. 113: b)

Slate ulu blade with slightly asymmetric blade shape. There is a short, wide tang through which two holes have been drilled for attachment to a handle.

L = 7.8 cm. W = 4.0 cm. Th = 0.5 cm.

KeDq-2:805 (10L2, burned soil below lamp platform; Fig. 113: c)

Small, semi-lunar polished slate ulu blade; slightly asymmetric blade shape, with a short, thick tang with a double drilled hole in the center. One corner of the blade has broken off.

L = 5.7 cm. W = 2.65 cm. Th = 0.4 cm.

Scapula Scraper

KeDq-2:799 (8C/L, burned soil below lamp platform; Fig. 112: b)

Caribou scapula scraper on which the acromian process has been sliced off and the working end beveled to a sharp edge. The articulatory end has been carved into a rounded handle.

L = 9.0 cm. W = 5.4 cm. Th = 0.2 cm.

Skin Softener

KeDq-2:777 (6C/L, midden in entrance tunnel; Fig. 112: a)

Wide, flat blade of ivory with a blunt, curved working edge. Opposite the working edge there are 4 drilled holes for lashing to a handle.

L = 7.5 cm. W = 5.4 cm. Th = 1.2 cm.

Boot Creaser

KeDq-2:721 (8R2, midden below sod; Fig. 112: d)

Antler boot creaser or skin softener made from a large piece of antler. The distal portion of this implement has been split lengthwise and beveled at the working edge.

L = 27.0 cm. D = 3.8 cm.

KeDq-2:781 (6L2, midden in entrance tunnel; Fig. 112: c)

Cut piece of long bone cortex (probably caribou), worked to a point at one end. The point is worn and polished.

L = 15.8 cm. W = 2.8 cm. Th = 0.8 cm.

Household Equipment

Spoon

KeDq-2:745 (10C/L, midden below sod; Fig. 114: a)

Broken antler spoon, once very thin and delicately carved. It has a broad, spatula shaped bowl, and a short, flat, round tipped handle. The handle is slotted lengthwise. The bowl has incised cross-hatching on its inner side.

L = 11.0 cm. W = 5.0 cm. Th = 0.25 cm.

Bowl Bottom

KeDq-2:770 (8R2, midden below sod; Fig. 114: b)

Oval wood bowl bottom; upper surface is flat and coated with a thin layer of burned residue, while the bottom surface is slightly convex. The sides are flat.

L = 12.3 cm. W = 6.7 cm. Th = 0.95 cm.

Platter

KeDq-2:714 (8L2, on lamp platform; Fig. 114: c)

Whale bone meat platter fragment; one surface is smooth and flat with a raised, rounded edge, while the other surface is eroded.

L = (10.18 cm.) W = (9.3 cm.) Th = 1.5 cm.)

Soapstone Cooking Vessels

KeDq-2:713 (8L2, midden below sod; Fig. 114: e)

Nine sherds fit together to form a portion of a flat bottom, straight sided, square or rectangular vessel with drilled suspension holes below the rim.

KeDq-2:755 (8C/L, on slab floor)

Soapstone vessel sherd; thin (0.95 cm.) with roughly smoothed interior and exterior surfaces.

KeDq-2:806 (midden in entrance tunnel)

Soapstone vessel sherd, 0.75 cm. thick.

Soapstone Lamps

KeDq-2:717 (8L2, on lamp platform)

Stone lamp fragment with shallow, oval shaped depression and roughly ground outer edges.

L = (15.0 cm.) W = (6.0 cm.) Th = (2.0 cm.)

KeDq-2:761 (10C/L, niche under sleeping platform support)

Disintegrated fragment of a soapstone lamp.

Wick Trimmer

KeDq-2:813 (10L2, burned soil under lamp platform; Fig. 114: d)

Wick trimmer made on piece of driftwood, burned at one end.

L = (12.5 cm.) D = 1.6 cm.

KeDq-2:920 (8L2/10L2, below lamp platform)

Burnt tip fragment of a wood wick trimmer.

L = (4.2 cm.) D = 1.0 cm.

Community Activity and Personal ItemsPendants

KeDq-2:757 (10C/L, burned soil under lamp platform; Fig. 116: d)

Small, teardrop shaped pendant carved from a thin slice of bone.

A tiny hole has been drilled at the narrow end.

L = 1.7 cm. W = 0.8 cm. Th = 0.1 cm.

KeDq-2:763 (10C/L, on slab floor; Fig. 116: c)

Small pendant made of a drilled canid or fox canine.

L = 2.05 cm. D = 0.7 cm.

Polar Bear Mandible

KeDq-2:778 (6C/L, midden below sod)

Right mandible of a young polar bear, cut by a series of small drill holes anterior to the ramus.

Toys

KeDq-2:759 (10C/L, burned soil under lamp platform; Fig. 116: e)

Tiny bipointed bone or ivory carving, possibly representing a kayak.

L = 3.0 cm. W = 0.5 cm. Th = 0.3 cm.

KeDq-2:746 (10L2, on lamp platform; Fig. 116: a)

Toy wooden harpoon head, Thule type 2. Prominent basal spur on the left side; open foreshaft socket with two small notches on left edge of base for lashing; symmetrically barbed blade with a slightly flared distal tip possibly representing an endblade; no line hole.

L = 5.2 cm. W = 1.0 cm. Th = 0.2 cm.

KeDq-2:738 (10C/L, midden below sod; Fig. 116: b)

Toy slate ulu blade; symmetrical in shape with a small, rounded tang.

L = 3.0 cm. W = 1.6 cm. Th = 0.15 cm.

Miscellaneous and Unclassified ArtifactsAntler

KeDq-2:749 (8L2, midden below sod)

Tiny sliver of worked antler; appears to be a narrow, rounded tip fragment of a flat implement.

L = (3.1 cm.) W = (0.97 cm.) Th = 0.25 cm.

KeDq-2:810 (midden in entrance tunnel)

Triangular piece of antler with portion of a drilled hole along one edge.

L = 5.05 cm. W = 2.0 cm. Th = 0.56 cm.

Baleen

KeDq-2:711 (8L2, midden below sod; Fig. 115: c)

Cut baleen strip, pointed on one end.

L = (18.4 cm.) W = 1.6 cm. Th = 0.025 cm.

KeDq-2:715 (8L2, burned soil below lamp platform; Fig. 115: d)

Large, rectangular slab of cut baleen.

L = 24.0 cm. W = 7.5 cm. W = 0.5 cm.

KeDq-2:716 (8L2, on lamp platform; Fig. 115: a)

Knotted baleen thong.

KeDq-2:718 (8C/L, sod zone; Fig. 115: b)

Perforated baleen strip, rounded on one end.

L = (9.5 cm.) W = 1.4 cm. Th = 0.3 cm.

KeDq-2:736 (8R2, midden below sod)

Coiled baleen strip, tied in two places with knotted baleen filament.

Bone

KeDq-2:801 (8R2, on slab floor)

Worked piece of bone, square in cross-section and tapered to a rounded tip on one end. There is a small groove across the shank near the rounded tip. This is possibly a handle fragment.

L = (5.0 cm.) D = 0.8 cm.

KeDq-2:816 (10L2, midden on sleeping platform)

Piece of acromian process of a caribou scapula, removed by a series of small drilled holes.

KeDq-2:919 (8C/L & 8R2, on lamp platform)

Blade shaped implement made of bone with one sharpened edge and one thick, partly eroded edge which converges with the sharp edge to form a point at one end. At the opposite end there is a pair of drilled holes

connected by a lashing groove. This is possibly a small bone knife blade.
L = 6.2 cm. W = (1.5 cm.) Th = 0.7 cm.

Ivory

KeDq-2:768 (10C/L, midden below lamp platform)

Thin, flat, rectangular shaped piece of ivory, broken at one end and beveled along both lateral edges. Possibly a scraper fragment.
L = (5.4 cm.) W = 3.3 cm. Th = 0.6 cm.

KeDq-2:791 (8R2, on slab floor)

Long, slender, pointed ivory tip fragment, one side is flat and the other is rounded. Possibly a barb fragment.
L = (3.6 cm.) W = (0.45 cm.) Th = (0.25 cm.)

Skin

KeDq-2:743 (10C/L, midden below sod)

Walrus hide thong, perforated with a triangular hole at the wider end, and pointed at the opposite end. Possibly a thong line clasp.

KeDq-2:751 (8C/L, on lamp platform)

Two pieces of seal skin stitched together with sinew, possibly a kamik fragment.

KeDq-2:800 (8R2, on slab floor)

Cut and sewn pieces of seal skin.

KeDq-2:803 (8L2, burned soil below lamp)

Thick piece of skin thong wrapped at one end with baleen filament.

Slate

KeDq-2:767 (10C/L, midden below lamp platform)

Partially ground and polished slate flake.

Stone

KeDq-2:719 (8C/L, midden below sod)

Thin, flat fragment of polished green nephrite.

KeDq-2:725 (8R2, midden below sod)

Small, rectangular piece of sandstone with a narrow, shallow groove around three edges.

L = 2.7 cm. W = 1.1 cm. Th = 0.8 cm.

KeDq-2:742 (10C/L, midden below sod)

Large piece of worked steatite, possibly a fragment of a lamp, or kudlit.

Whale Bone

KeDq-2:712 (8L2, sod zone)

Large slat of whale bone, appears to have been cut with an adze. Surface is coated with a sticky, burned residue.
L = 34.5 cm. W = 7.5 cm. Th = 4.1 cm.

KeDq-2:752 (10C/L, on slab floor)

Broken whale bone slat, cut with a series of small drill holes along one edge.
L = (6.5 cm.) W = (3.4 cm.) Th = 1.3 cm.

Wood

KeDq-2:720 (8C/L, on slab floor)

Small wedge made of wood.
L = 2.55 cm. W = 0.65 cm. Th = 0.3 cm.

KeDq-2:728 (10L2, humus below sod)

Knot of wood (probably from a piece of driftwood), carved to a point at one end. Possibly used as a plug.
L = 7.5 cm. D = 2.2 cm.

KeDq-2:748 (8L2, midden below sod)

Small wood shaft fragment.
L = (6.4 cm.) D = 0.6 cm.

KeDq-2:750 (8C/L, midden below sod)

Tiny worked sliver of wood, grooved across one end.
L = (2.3 cm.) W = (0.7 cm.) Th = 0.25 cm.

KeDq-2:753 (10C/L, on lamp platform)

Cylindrical wood fragment, possibly a broken plug.
L = (4.3 cm.) D = 2.1 cm.

KeDq-2:754 (10C/L, storage locker beneath sleeping platform)

Notched fragment of wood
L = (7.9 cm.) W = 2.25 cm. Th = 1.3 cm.

KeDq-2:783 (10C/L, on lamp platform)

Wood shaft fragment with carved knob at one end; possibly a handle piece.
L = (12.0 cm.) W = (1.5 cm.) Th = (1.4 cm.)

KeDq-2:786 (10C/L, wet midden in entrance tunnel)

Bipointed wood object, possibly a wood barb or gull hook shank.
L = 7.0 cm. W = 0.6 cm. Th = 0.4 cm.

KeDq-2:788 (10C/L, wet midden in entrance tunnel)

Wood shaft fragment, bluntly pointed at one end.
L = (7.9 cm.) D = 0.8 cm.

KeDq-2:802 (8L2, burned soil below lamp platform)

Fragment of a wood float bar or plug, with one rounded end.
L = (1.9 cm.) D = 1.8 cm.

KeDq-2:814 (8R2, on slab floor)

Flat, crescent shaped piece of wood with smoothed edges.
L = 5.7 cm. W = 2.35 cm. Th = 1.2 cm.

KeDq-2:818 (8L2, burned soil under lamp platform)

Large slat of wood; possibly a rack or frame piece.
L = (30.5 cm.) W = 4.6 cm. Th = 2.0 cm.

Class B: Artifacts Modified By Contact

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handle

KeDq-2:797 (8R2, sod zone)

Badly eroded bone knife handle fragment with remnant of a thin copper blade in a slot at one end. Thin wood slats or shims have been set into the blade slot on either side of the blade to hold it in place.
L = (8.7 cm.) W = (1.5 cm.) Th = (0.5 cm.)

Class C: Imported Artifacts

Community Activity and Personal Items

Beads

KeDq-2:796 (8R2, midden among fall rocks)

Blue glass tube bead with two red and white stripes.

Miscellaneous and Unclassified Artifacts

KeDq-2:727 (10C/L, sod zone)

Fragment of a steel nail or bolt, heavily rusted.

Itinapik House 1

Class A: Thule/Traditional Artifacts

Hunting and Fishing Equipment

Harpoon and Lance Gear

Harpoon Heads

KeDr-13:18 (4L2, between wall rocks in entrance passage; Fig. 117: a)

Ivory Thule type 2 specimen, self-bladed with two sets of slightly asymmetric blade barbs and an expanding base with a prominent angled spur on the left side. There is a double drilled line hole just above the open foreshaft socket, and there are two drilled lashing holes on either side of the socket. On the opposite face there are gouged lashing beds connecting the converged lashing holes.

L = 9.4 cm. W = 2.4 cm. Th = 0.85 cm.

Dart Gear

Dart Butt Ferrule

KeDr-13:9 (6L2, burned area below sod; Fig. 117: b)

Walrus tooth ferrule, oval in shape and slightly tapered, with a deep square socket in one end and a smaller conical socket in the other end. This specimen was probably fitted to the butt end of a dart to accommodate the pin of a throwing board.

L = 0.275 cm. W = 0.215 cm. Th = 0.16 cm.

Fishing Equipment

Fish Lure

KeDr-13:11 (6L2, burned area below sod; Fig. 117: c)

Polar bear canine, drilled through the narrow part of the root, probably used as a fish lure.

L = 0.77 cm. W = 0.245 cm. Th = 0.17 cm.

Maintenance, Manufacturing, and Processing Equipment

Men's Knives

Knife Handle

KeDr-13:17 (4L2, midden below sod; Fig. 117: e)

Bone composite knife handle piece with a flat inner face and a rounded or convex outer face, broken off at both ends across drill holes. There is a broad lashing bed and six small drilled holes near the distal end. At the opposite end there are two more drilled holes, one small

and the other somewhat larger.

L = (14.5 cm.) W = 2.1 cm. Th = 0.175 cm.

Tools

Hammerstone

KeDr-13:12 (6L2, midden below fall rocks)

Granite cobble hammerstone, oval in shape and heavily battered on both ends.

Adze Blade

KeDr-13:10 (6L2, burned area below sod; Fig. 117: f)

Broken fragment of a slate blade with an adze shaped working edge. This specimen is broken across both sides perpendicular to the working edge and a notched tang opposite the working edge.

L = (0.53 cm.) W = (0.29 cm.) Th = 0.7 cm.

Stone Scraper Blade

KeDr-13:15 (2C/L, midden below sod; Fig. 117: g)

Chert endscraper with a broad, steeply retouched working edge and a distal end which tapers to a point. This may be a Dorset artifact.

L = 0.3 cm. W = 0.2 cm. Th = 0.6 cm.

Household Equipment

Soapstone Cooking Vessel

KeDr-13:16 (6L2, midden below sod)

Soapstone vessel fragment reworked into a mending patch with two drilled holes.

Miscellaneous and Unclassified Artifacts

Antler

KeDr-13:1 (6C/L, sod zone)

Tine fragment with a worn, possibly utilized tip.

KeDr-13: 3 (6C/L, sod zone; Fig. 117: d)

Rectangular antler slat with a shallow groove across one face; possibly a support piece.

L = 5.45 cm. W = 1.8 cm. Th = 0.7 cm.

Baleen

KeDr-13:2 (4C/L, sod zone)
Knotted baleen thong.

Skin

KeDr-13:14 (midden below sod)
Two pieces of seal skin sewn together with sinew thread;
possibly a kamik fragment.

Wood

KeDr-13:6 (6C/L, sod zone; Fig. 117: h)
Small shaft fragment broken at both ends. There is a remnant of
a scarf cut base at one end.
L = (5.0 cm.) D = 1.0 cm.

KeDr-13:7 (6C/L, sod zone)
Wood plug fragment, split in half.
L = 3.0 cm. W = (1.7 cm.) Th = (0.75 cm.)

KeDr-13:8 (6C/L, midden below sod)
Wood shaft fragment, broken at both ends.
L = (9.8 cm.) D = 0.6 cm.

Other

KeDr-13:13 (6L2, midden below sod)
Small fragment of unworked garnet.

Class C: Imported Artifacts

Maintenance, Manufacturing, and Processing Equipment

Hardware

Nail

KeDr-13:5 (6C/L, in willow roots between outer wall rocks)
Large steel nail with a square shank, found wedged between two
outer wall rocks. This artifact is considered to be a recent intrusion
into the site.

Figure 34

Artifacts from Okivilialuk House 8--Lower Component

- | | | |
|----|------------|----------------------------------|
| a. | KeDq-7:328 | wood wick trimmer |
| b. | KeDq-7:327 | wood cup bottom |
| c. | KeDq-7:311 | antler Thule type 2 harpoon head |
| d. | KeDq-7:216 | antler spoon |
| e. | KeDq-7:215 | antler spoon |
| f. | KeDq-7:282 | drilled bone fragment |
| g. | KeDq-7:283 | drilled bone fragment |
| h. | KeDq-7:284 | wood gull hook shank |
| i. | KeDq-7:329 | wood float bar |

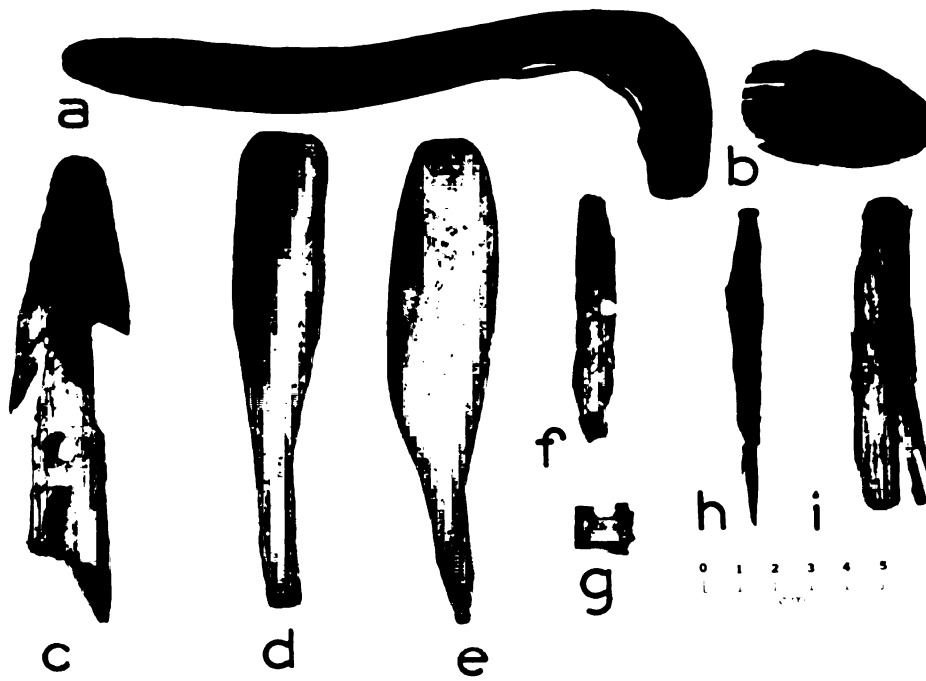


Figure 34

Artifacts from Okivilialuk House 8--Lower Component

Figure 35

Artifacts from Okivilialuk House 8--Lower Component

KeDq-7:325 Viking figurine, wood



Figure 35

Artifacts from Okivilialuk House 8--Lower Component

Figure 36

Artifacts from Okivillialuk House 8--Lower Component

KeDq-7:49

ivory harpoon dart head

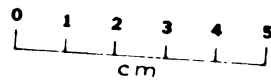
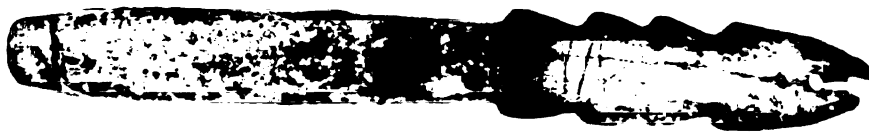


Figure 36

Artifacts from Okivilialuk House 8--Lower Component

Figure 37

Artifacts from Okivillialuk House 8--Lower Component

KeDq-7:354

antler hunting knife

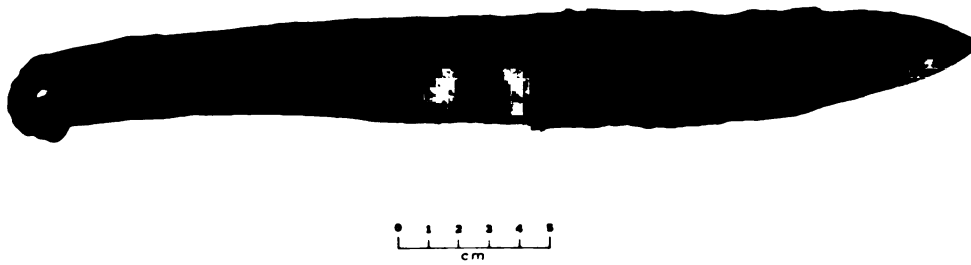


Figure 37

Artifacts from Okivilialuk House 8--Lower Component

Figure 38

Artifacts from Okivillialuk House 8--Lower Component

a.	KeDq-7:326	cut walrus tusk
b.	KeDq-7:322	ivory bow drill shank
c.	KeDq-7:320	wood cup bottom
d.	KeDq-7:324	wood stake fragment
e.	KeDq-7:323	wood cup bottom fragment
f.	KeDq-7:321	wood shaft fragment
g.	KeDq-7:319	wood shaft fragment

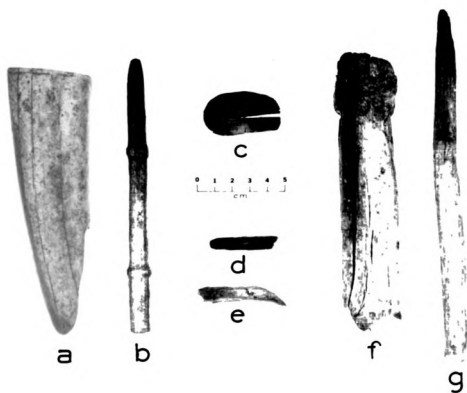


Figure 38

Artifacts from Okivilialuk House 8--Lower Component

Figure 39

Artifacts from Okivilialuk House 8--Lower Component

a. KeDq-7:207	bone handle (?) fragment
b. KeDq-7:208	cut antler slat
c. KeDq-7:209	bone boot creaser
d. KeDq-7:210	antler knife handle fragment
e. KeDq-7:167	bone dog trace buckle
f. KeDq-7:211	bone foreshaft fragment
g. KeDq-7:213	wood handle (?) fragment
h. KeDq-7:212	wood stake

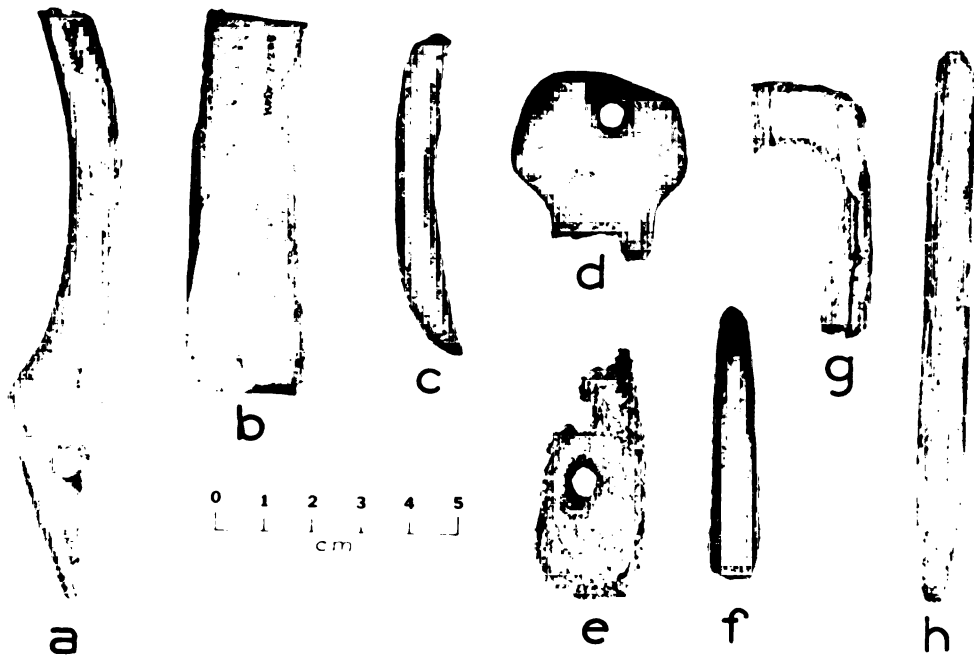


Figure 39

Artifacts from Okivilialuk House 8--Lower Component

Figure 40

Artifacts from Okivilialuk House 8--Lower Component

- | | |
|---------------|--------------------------|
| a. KeDq-7:351 | wood knife handle |
| b. KeDq-7:353 | wood cup bottom |
| c. KeDq-7:352 | wood stake fragment |
| d. KeDq-7:356 | wood handle (?) fragment |

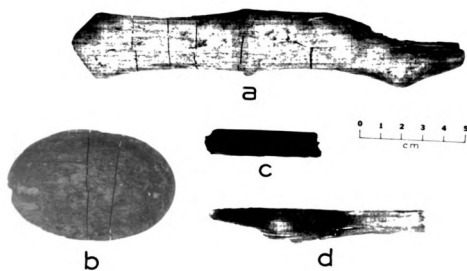


Figure 40

Artifacts from Okivilialuk House 8--Lower Component

Figure 41

Artifacts from Okivilialuk House 8--Lower Component

KeDq-7:349 soapstone cooking vessel fragment



0 1 2 3 4 5

Figure 41

Artifacts from Okivilialuk House 8--Lower Component

Figure 42

Artifacts from Okivilialuk House 8--Lower Component

a. KeDq-7:89	cut baleen strip
b. KeDq-7:75	perforated baleen strip
c. KeDq-7:96	perforated baleen strip
d. KeDq-7:76	perforated baleen strip
e. KeDq-7:91	notched baleen strip
f. KeDq-7:77	perforated baleen strip
g. KeDq-7:88	cut and knotted baleen strip
h. KeDq-7:125	cut and knotted baleen strip
i. KeDq-7:126	cut and knotted baleen strip

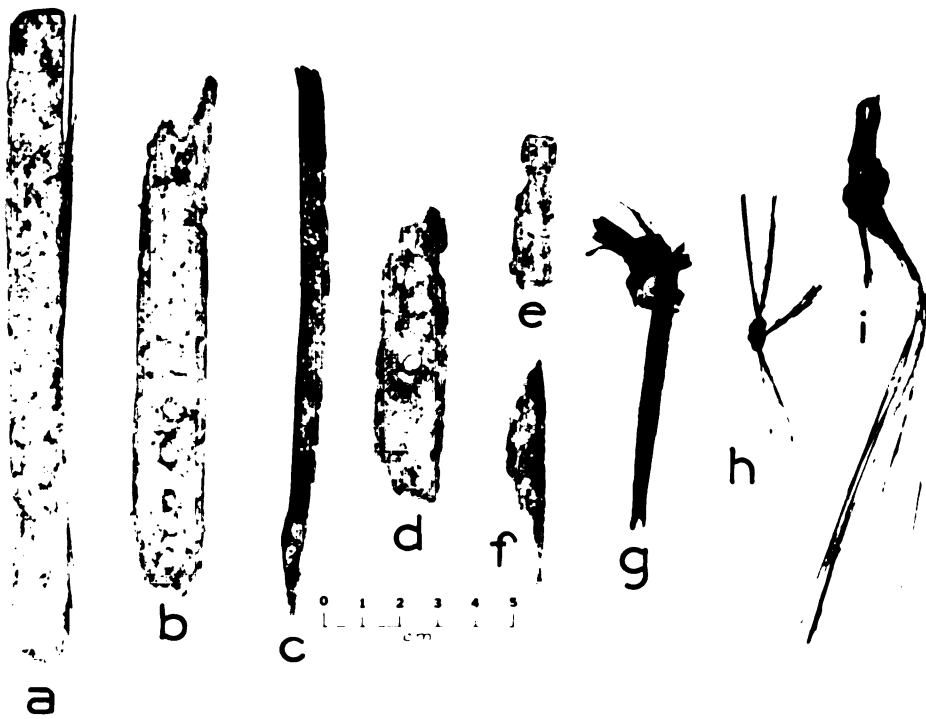


Figure 42

Artifacts from Okivilialuk House 8--Lower Component

Figure 43

Artifacts from Okivilialuk House 8--Both Components

a.	KeDq-7:59	slate whetstone
b.	KeDq-7:39	pointed slate flake
c.	KeDq-7:94	slate ulu blade
d.	KeDq-7:41	slate endblade
e.	KeDq-7:101	slate whetstone
f.	KeDq-7:44/45	salte whetstone
g.	KeDq-7:40	slate whetstone
h.	KeDq-7:58	slate drill bit
i.	KeDq-7:43	slate drill bit

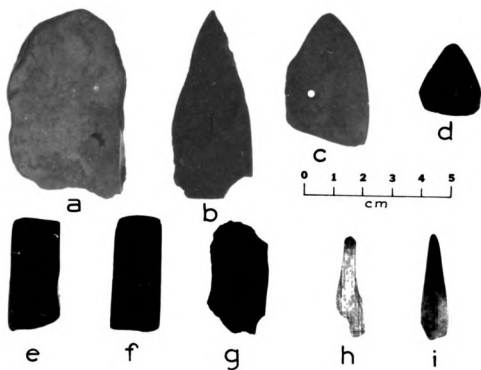


Figure 43

Artifacts from Okivilialuk House 8--Both Components

Figure 44

Artifacts from Okivilialuk House 8--Both Components

a. KeDq-7:9	ivory sled shoe segment
b. KeDq-7:99	bone meat fork
c. KeDq-7:50	drilled walrus tusk
d. KeDq-7:51	bone boot creaser
e. KeDq-7:78	bone ice pick fragment
f. KeDq-7:97	carved and drilled bone piece
g. KeDq-7:82	whale bone kayak paddle tip

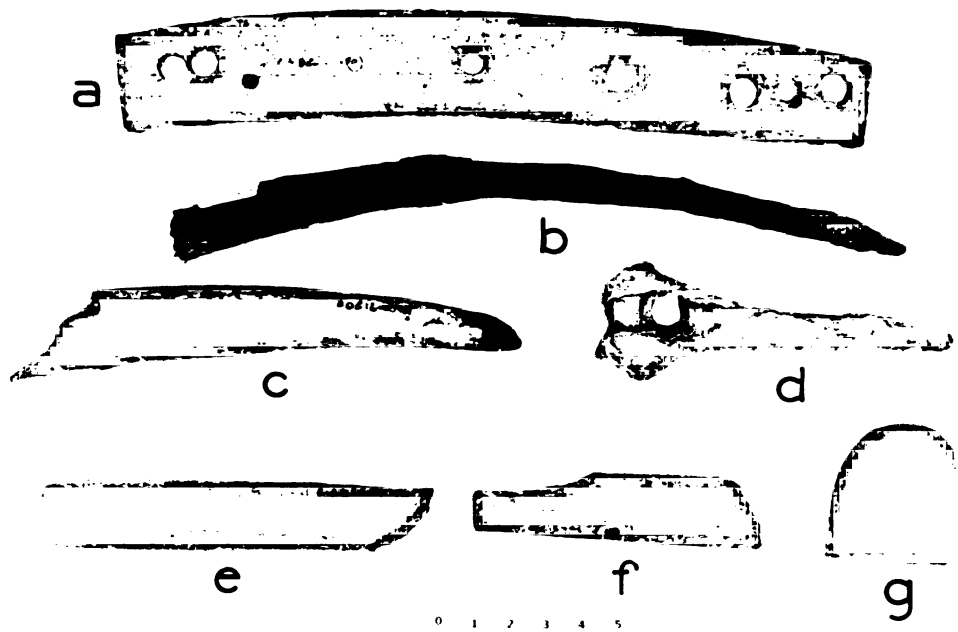


Figure 44

Artifacts from Okivilialuk House 8--Both Components

Figure 45

Artifacts from Okivilialuk House 8--Both Components

a.	KeDq-7:333	wood shaft fragment
b.	KeDq-7:249	wood wick trimmer
c.	KeDq-7:247	wood slat (snow beater?)
d.	KeDq-7:222	wood stake
e.	KeDq-7:368	wood float bar
f.	KeDq-7:261	wood stake
g.	KeDq-7:281	wood stake
h.	KeDq-7:279	wood float bar
i.	KeDq-7:270	wood blubber dripper fragment
j.	KeDq-7:274	wood stake
k.	KeDq-7:122	wood stake
l.	KeDq-7:373	wood shaft fragment
m.	KeDq-7:262	wood wick trimmer



Figure 45

Artifacts from Okivilialuk House 8--Both Components

Figure 46

Artifacts from Okivilialuk House 8--Both Components

a.	KeDq-7:265	wood shaft fragment
b.	KeDq-7:259	wood shaft fragment
c.	KeDq-7:248	drilled wood slat fragment
d.	KeDq-7:227	small wood shaft or peg
e.	KeDq-7:332	wood shaft fragment
f.	KeDq-7:246	small wood shaft or peg
g.	KeDq-7:225	toy wood arrowshaft fragment
h.	KeDq-7:184	wood amulet box fragment
i.	KeDq-7:258	drilled wood slat
j.	KeDq-7:260	wood sling handle tip
k.	KeDq-7:268	wood socket
l.	KeDq-7:243	wood plug
m.	KeDq-7:92	wood mouthpiece stopper
n.	KeDq-7:113	wood bow end fragment
o.	KeDq-7:245	wood wick trimmer fragment
p.	KeDq-7:81	wood float bar

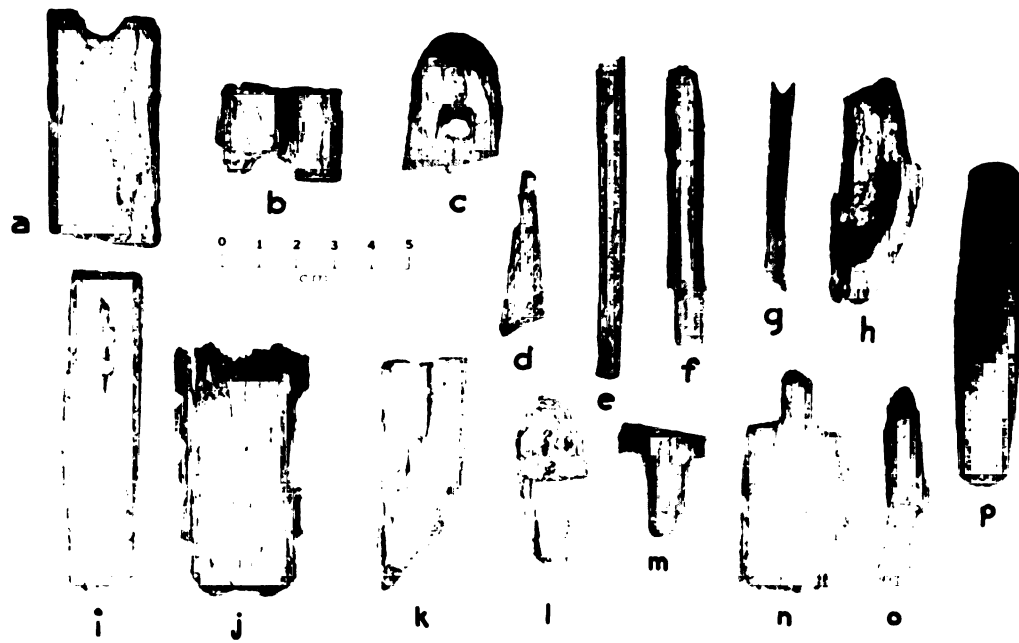


Figure 46

Artifacts from Okivilialuk Uouse 8--Both Components

Figure 47

Artifacts from Okivilialuk House 8--Upper Component

KeDq-7:307

unidentified whale bone object



Figure 47

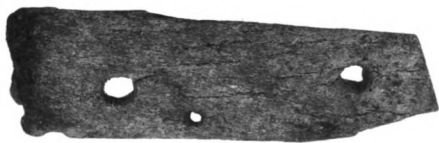
Artifacts from Okivilialuk House 8--Upper Component

Figure 48

Artifacts from Okivilialuk House 8--Upper Component

KeDq-7:147

unidentified whale bone object



0 1 2 3 4 5
L J
2 cm

Figure 48

Artifacts from Okivilialuk House 8--Upper Component

Figure 49

Artifacts from Okivillialuk House 8--Upper Component

- | | |
|---------------|-------------------------------|
| a. KeDq-7:217 | steel knife blade |
| b. KeDq-7:252 | drilled iron strap |
| c. KeDq-7:135 | steel lock plate |
| d. KeDq-7:255 | cast iron frying pan fragment |

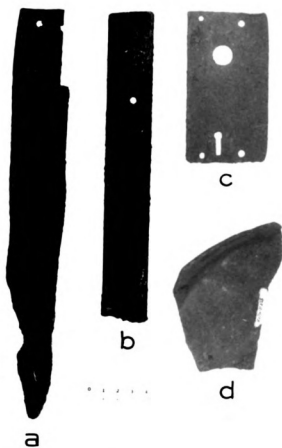


Figure 49

Artifacts from Okivilialuk House 8--
Upper Component

Figure 50

Artifacts from Okivilialuk House 8--Upper Component

a.	KeDq-7:112	gun barrel stock brace
b.	KeDq-7:120	rolled copper strip
c.	KeDq-7:33	white brass button
d.	KeDq-7:187	copper cap
e.	KeDq-7:183	burner support for primus stove
f.	KeDq-7:254	steel knife blade tang fragment
g.	KeDq-7:36	brass key escutcheon
h.	KeDq-7:192	drilled copper cap
i.	KeDq-7:34	cartridge shell casing
j.	KeDq-7:38	cartridge shell casing
k.	KeDq-7:233	cartridge shell casing

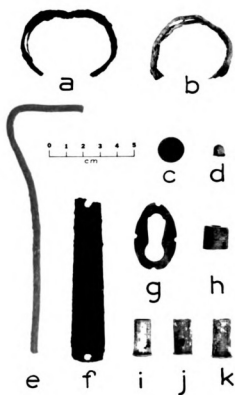


Figure 50

Artifacts from Okivilialuk
House 8--Upper Component

Figure 51

Artifacts from Okivilialuk House 8--Upper Component

- a. KeDq-7:72 prismatic blade gunflint
- b. KeDq-7:339 clay pipe stem fragment
- c. KeDq-7:189/
251 composite bone knife handle piece
- d. KeDq-7:232/
236 composite bone knife handle piece

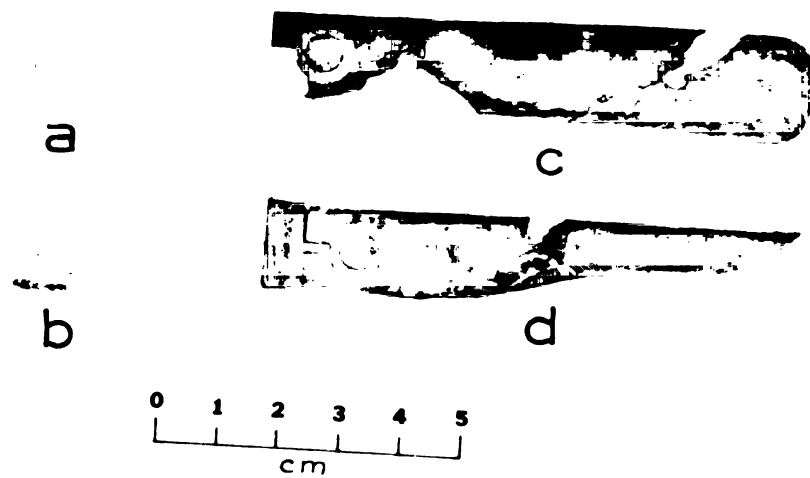


Figure 51

Artifacts from Okivilialuk House 8--Upper Component

Figure 52

Artifacts from Okivilialuk House 8--Upper Component

KeDq-7:193 polychrome glazed white ware bowl

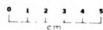
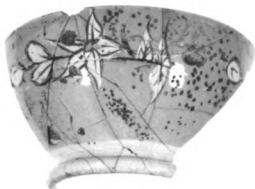


Figure 52

Artifacts from Okivilialuk
House 8--Upper Component

Figure 53

Artifacts from Okivilialuk House 9

- | | | |
|----|------------|-----------------------|
| a. | KeDq-7:150 | wood wick trimmer |
| b. | KeDq-7:151 | wood bow end fragment |
| c. | KeDq-7:152 | wood slat fragment |

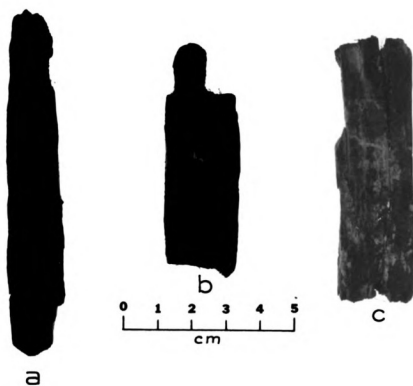


Figure 53

Artifacts from Okivilialuk House 9

Figure 54

Artifacts from Okivilialuk House 9

KeDq-7:164 bone bird dart side prong

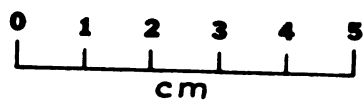


Figure 54

Artifacts from Okivilialuk House 9

Figure 55

Artifacts from Okivilialuk House 9

KeDq-7:154 bone knife handle piece

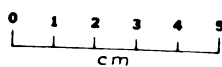


Figure 55

Artifacts from Okivilialuk House 9

Figure 56

Artifacts from Talaguak House 2—Lower Component

- | | | |
|----|----------------|----------------------------------|
| a. | KeDq-2:456/516 | wood fire drill board |
| b. | KeDq-2:517 | antler Thule type 3 harpoon head |
| c. | KeDq-2:460 | unidentified bone implement |
| d. | KeDq-2:462 | soapstone vessel sherd |
| e. | KeDq-2:463 | soapstone vessel sherd |
| f. | KeDq-2:459 | unidentified wood object |
| g. | KeDq-2:461 | wood sling handle fragment |
| h. | KeDq-2:457 | wood wound plug |
| i. | KeDq-2:458 | wood fire drill spindle |



Figure 56

Artifacts from Talaguak House 2--Lower Component

Figure 57

Artifacts from Talaguak House 2--Lower Component

KeDq-2:577 ulu with ivory handle and iron blade



0 1 2 3 4 5
cm

Figure 57

Artifacts from Talaguak House 2
--Lower Component

Figure 58

Artifacts from Talaguak House 2--Lower Component

a.	KeDq-2:545	antler arrowhead
b.	KeDq-2:679	ivory dog trace buckle
c.	KeDq-2:546	ivory dog trace buckle
d.	KeDq-2:548	ivory dog trace buckle
e.	KeDq-2:547	ivory dog trace buckle
f.	KeDq-2:652	unidentified bone object
g.	KeDq-2:543	bone Thule type 4 harpoon head
h.	KeDq-2:539	antler Thule type 2 harpoon head
i.	KeDq-2:649	walrus molar drill mouthpiece bearing
j.	KeDq-2:536	ivory drill mouthpiece bearing
k.	KeDq-2:522	ivory harpoon ice pick fragment
l.	KeDq-2:526	ivory harpoon ice pick fragment
m.	KeDq-2:527	ivory harpoon ice pick fragment

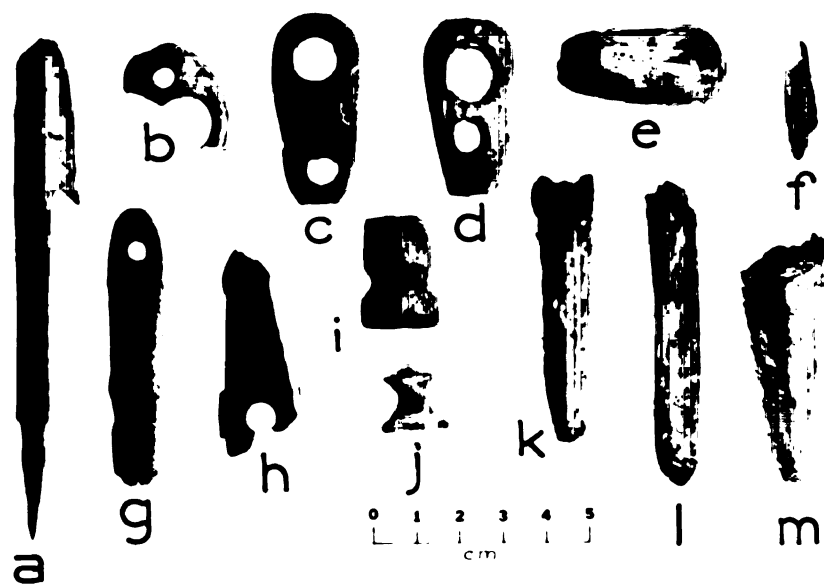


Figure 58

Artifacts from Talaguak House 2--Lower Component

Figure 59

Artifacts from Talaguak House 2--Lower Component

- a. KeDq-2:671 antler fish stringing needle (?)
- b. KeDq-2:663 antler Thule type 1 harpoon head
- c. KeDq-2:658 slate endblade
- d. KeDq-2:669 wood cup or bowl bottom
- e. KeDq-2:665 wood shank fragment
- f. KeDq-2:670 unidentified wood implement
- g. KeDq-2:668 soapstone vessel sherd
- h. KeDq-2:664 Dorset chert side notched knife
- i. KeDq-2:667 unmodified chert flake

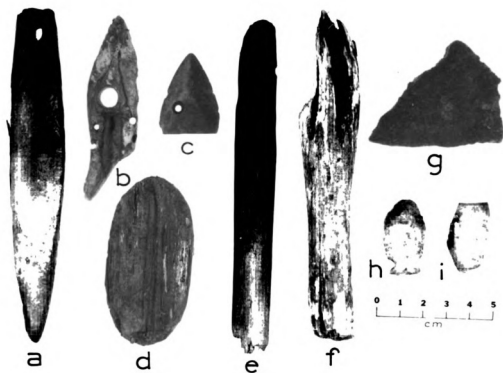


Figure 59

Artifacts from Talaguak House 2--Lower Component

Figure 60

Artifacts from Talaguak House 2--Lower Component

- | | | |
|----|------------|--------------------------|
| a. | KeDq-2:534 | whale rib mattock |
| b. | KeDq-2:585 | bone moveable lance head |

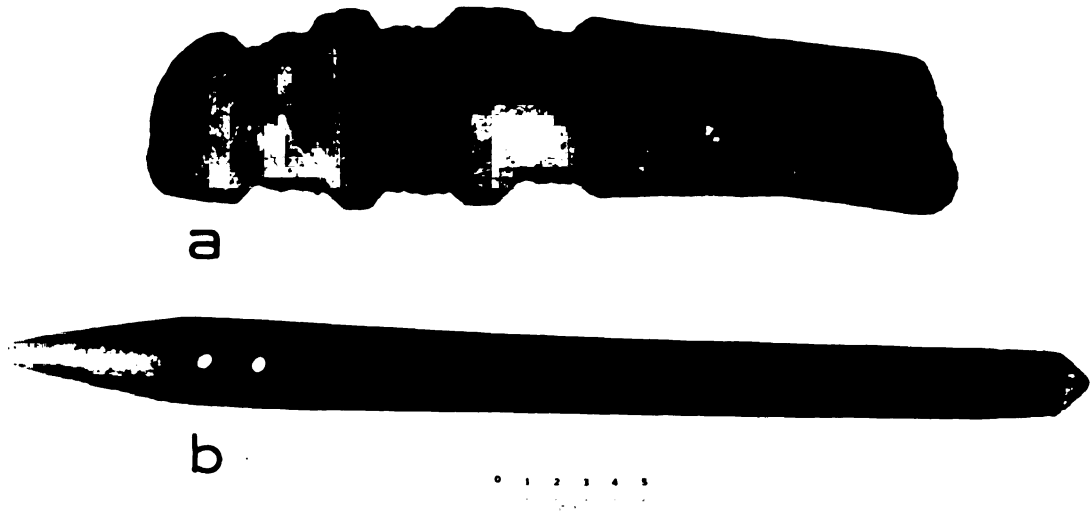


Figure 60

Artifacts from Talaguak House 2--Lower Component

Figure 61

Artifacts from Talaguak House 2--Lower Component

a.	Kedq-2:529	antler bola ball
b.	KeDq-2:594	cut and drilled antler
c.	KeDq-2:588	ivory float mouthpiece
d.	KeDq-2:572	antler bola ball
e.	KeDq-2:567	ivory chock
f.	KeDq-2:586	ivory chock
g.	KeDq-2:587	bone knife handle

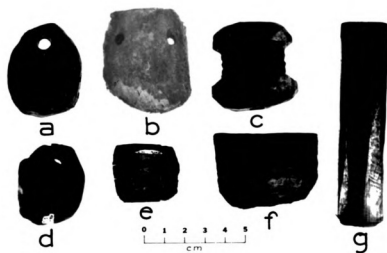


Figure 61

Artifacts from Talaguak House 2--Lower Component

Figure 62

Artifacts from Talaguak House 2--Lower Component

- a. KeDq-2:552 wood bow hand grip
- b. KeDq-2:535 wood float bar
- c. KeDq-2:531 wood float bar
- d. KeDq-2:521 wood float bar
- e. KeDq-2:701 wood float bar
- f. KeDq-2:674 wood seal drag toggle fragment
- g. KeDq-2:698 wood seal drag toggle fragment
- h. KeDq-2:616 wood seal drag toggle fragment
- i. KeDq-2:672 wood seal drag toggle fragment

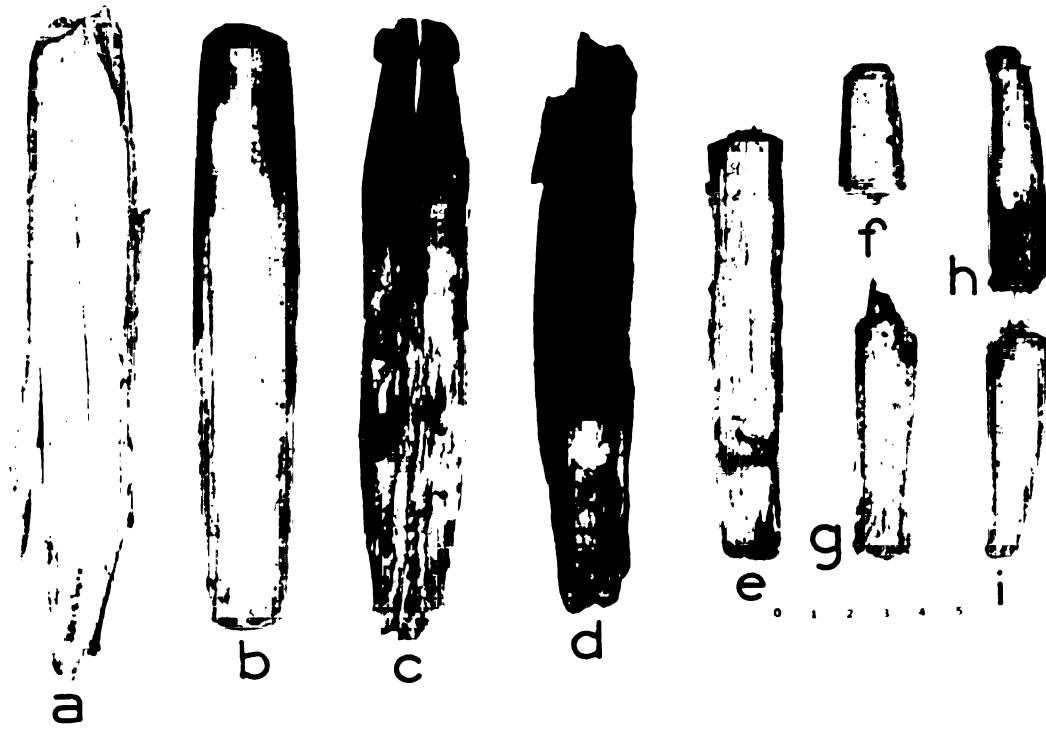


Figure 62

Artifacts from Talaguak House 2--Lower Component

Figure 63

Artifacts from Talaguak House 2--Lower Component

a.	KeDq-2:709	wood pail handle
b.	KeDq-2:589	wood shaft fragment
c.	KeDq-2:708	wood shaft fragment
d.	KeDq-2:700	wood arrowshaft fragment
e.	KeDq-2:677	wood wick trimmer
f.	KeDq-2:703	wood slat fragment
g.	KeDq-2:707	wood shank fragment
h.	KeDq-2:519	wood shaft fragment
i.	KeDq-2:614	wood shaft fragment
j.	KeDq-2:699	wood shaft fragment
k.	KeDq-2:704	wood seal drag toggle

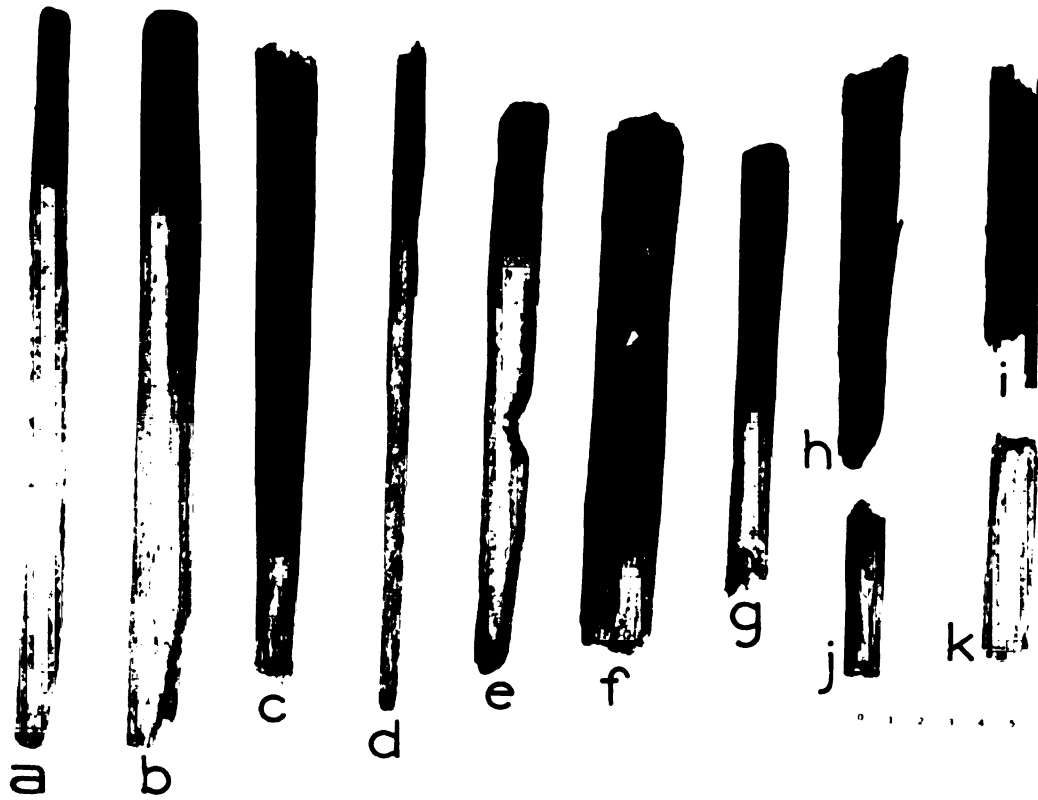


Figure 63

Artifacts from Talaguak House 2--Lower Component

Figure 64

Artifacts from Talaguak House 2--Lower Component

a.	KeDq-2:619	slate ulu blade
b.	KeDq-2:680	slate ulu blade
c.	KeDq-2:540	slate ulu blade
d.	KeDq-2:581	slate knife blade
e.	KeDq-2:549	slate whetstone
f.	KeDq-2:575	ground slate flake
g.	KeDq-2:598	slate flake scraper

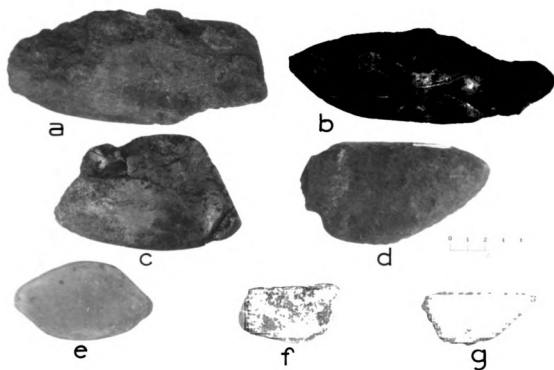


Figure 64

Artifacts from Talaguak House 2--Lower Component

Figure 65

Artifacts from Talaguak House 2--Lower Component

a.	KeDq-2:574	slate knife blade
b.	KeDq-2:595	ground slate flake
c.	KeDq-2:576	slate ulu blade fragment
d.	KeDq-2:681	slate knife blade fragment
e.	KeDq-2:569	slate flake scraper
f.	KeDq-2:697	polished slate flake
g.	KeDq-2:696	ground slate flake
h.	KeDq-2:570	ground slate flake
i.	KeDq-2:593	toy slate ulu blade
j.	KeDq-2:542	slate endblade fragment
k.	KeDq-2:528	slate endblade fragment
l.	KeDq-2:618	slate endblade fragment
m.	KeDq-2:647	slate endblade

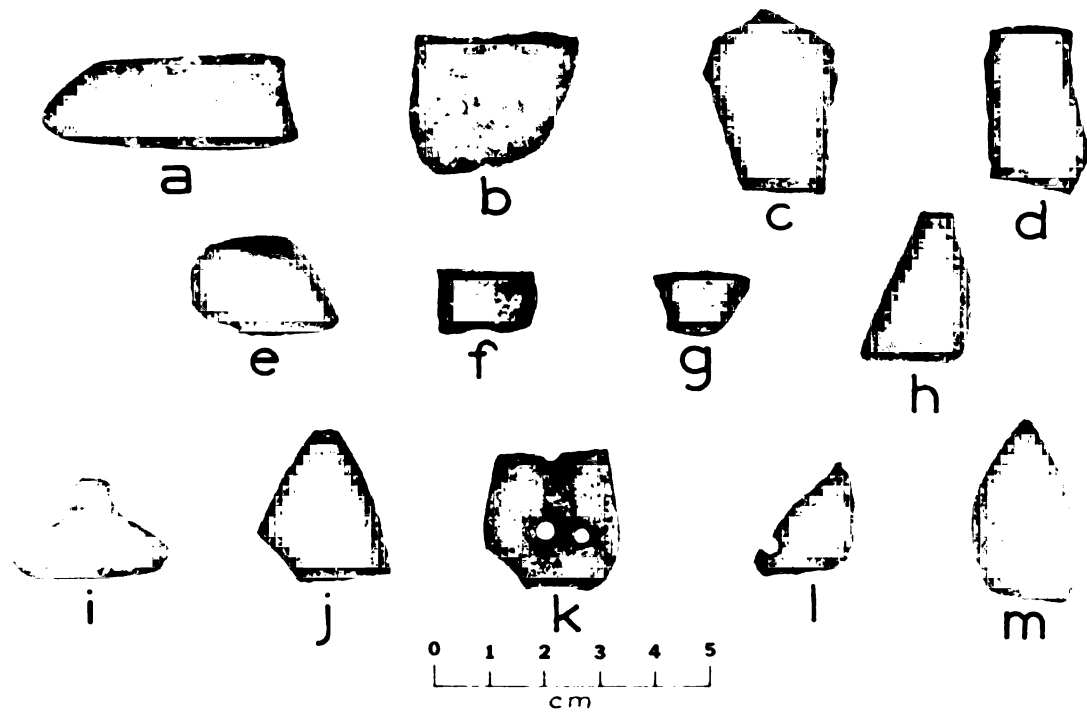


Figure 65

Artifacts from Talaguak House 2--Lower Component

Figure 66

Artifacts from Talaguak House 2--Lower Component

- a. KeDq-2:590 antler arrowhead
- b. KeDq-2:591 scapula scraper
- c. KeDq-2:580 scapula scraper
- d. KeDq-2:579 ivory harpoon ice pick fragment
- e. KeDq-2:650 antler wedge

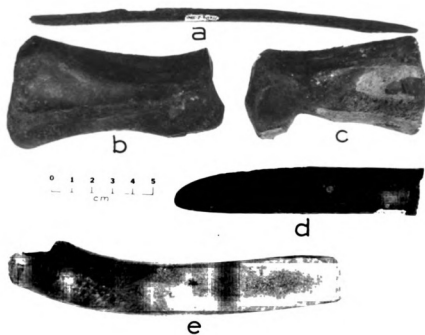


Figure 66

Artifacts from Talaguak House 2--Lower Component

Figure 67

Artifacts from Talaguak House 2--Lower Component

a.	KeDq-2:550	bone arrowhead
b.	KeDq-2:620	ivory pick
c.	KeDq-2:710	drilled antler slat
d.	KeDq-2:544	bone arrowhead
e.	KeDq-2:599	antler awl
f.	KeDq-2:673	antler awl
g.	KeDq-2:675	bone needle case fragment
h.	KeDq-2:651	carved bone shaft or peg
i.	KeDq-2:582	bone arrowhead

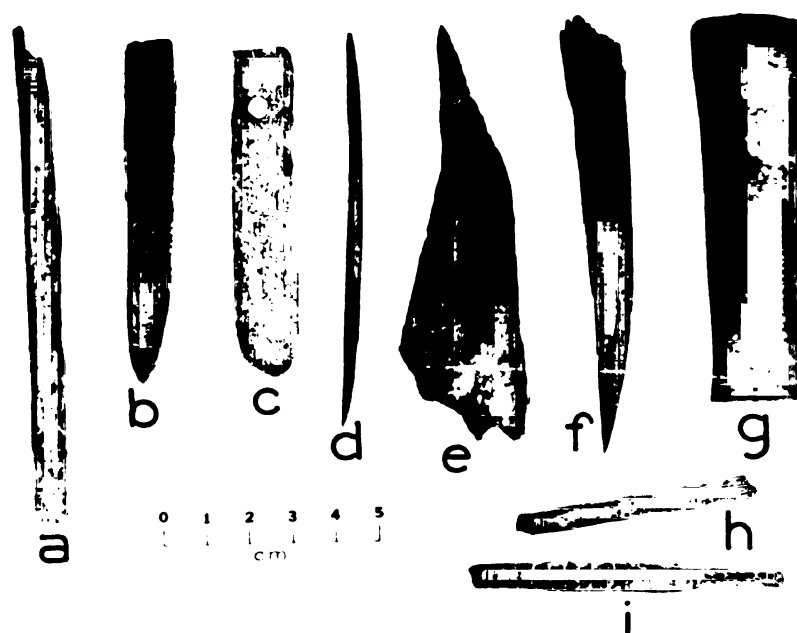


Figure 67

Artifacts from Talaguak House 2--Lower Component

Figure 68

Artifacts from Talaguak House 2--Lower Component

- | | | |
|----|-------------|-------------------------------|
| a. | KeDq-2:1100 | bone boot creaser |
| b. | KeDq-2:1105 | antler arrowhead |
| c. | KeDq-2:1106 | antler arrowhead |
| d. | KeDq-2:1098 | scapula scraper |
| e. | KeDq-2:1097 | ivory harpoon finger rest |
| f. | KeDq-2:1096 | bone drill mouthpiece bearing |
| g. | KeDq-2:1099 | bone sucking tube |

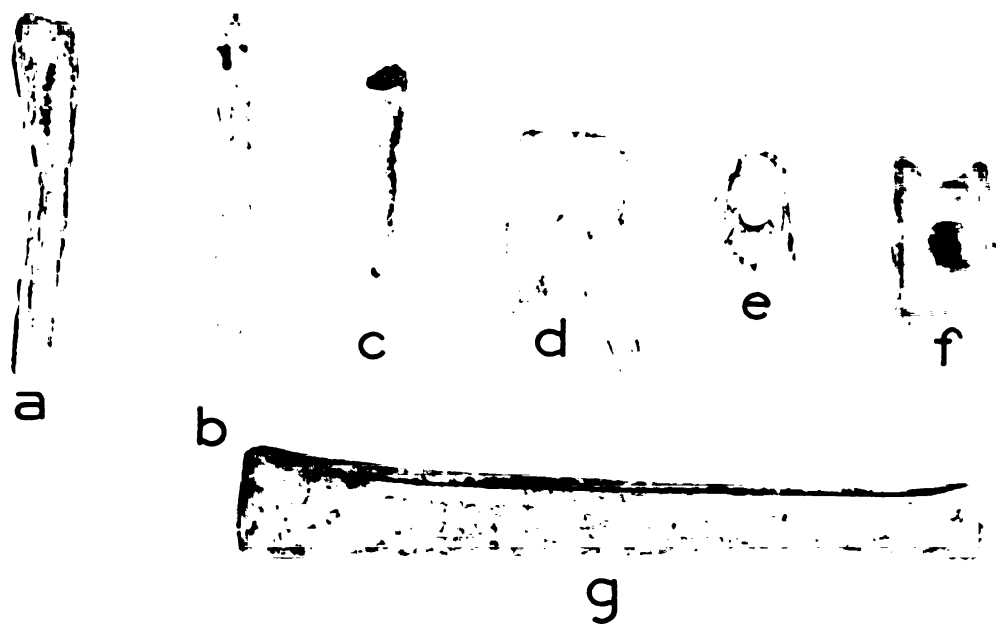


Figure 68

Artifacts from Talaguak House 2--Lower Component

Figure 69

Artifacts from Talaguak House 2--Lower Component

- a. KeDq-2:525 wood bowl fragment
- b. KeDq-2:592 wood bowl or dish bottom

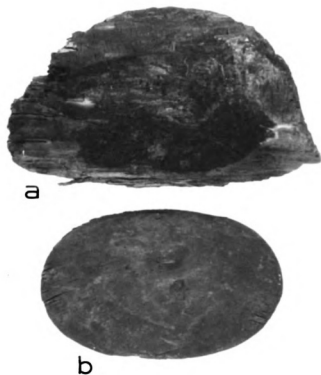


Figure 69

Artifacts from Talaguak House 2--Lower Component

Figure 70

Artifacts from Talaguak House 2--Lower Component

- a. KeDq-2:982 ivory foreshaft socket fragment
- b. KeDq-2:972 antler marrow spatula
- c. KeDq-2:971 unworked polar bear canine
- d. KeDq-2:974 grooved antler slat
- e. KeDq-2:986 wood plug fragment
- f. KeDq-2:977 hammerstone
- g. KeDq-2:970 ivory chain segment
- h. KeDq-2:973 ivory tip fragment
- i. KeDq-2:975 ground slate flake

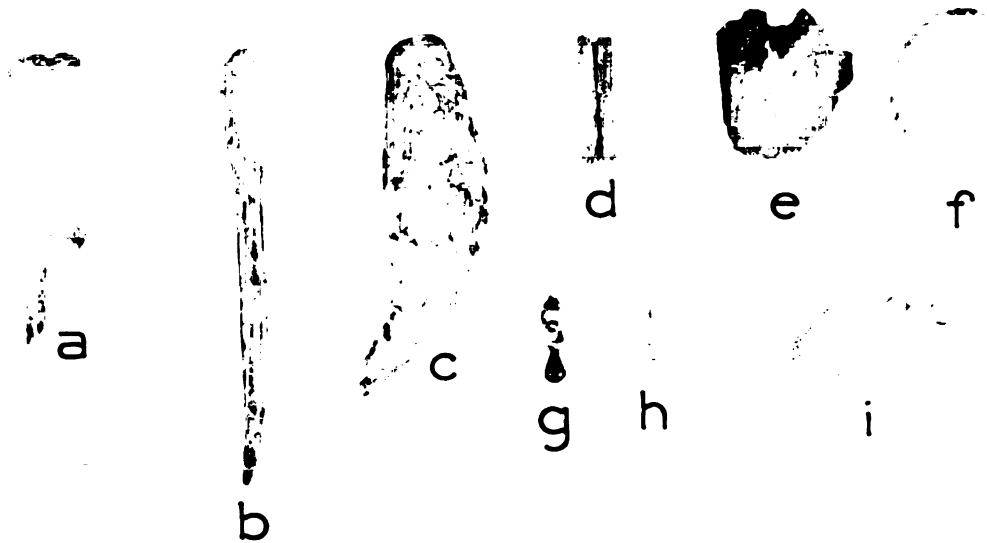


Figure 70

Artifacts from Talaguak House 2--Lower Component

Figure 71

Artifacts from Talaguak House 2--Lower Component

KeDq-2:551

toy bone harpoon head

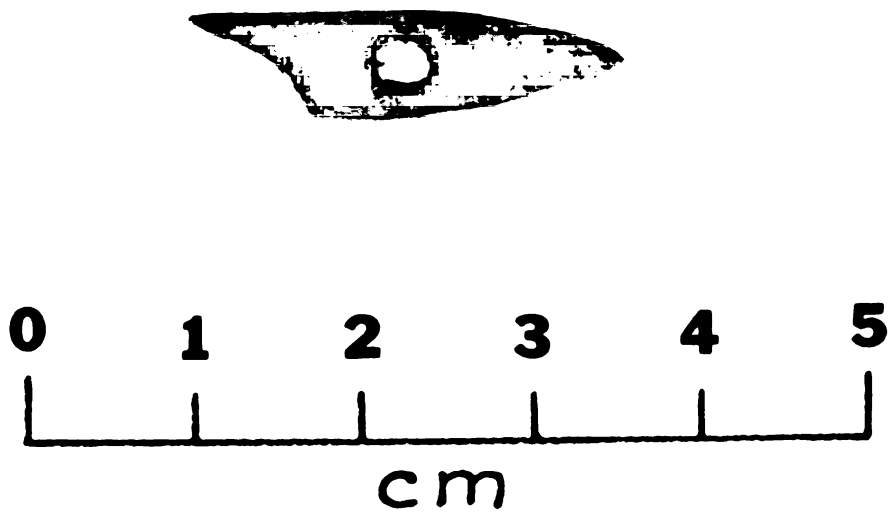


Figure 71

Artifacts from Talaguak House 2--Lower Component

Figure 72

Artifacts from Talaguak House 2--Lower Component

- | | | |
|----|------------|-----------------------------|
| a. | KeDq-2:676 | baleen sled shoe |
| b. | KeDq-2:518 | blaeen dagger |
| c. | KeDq-2:573 | tied baleen bundle |
| d. | KeDq-2:682 | wood shaft tied with baleen |
| e. | KeDq-2:532 | tied baleen bundle |
| f. | KeDq-2:533 | tied baleen coil |

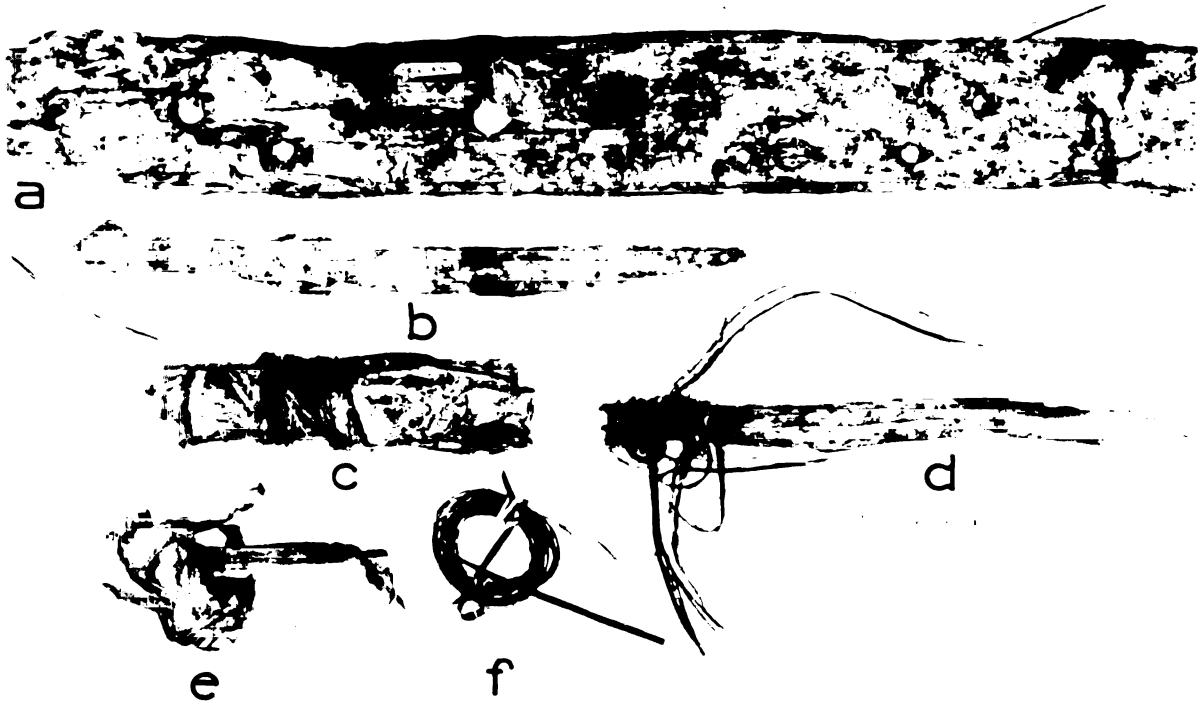


Figure 72

Artifacts from Talaguak House 2--Lower Component

Figure 73

Artifacts from Talaguak House 2--Lower Component

- | | |
|---------------|-----------------------------|
| a. KeDq-2:678 | wood gull hook shank |
| b. KeDq-2:530 | unidentified wood implement |
| c. KeDq-2:705 | wood plug |
| d. KeDq-2:702 | wood umiak figurine |
| e. KeDq-2:566 | unidentified wood fragment |
| f. KeDq-2:648 | wood figurine |

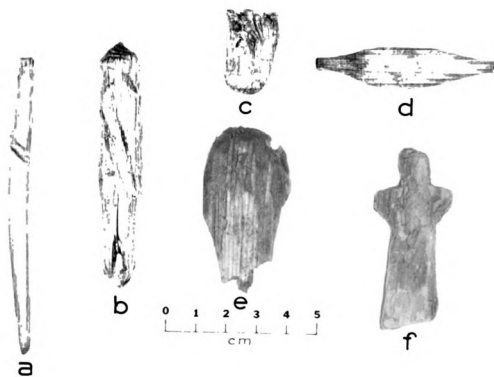


Figure 73

Artifacts from Talaguak House 2--Lower Component

Figure 74

Artifacts from Talaguak House 2--Lower Component

- | | |
|---------------|-------------------------|
| a. KeDq-2:976 | wood slat fragment |
| b. KeDq-2:983 | wood stake |
| c. KeDq-2:984 | wood stake |
| d. KeDq-2:980 | toy wood komatik runner |

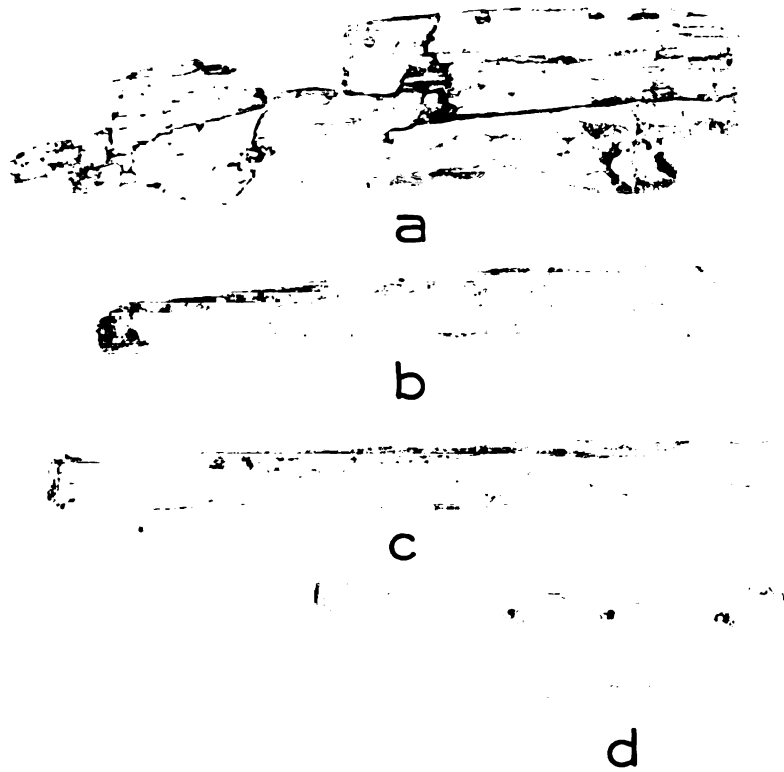


Figure 74

Artifacts from Talaguak House 2--Lower Component

Figure 75

Artifacts from Talaguak House 2--Both Components

- | | | |
|----|------------|--|
| a. | KeDq-2:637 | whale bone sled shoe fragment |
| b. | KeDq-2:629 | Dorset chert endblade |
| c. | KeDq-2:674 | slate awl |
| d. | KeDq-2:624 | slate knife blade fragment |
| e. | KeDq-2:596 | bone Thule type 5 harpoon head |
| f. | KeDq-2:639 | ivory Thule type 2 harpoon head fragment |
| g. | KeDq-2:631 | bird bone awl |
| h. | KeDq-2:626 | bone toy sling handle |
| i. | KeDq-2:638 | ivory tingmiujang |

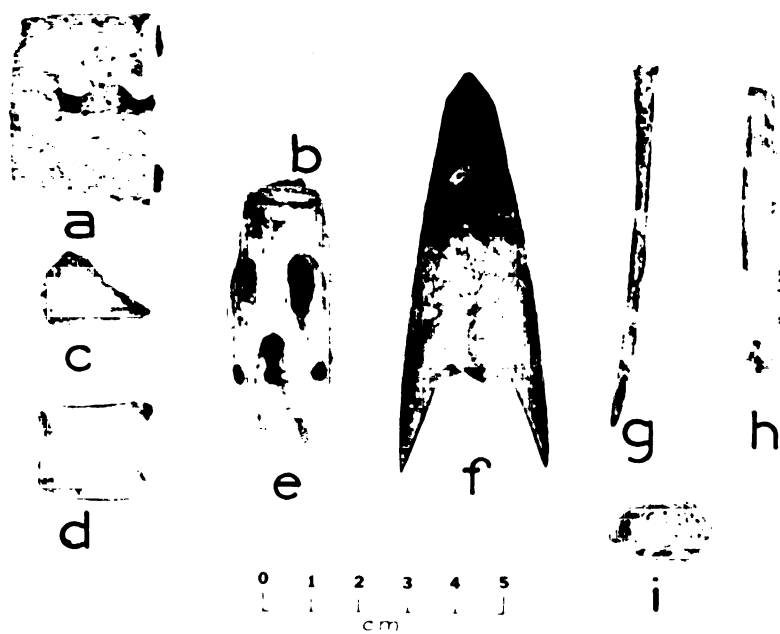


Figure 75

Artifacts from Talaguak House 2--Both Components

Figure 76

Artifacts from Talaguak House 2--Both Components

a.	KeDq-2:694	wood slat
b.	KeDq-2:642	wood shaft fragment
c.	KeDq-2:643	wood shaft fragment
d.	KeDq-2:633	wood gull hook shank
e.	KeDq-2:560	wood bow end fragment
f.	KeDq-2:634	wood arrowshaft fragment
g.	KeDq-2:571	wood shaft fragment
h.	KeDq-2:632	wood pail handle
i.	KeDq-2:691	wood pail handle

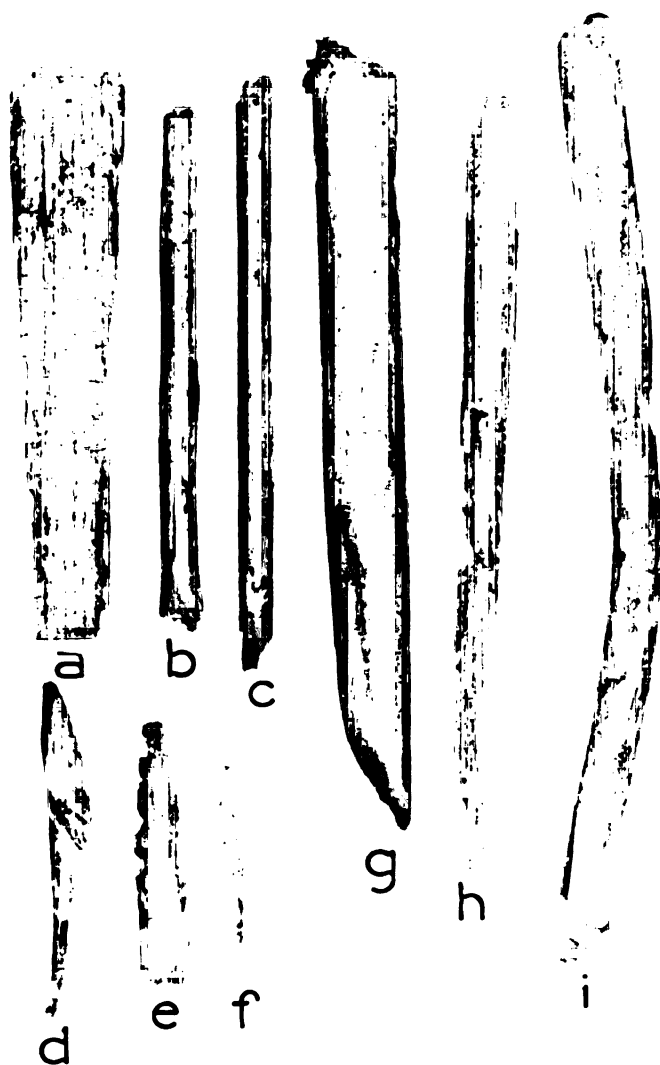


Figure 76

Artifacts from Talaguak House 2--Both Components

Figure 77

Artifacts from Talaguak House 2--Upper Component

a.	KeDq-2:437	slate whetstone
b.	KeDq-2:688	slate adze (?) fragment
c.	KeDq-2:686	slate scraper
d.	KeDq-2:513	slate pot support
e.	KeDq-2:512	slate pot support
f.	KeDq-2:337	slate endblade fragment
g.	KeDq-2:399	slate endblade fragment
h.	KeDq-2:514	slate endblade fragment
i.	KeDq-2:362	slate endblade
j.	KeDq-2:455	slate whetstone
k.	KeDq-2:511	slate side blade
l.	KeDq-2:687	slate side blade

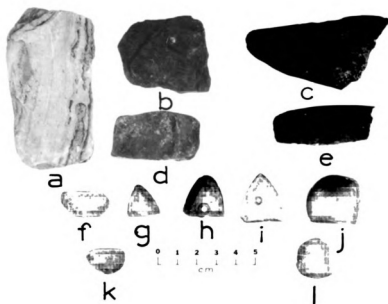


Figure 77

Artifacts from Talaguak House 2--Upper Component

Figure 78

Artifacts from Talaguak House 2--Upper Component

- | | | |
|----|----------------|-------------------------------------|
| a. | KeDq-2:361/379 | whale bone feather-cutting
board |
| b. | KeDq-2:436 | whale bone sled shoe frag-
ment |
| c. | KeDq-2:327 | bone harpoon foreshaft
fragment |
| d. | KeDq-2:438 | whale rib net weight |
| e. | KeDq-2:355 | bone harpoon foreshaft
fragment |
| f. | KeDq-2:360 | bone harpoon foreshaft
fragment |

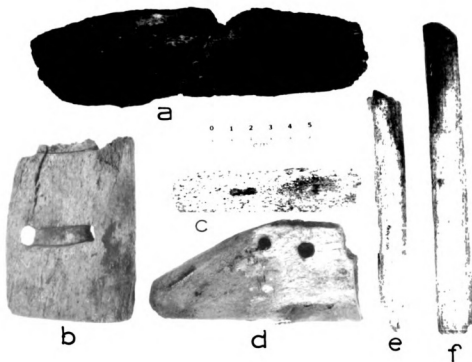


Figure 78

Artifacts from Talaguak House 2--Upper Component

Figure 79

Artifacts from Talaguak House 2--Upper Component

- | | | |
|----|------------|--------------------------|
| a. | KeDq-2:635 | drilled scapula fragment |
| b. | KeDq-2:628 | antler punch or flaker |
| c. | KeDq-2:636 | scapula skin softener |
| d. | KeDq-2:627 | antler ladle |
| e. | KeDq-2:625 | antler slat |

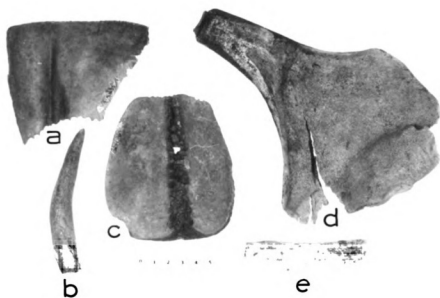


Figure 79

Artifacts from Talaguak House 2--Upper Component

Figure 80

Artifacts from Talaguak House 2--Upper Component

a.	KeDq-2:454	antler bola ball
b.	KeDq-2:433	ivory shaft fragment
c.	KeDq-2:328	ivory fixed foreshaft
d.	KeDq-2:365	bone bird dart side prong
e.	KeDq-2:439	bone moveable foreshaft
f.	KeDq-2:453	bone foreshaft fragment
g.	KeDq-2:348	drilled antler slat
h.	KeDq-2:382	antler domino
i.	KeDq-2:515	drilled bone slat
j.	KeDq-2:389	walrus tooth pendant
k.	KeDq-2:468	ivory winged button
l.	KeDq-2:326	ivory finger rest
m.	KeDq-2:346	tooth dart butt ferrule
n.	KeDq-2:353	antler endblade
o.	KeDq-2:345	bone foreshaft fragment

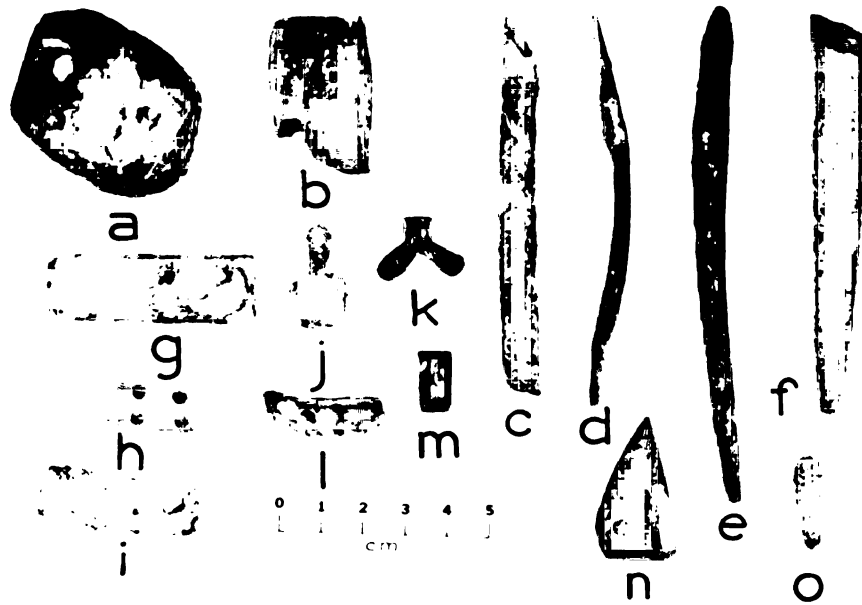


Figure 80

Artifacts from Talaguak House 2--Upper Component

Figure 81

Artifacts from Talaguak House 2--Upper Component

a.	KeDq-2:309	steel spike
b.	KeDq-2:308	blue glass tube bead
c.	KeDq-2:369	antler spoon
d.	KeDq-2:310	.22 calibre cartridge shell
e.	KeDq-2:484	Dorset chert knife
f.	KeDq-2:486	slate scraper
g.	KeDq-2:483	wood plug fragment
h.	KeDq-2:370	bone foreshaft fragment
i.	KeDq-2:371	schist whetstone
j.	KeDq-2:485	ivory flake

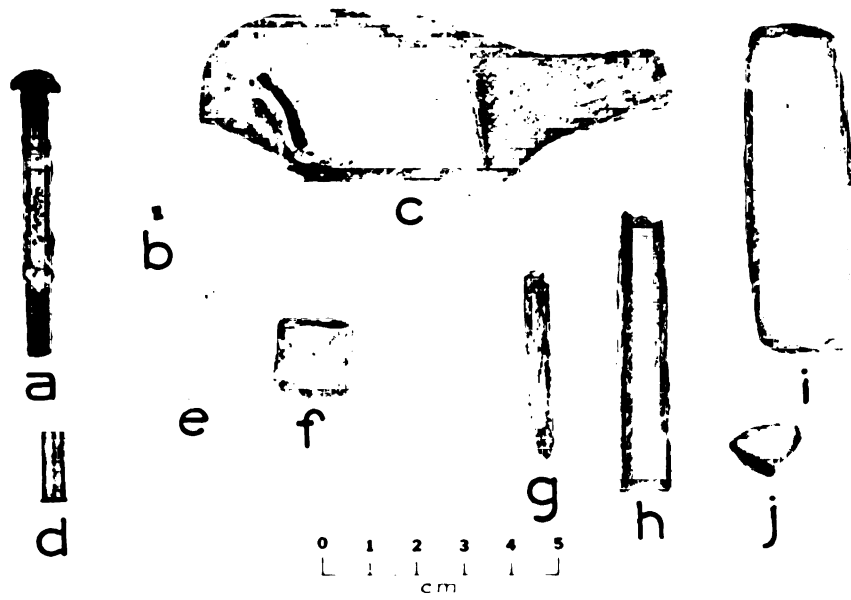


Figure 81

Artifacts from Talaguak House 2--Upper Component

Figure 82

Artifacts from Talaguak House 2--Upper Component

a.	KeDq-2:410	steel bolt
b.	KeDq-2:411	steel spike
c.	KeDq-2:325	steel spike shank
d.	KeDq-2:332	steel spike shank
e.	KeDq-2:343	drill bit
f.	KeDq-2:381	tin can lid
g.	KeDq-2:356	cartridge shell casing
h.	KeDq-2:396	cartridge shell casing
i.	KeDq-2:412	cartridge shell casing
j.	KeDq-2:413	cartridge shell casing
k.	KeDq-2:414	cartridge shell casing
l.	KeDq-2:334	steel ulu blade
m.	KeDq-2:435	brass thimble

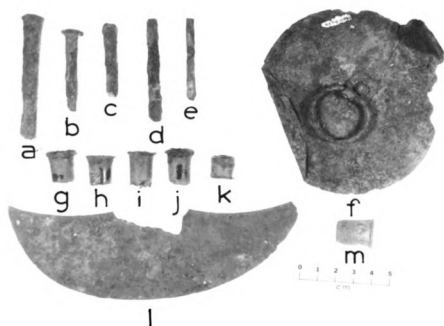


Figure 82

Artifacts from Talaguak House 2--Upper Component

Figure 83

Artifacts from Talaguak House 2--Upper Component

a.	KeDq-2:441	clay pipe bowl fragment
b.	KeDq-2:401	clay pipe bowl fragment
c.	KeDq-2:291	clay pipe stem fragment
d.	KeDq-2:440	clay pipe stem fragment
e.	KeDq-2:331	ironstone mug handle fragment
f.	KeDq-2:404	clay pipe bowl fragment
g.	KeDq-2:331	ironstone mug handle fragment
h.	KeDq-2:406	clay pipe bowl fragment
i.	KeDq-2:418	painted tube bead
j.	KeDq-2:417	blue glass round bead
k.	KeDq-2:416	blue glass seed bead
l.	KeDq-2:416	blue glass seed bead
m.	KeDq-2:380	ceramic figurine
n.	KeDq-2:350	clay pipe stem fragment
o.	KeDq-2:296	clay pipe stem fragment
p.	KeDq-2:390	clay pipe stem fragment
q.	KeDq-2:391	clay pipe stem fragment
r.	KeDq-2:354	clay pipe stem fragment
s.	KeDq-2:398	clay pipe stem fragment

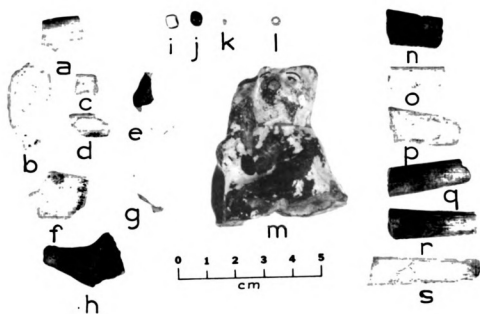


Figure 83

Artifacts from Talaguak House 2--Upper Component

Figure 84

Artifacts from Talaguak House 5

- | | | |
|----|------------|----------------------------------|
| a. | KeDq-2:329 | antler Thule type 2 harpoon head |
| b. | KeDq-2:368 | bone arrowhead fragment |
| c. | KeDq-2:424 | antler tip fragment |
| d. | KeDq-2:374 | bone tip fragment |
| e. | KeDq-2:373 | drilled ivory fragment |
| f. | KeDq-2:375 | bone fixed lance head fragment |
| g. | KeDq-2:372 | drilled bone fragment |
| h. | KeDq-2:423 | bone knife handle fragment |
| i. | KeDq-2:689 | antler wedge |
| j. | KeDq-2:287 | soapstone mending patch |
| k. | KeDq-2:376 | wood float bar |
| l. | KeDq-2:421 | worked wood fragment |

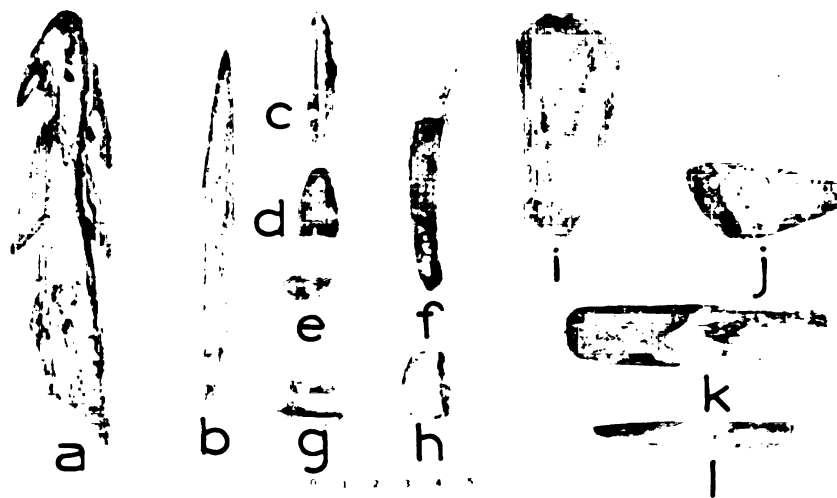


Figure 84

Artifacts from Talaguak House 5

Figure 85

Artifacts from Talaguak House 5

a.	KeDq-2:446	stone maul
b.	KeDq-2:430	soapstone vessel sherd
c.	KeDq-2:429	soapstone flake
d.	KeDq-2:432	soapstone lamp fragment
e.	KeDq-2:386	soapstone vessel rim sherd
f.	KeDq-2:445	antler harpoon foreshaft socket
g.	KeDq-2:448	antler wedge
h.	KeDq-2:449	bone mending disk
i.	KeDq-2:450	bone buckle
j.	KeDq-2:387	schist whetstone
k.	KeDq-2:447	chert flake
l.	KeDq-2:385	chert blade
m.	KeDq-2:685	chert biface fragment
n.	KeDq-2:428	chert biface fragment
o.	KeDq-2:427	chert biface fragment
p.	KeDq-2:388	worked feldspar
q.	KeDq-2:384	wood seal drag toggle

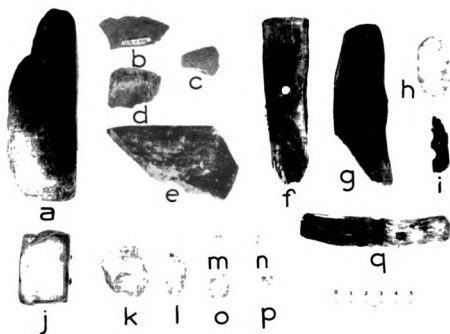


Figure 85

Artifacts from Talaguak House 5

Figure 86

Artifacts from Talaguak House 5

- | | | |
|----|------------|-----------------------------|
| a. | KeDq-2:683 | wood float bar |
| b. | KeDq-2:554 | antler arrowhead |
| c. | KeDq-2:555 | antler wedge |
| d. | KeDq-2:559 | bone cod jigging hook |
| e. | KeDq-2:558 | toy wood arrow |
| f. | KeDq-2:553 | stone lamp, possibly Dorset |
| g. | KeDq-2:557 | slate endblade fragment |

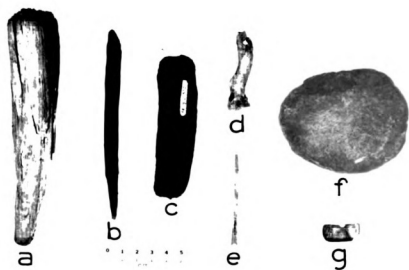


Figure 86

Artifacts from Talaguak House 5

Figure 87

Artifacts from Talaguak House 5

a.	KeDq-2:503	wood thread spool (intrusive)
b.	KeDq-2:478	wood harpoon shaft fragment
c.	KeDq-2:505	toy leister
d.	KeDq-2:695	unidentified wood slat
e.	KeDq-2:477	wood plug
f.	KeDq-2:506	wood wound plug
g.	KeDq-2:507	worked wood fragment
h.	KeDq-2:504	pointed ivory piece
i.	KeDq-2:474	pointed bone piece
j.	KeDq-2:475	bone awl preform
k.	KeDq-2:487	Dorset chert side notched knife
l.	KeDq-2:473	slate endblade

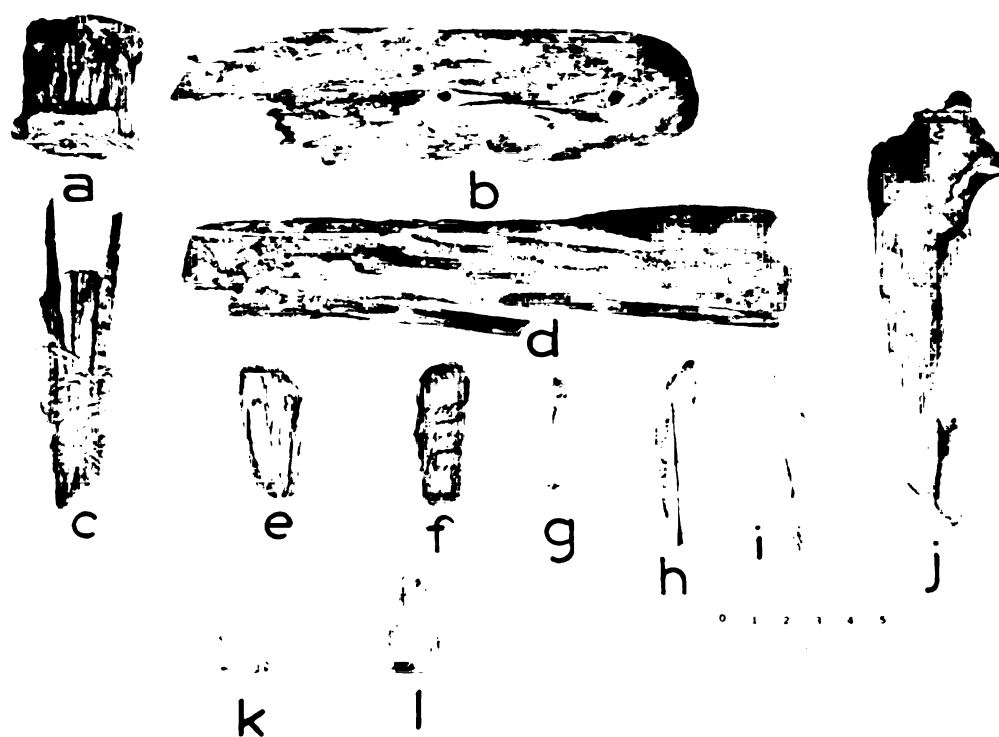


Figure 87

Artifacts from Talaguak House 5

Figure 88

Artifacts from Talaguak House 7

- | | |
|----------------|---------------------------------|
| a. KeDq-2:1079 | ivory Thule type 5 harpoon head |
| b. KeDq-2:853 | ivory loose lance head fragment |
| c. KeDq-2:914 | drilled whale bone shaft |
| d. KeDq-2:882 | bone foreshaft fragment |
| e. KeDq-2:861 | ivory float mouthpiece |
| f. KeDq-2:875 | slate scraper |
| g. KeDq-2:867 | bone foreshaft fragment |

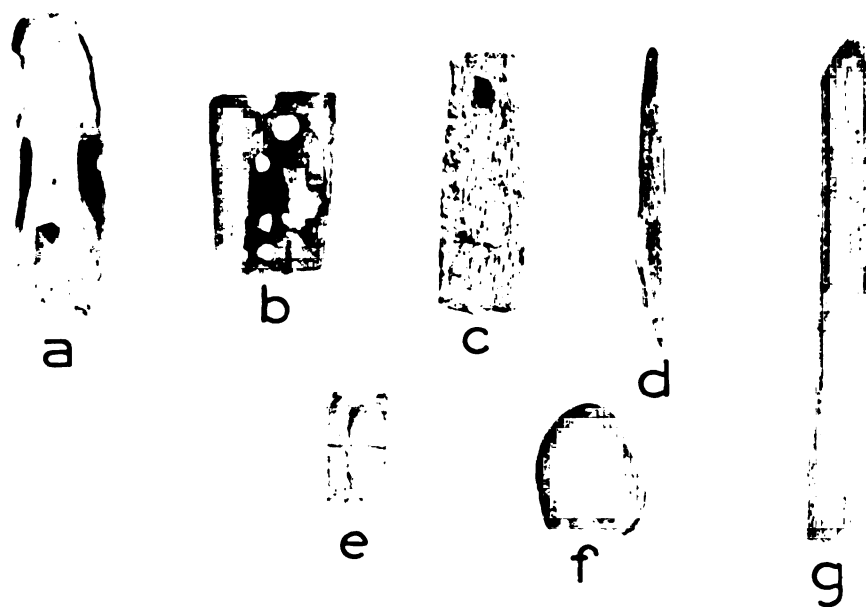


Figure 88

Artifacts from Talaguak House 7

Figure 89

Artifacts from Talaguak House 7

a.	KeDq-2:314	soapstone vessel fragment
b.	KeDq-2:320	rubbing stone
c.	KeDq-2:321	rubbing stone
d.	KeDq-2:316	bone foreshaft fragment
e.	KeDq-2:317	bone moveable foreshaft fragment
f.	KeDq-2:305	bone moveable lance haed fragment
g.	KeDq-2:311	bone foreshaft fragment
h.	KeDq-2:318	antler wedge
i.	KeDq-2:315	cut mica
j.	KeDq-2:304	slate endblade
k.	KeDq-2:322	Dorset chert endscraper
l.	KeDq-2:312	blue glass tube bead
m.	KeDq-2:313	blue glass tube bead

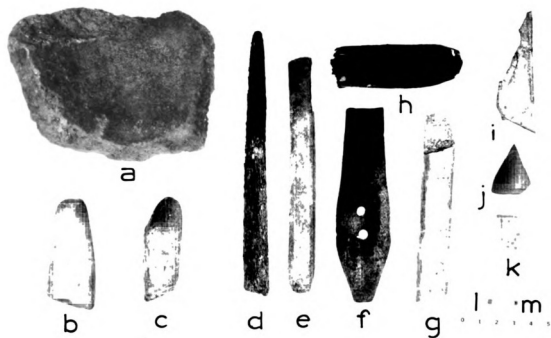


Figure 89

Artifacts from Talaguak House 7

Figure 90

Artifacts from Talaguak House 7

- | | | |
|----|------------|-----------------------|
| a. | KeDq-2:872 | stone scraper |
| b. | KeDq-2:916 | antler scraper handle |
| c. | KeDq-2:869 | scapula scraper |
| d. | KeDq-2:912 | wood stake |
| e. | KeDq-2:857 | antler boot creaser |

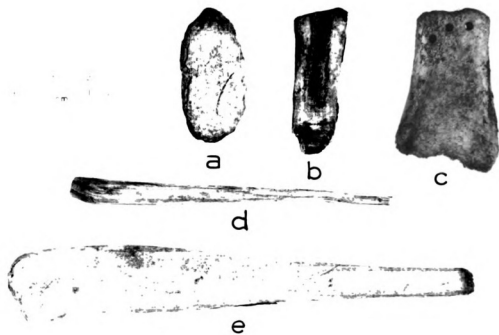


Figure 90

Artifacts from Talaguak House 7

Figure 91

Artifacts from Talaguak House 7

- | | | |
|----|-------------|----------------------------|
| a. | KeDq-2:858 | slate knife blade fragment |
| b. | KeDq-2:868 | slate whetstone |
| c. | KeDq-2:855 | slate whetstone |
| d. | KeDq-2:1081 | slate whetstone |
| e. | KeDq-2:856 | slate whetstone |



Figure 91

Artifacts from Talaguak House 7

Figure 92

Artifacts from Talaguak House 9

- | | | |
|----|-------------|----------------------------------|
| a. | KeDq-2:956 | antler Thule type 2 harpoon head |
| b. | KeDq-2:957 | antler Thule type 2 harpoon head |
| c. | KeDq-2:951 | bone Thule type 3 harpoon head |
| d. | KeDq-2:1077 | antler moveable lance head |

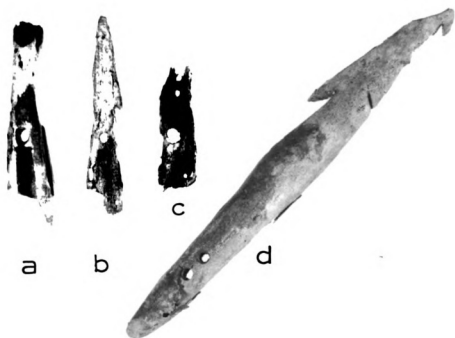


Figure 92

Artifacts from Talaguak House 9

Figure 93

Artifacts from Talaguak House 9

- | | | |
|----|-------------|-----------------------------|
| a. | KeDq-2:935 | ivory harpoon dart head |
| b. | KeDq-2:1008 | antler bird dart side prong |
| c. | KeDq-2:1030 | antler bird dart side prong |
| d. | KeDq-2:941 | ivory bird dart side prong |
| e. | KeDq-2:940 | antler bird dart side prong |
| f. | KeDq-2:906 | leister side prong |
| g. | KeDq-2:1000 | wood float bar |



Figure 93

Artifacts from Talaguak House 9

Figure 94

Artifacts from Talaguak House 9

- | | | |
|----|-------------|---------------------------|
| a. | KeDq-2:934 | antler foreshaft socket |
| b. | KeDq-2:1047 | antler foreshaft socket |
| c. | KeDq-2:1046 | antler moveable foreshaft |
| d. | KeDq-2:1067 | ivory harpoon ice pick |
| e. | KeDq-2:891 | ivory harpoon ice pick |
| f. | KeDq-2:1009 | antler harpoon ice pick |



Figure 94

Artifacts from Talaguak House 9

Figure 95

Artifacts from Talaguak House 9

a.	KeDq-2:842	slate endblade blank
b.	KeDq-2:850	slate endblade
c.	KeDq-2:1017	slate endblade fragment
d.	KeDq-2:900	slate endblade fragment
e.	KeDq-2:838	slate endblade fragment
f.	KeDq-2:1033	nephrite endblade
g.	KeDq-2:991	slate endblade fragment
h.	KeDq-2:1043	slate endblade
i.	KeDq-2:852	slate endblade fragment
j.	KeDq-2:1039	slate endblade fragment
k.	KeDq-2:889	bone endblade
l.	KeDq-2:1044	slate endblade fragment
m.	KeDq-2:893	slate endblade fragment
n.	KeDq-2:966	slate endblade fragment
o.	KeDq-2:1061	nephrite endblade

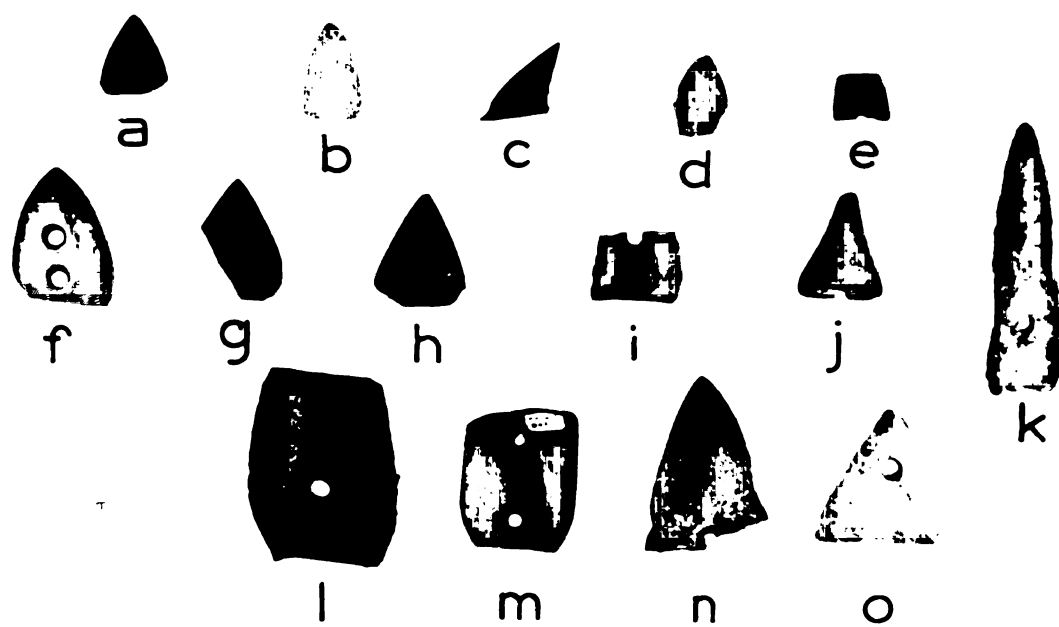


Figure 95

Artifacts from Talaguak House 9

Figure 96

Artifacts from Talaguak House 9

- | | | |
|----|-------------|---------------------------------|
| a. | KeDq-2:1076 | ivory leister barb |
| b. | KeDq-2:1019 | wood gull hook |
| c. | KeDq-2:933 | antler barb |
| d. | KeDq-2:1001 | bone/bird beak cod jigging hook |
| e. | KeDq-2:1101 | antler net weight |
| f. | KeDq-2:1058 | wood sling handle |

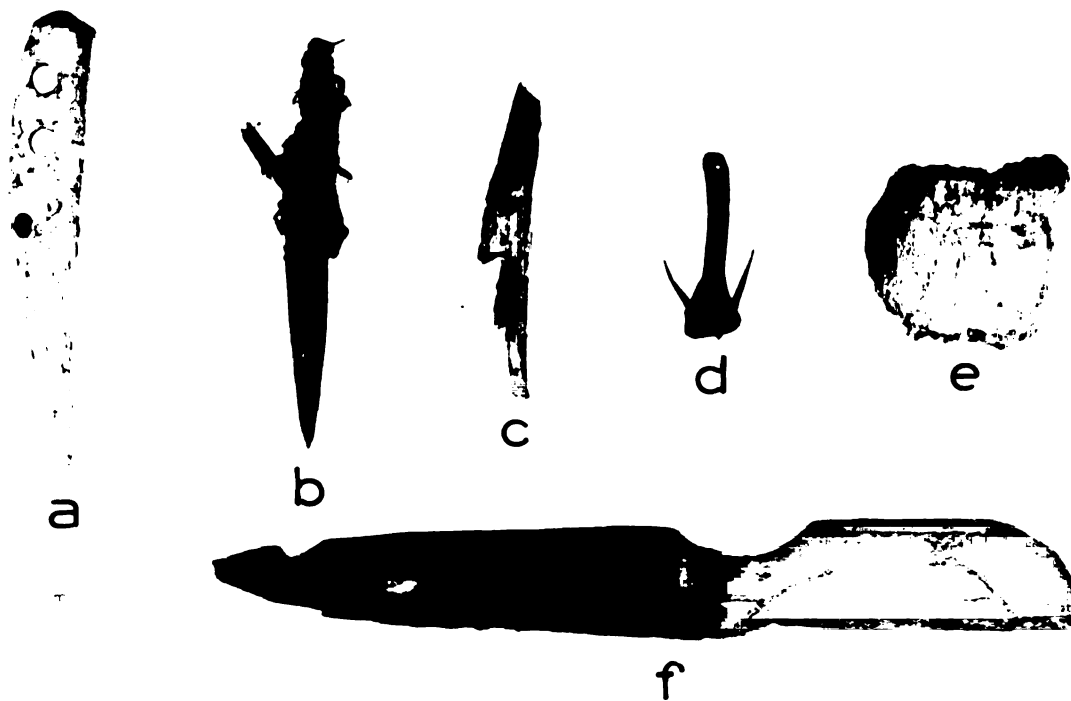


Figure 96

Artifacts from Talaguak House 9

Figure 97

Artifacts from Talaguak House 9

a.	KeDq-2:824	sandstone whetstone
b.	KeDq-2:943	slate whetstone
c.	KeDq-2:888	slate whetstone
d.	KeDq-2:1021	slate whetstone
e.	KeDq-2:901	slate whetstone
f.	KeDq-2:887	sandstone whetstone
g.	KeDq-2:822	sandstone whetstone
h.	KeDq-2:832	slate whetstone
i.	KeDq-2:823	schist whetstone

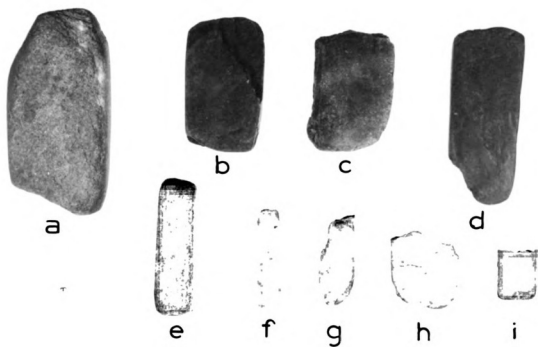


Figure 97

Artifacts from Talaguak House 9

Figure 98

Artifacts from Talaguak House 9

- | | | |
|----|-------------|-------------------------------|
| a. | KeDq-2:819 | cut antler |
| b. | KeDq-2:820 | bone shaft |
| c. | KeDq-2:994 | antler adze or scraper socket |
| d. | KeDq-2:997 | unworked polar bear canine |
| e. | KeDq-2:883 | unworked polar bear canine |
| f. | KeDq-2:1093 | worked ivory |
| g. | KeDq-2:1027 | ivory peg |
| h. | KeDq-2:998 | cut antler |

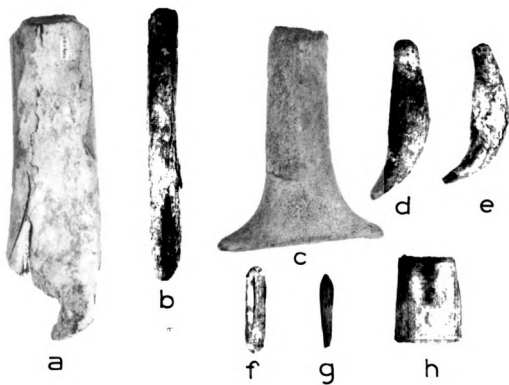


Figure 98

Artifacts from Talaguak House 9

Figure 99

Artifacts from Talaguak House 9

- | | | |
|----|-------------|------------------------------|
| a. | KeDq-2:902 | jadeite axe |
| b. | KeDq-2:1007 | slate adze blade |
| c. | KeDq-2:945 | slate adze blade fragment |
| d. | KeDq-2:949 | nephrite adze blade fragment |
| e. | KeDq-2:904 | ivory pick |
| f. | KeDq-2:1078 | antler wedge |

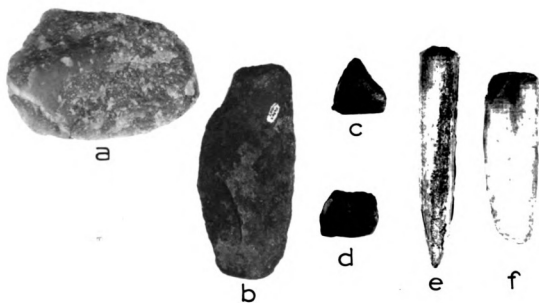


Figure 99

Artifacts from Talaguak House 9

Figure 100

Artifacts from Talaguak House 9

- | | | |
|----|-------------|----------------------------|
| a. | KeDq-2:1014 | whale bone knife handle |
| b. | KeDq-2:987 | slate knife blade |
| c. | KeDq-2:1059 | slate knife blade |
| d. | KeDq-2:989 | slate knife blade fragment |
| e. | KeDq-2:988 | slate knife blade fragment |
| f. | KeDq-2:886 | rhyolite flake knife |
| g. | KeDq-2:992 | slate flake knife |
| h. | KeDq-2:1073 | slate flake knife |

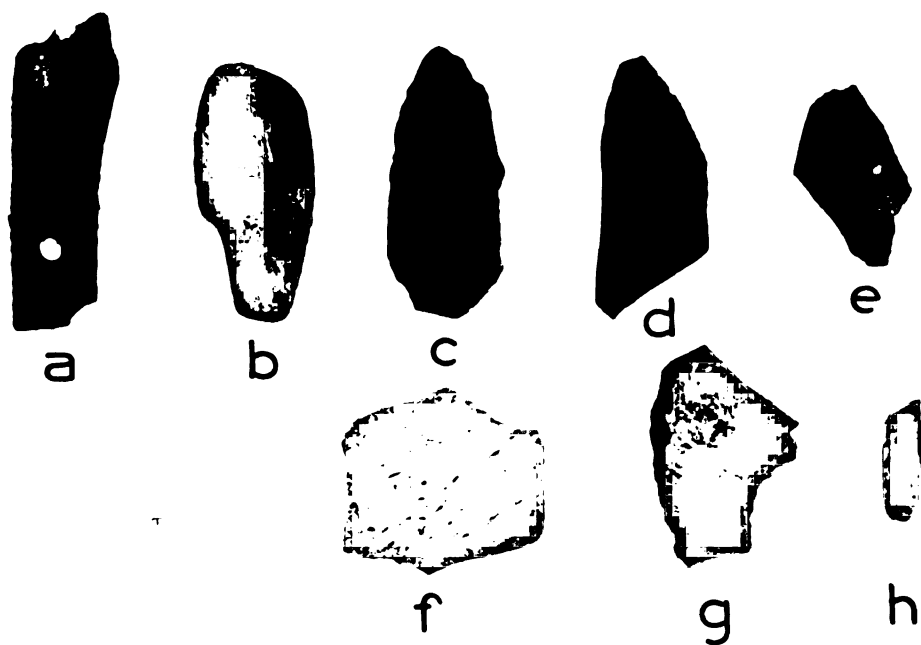


Figure 100

Artifacts from Talaguak House 9

Figure 101

Artifacts from Talaguak House 9

a.	KeDq-2:964	drilled polar bear mandible
b.	KeDq-2:1052	wood draught line toggle
c.	KeDq-2:1050	ivory draught line toggle
d.	KeDq-2:995	ivory toy Thule type 2 harpoon head
e.	KeDq-2:1074	unidentified ivory object
f.	KeDq-2:928	polished nephrite disk
g.	KeDq-2:1042	ivory pendant
h.	KeDq-2:1104	small canine pendant
i.	KeDq-2:939	polar bear canine pendant
j.	KeDq-2:1002	wood amulet box bottom
k.	KeDq-2:990	wood amulet box lid

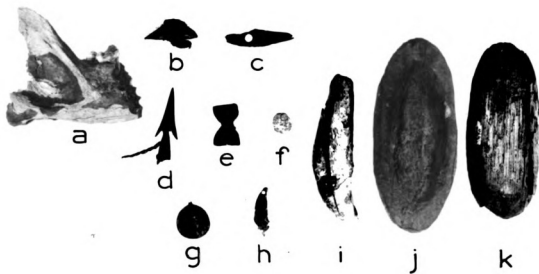


Figure 101

Artifacts from Talaguak House 9

Figure 102

Artifacts from Talaguak House 9

- a. KeDq-2:844 whale bone sled shoe
- b. KeDq-2:1024 whale bone sled shoe
- c. KeDq-2:845 whale bone sled shoe

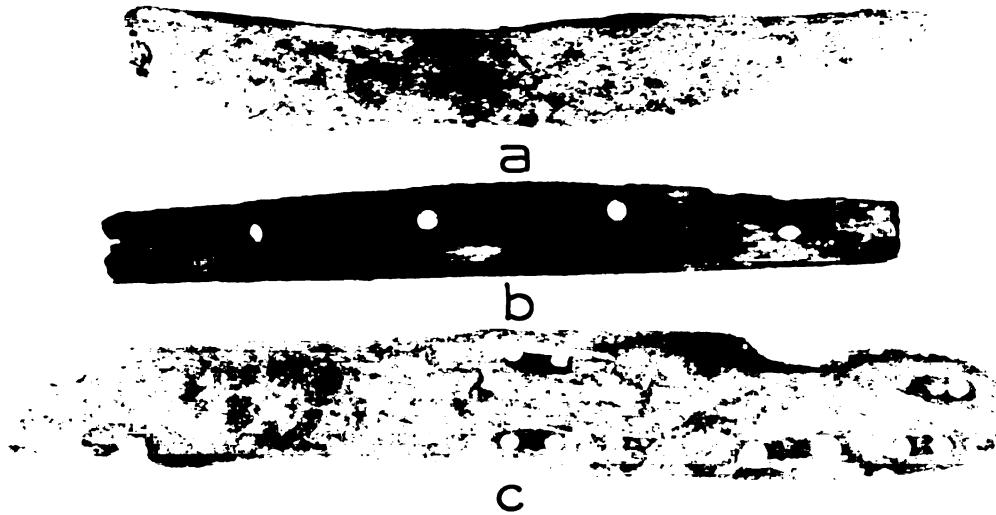


Figure 102

Artifacts from Talaguak House 9

Figure 103

Artifacts from Talaguak House 9

a.	KeDq-2:1003	bone spoon
b.	KeDq-2:1010	antler scoop
c.	KeDq-2:1070	soapstone vessel sherd
d.	KeDq-2:898	soapstone vessel sherd
e.	KeDq-2:907	wood wick trimmer
f.	KeDq-2:1029	wood wick trimmer
g.	KeDq-2:1095	wood wick trimmer

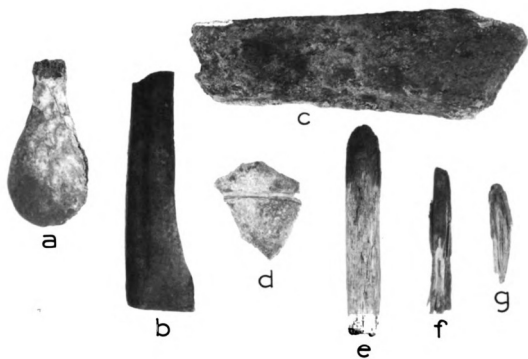


Figure 103

Artifacts from Talaguak House 9

Figure 104

Artifacts from Talaguak House 9

- | | | |
|----|-------------|-------------------------------|
| a. | KeDq-2:1069 | bone drill mouthpiece bearing |
| b. | KeDq-2:944 | jadeite drill bit |
| c. | KeDq-2:950 | nephrite drill bit |
| d. | KeDq-2:895 | bone hand drill |
| e. | KeDq-2:996 | bone hand drill |
| f. | KeDq-2:1012 | wood fire drill spindle |

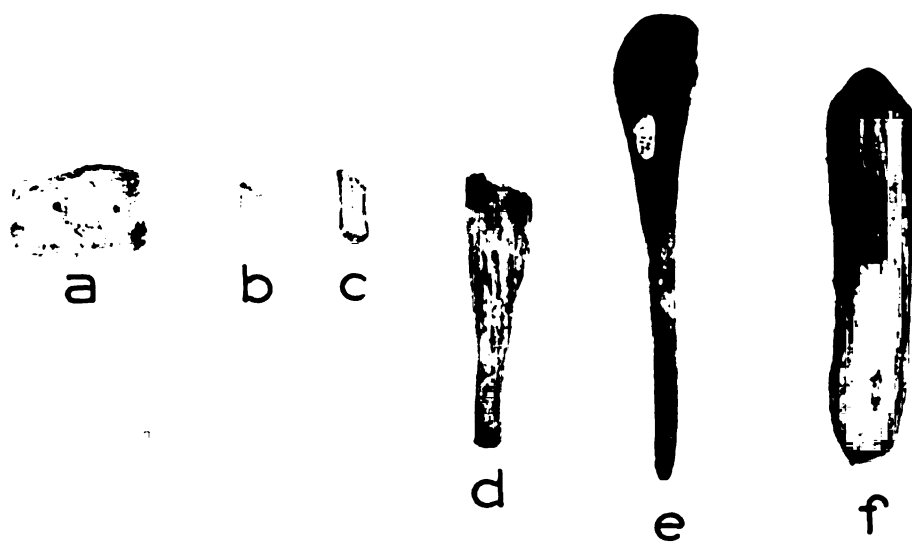


Figure 104

Artifacts from Talaguak House 9

Figure 105

Artifacts from Talaguak House 9

a.	KeDq-2:848	ivory wound pin
b.	KeDq-2:955	wood wound pin shank
c.	KeDq-2:903	bone seal drag handle
d.	KeDq-2:999	wood seal drag toggle
e.	KeDq-2:896	ivory quiver handle
f.	KeDq-2:1057	wood arrowshaft fragment
g.	KeDq-2:964	wood bow end fragment

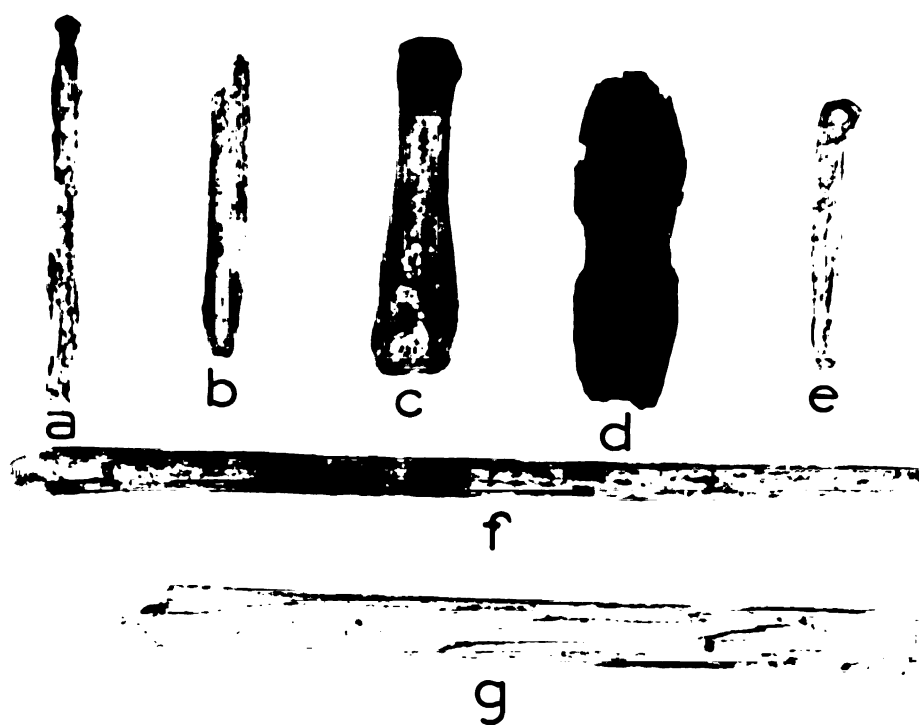


Figure 105

Artifacts from Talaguak House 9

Figure 106

Artifacts from Talaguak House 9

- | | | |
|----|-------------|-----------------------------|
| a. | KeDq-2:993 | wood harpoon shaft fragment |
| b. | KeDq-2:954 | wood harpoon shaft fragment |
| c. | KeDq-2:953 | wood harpoon shaft fragment |
| d. | KeDq-2:1086 | wood harpoon shaft fragment |

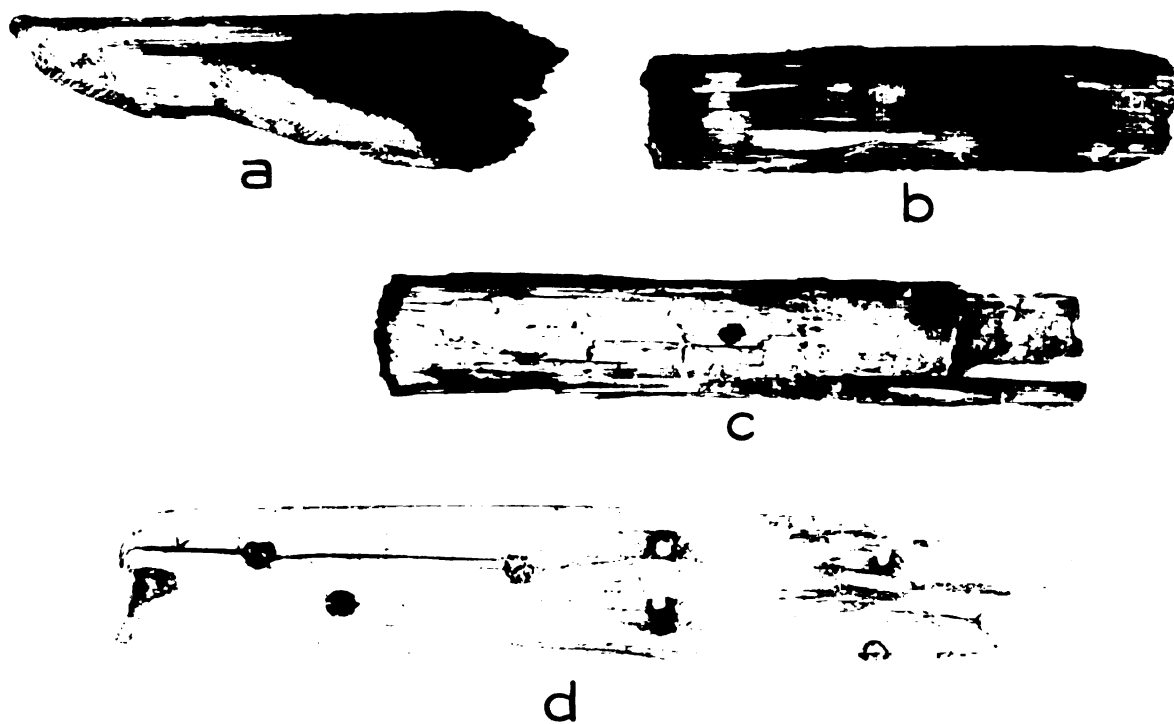


Figure 106

Artifacts from Talaguak House 9

Figure 107

Artifacts from Talaguak House 9

a.	KeDq-2:833	slate ulu blade
b.	KeDq-2:1072	slate scraper
c.	KeDq-2:885	slate scraper
d.	KeDq-2:1013	scapula scraper
e.	KeDq-2:827	bone scraper
f.	KeDq-2:1090	bone boot creaser
g.	KeDq-2:931	antler awl or bodkin
h.	KeDq-2:1068	bone awl or bodkin
i.	KeDq-2:930	bone awl or bodkin

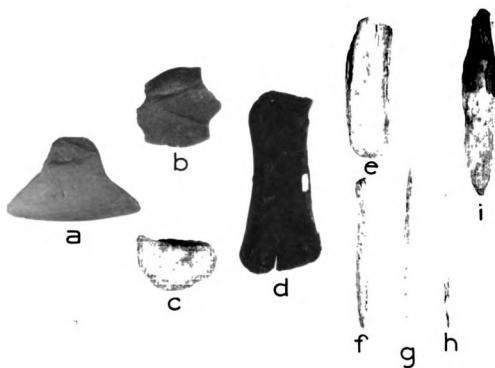


Figure 107

Artifacts from Talaguak House 9

Figure 108

Artifacts from Talaguak House 9

- a. KeDq-2:1011 antler snowknife handle
- b. KeDq-2:958 ivory snowknife blade

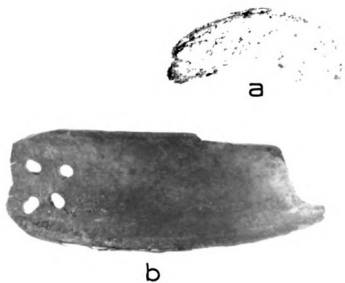


Figure 108

Artifacts from Talaguak House 9

Figure 109

Artifacts from Talaguak House 11

- | | | |
|----|------------|---------------------------------|
| a. | KeDq-2:765 | slate endblade fragment |
| b. | KeDq-2:804 | slate endblade fragment |
| c. | KeDq-2:766 | ivory harpoon finger rest |
| d. | KeDq-2:762 | ivory harpoon ice pick fragment |
| e. | KeDq-2:785 | ivory wound pin |
| f. | KeDq-2:760 | bone lance tip fragment |
| g. | KeDq-2:784 | ivory wound pin |
| h. | KeDq-2:798 | wood float bar |
| i. | KeDq-2:815 | wood float bar |

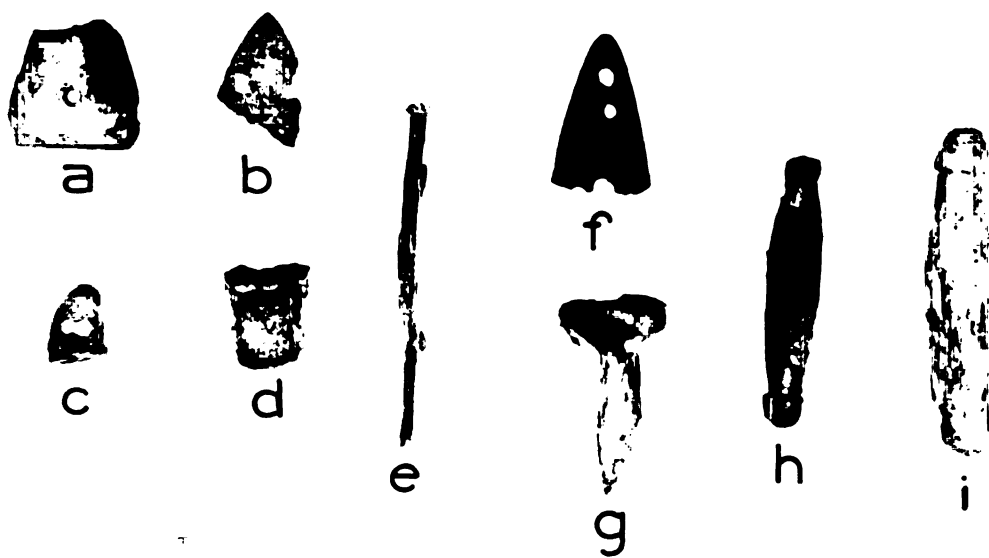


Figure 109

Artifacts from Talaguak House 11

Figure 110

Artifacts from Talaguak House 11

- | | | |
|----|------------|-------------------------------|
| a. | KeDq-2:779 | whale bone foreshaft fragment |
| b. | KeDq-2:744 | antler fixed foreshaft |
| c. | KeDq-2:780 | antler fixed foreshaft |
| d. | KeDq-2:722 | bone moveable foreshaft |

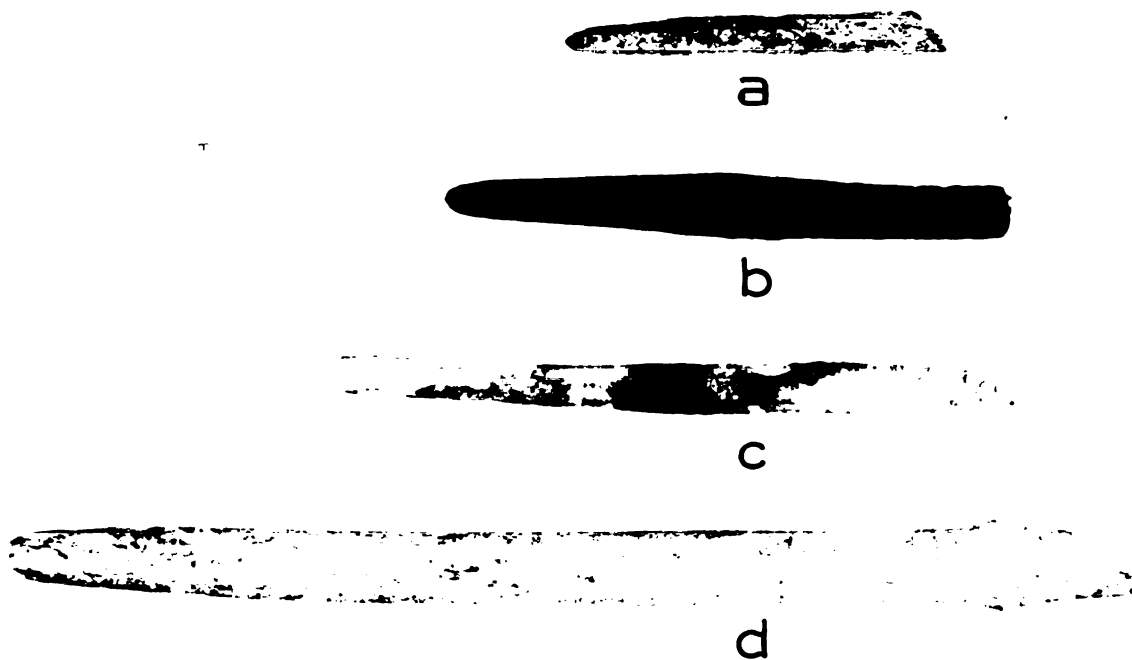


Figure 110

Artifacts from Talaguak House 11

Figure 111

Artifacts from Talaguak House 11

a.	KeDq-2:808	bone leister side prong fragment
b.	KeDq-2:809	bone leister barb
c.	KeDq-2:756	bone leister barb
d.	KeDq-2:787	bone leister barb
e.	KeDq-2:747	bone leister barb
f.	KeDq-2:921	bone leister barb
g.	KeDq-2:918	bone cod jigging hook
h.	KeDq-2:782	antler gorge

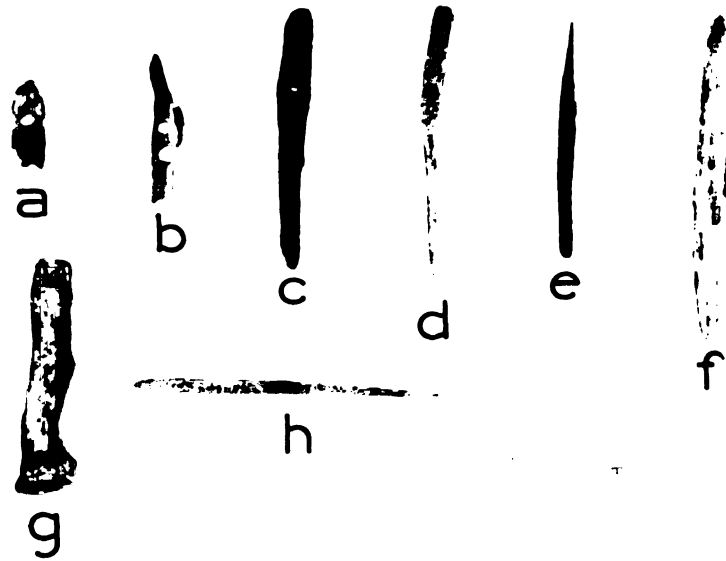


Figure 111

Artifacts from Talaguak House 11

Figure 112

Artifacts from Talaguak House 11

- | | | |
|----|------------|---------------------|
| a. | KeDq-2:777 | ivory skin softener |
| b. | KeDq-2:799 | scapula scraper |
| c. | KeDq-2:781 | bone boot creaser |
| d. | KeDq-2:721 | antler boot creaser |

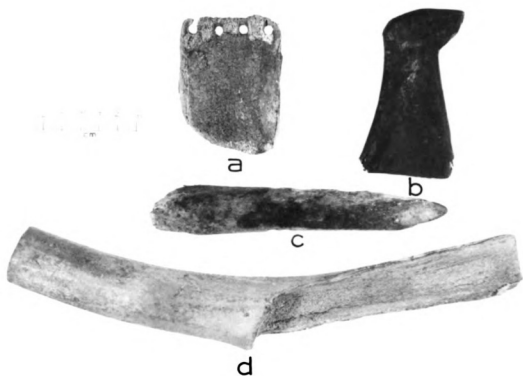


Figure 112

Artifacts from Talaguak House 11

Figure 113

Artifacts from Talaguak House 11

- | | | |
|----|------------|-------------------------|
| a. | KeDq-2:817 | wood knife handle piece |
| b. | KeDq-2:740 | slate ulu blade |
| c. | KeDq-2:805 | slate ulu blade |
| d. | KeDq-2:764 | slate whetstone |
| e. | KeDq-2:726 | slate whetstone |

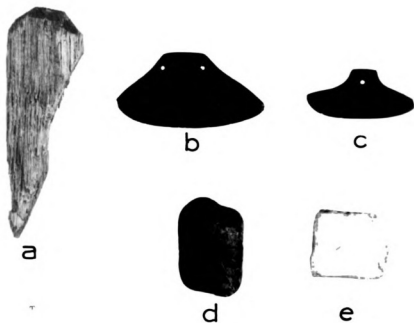


Figure 113

Artifacts from Talaguak House 11

Figure 114

Artifacts from Talaguak House 11

- | | | |
|----|------------|-----------------------------|
| a. | KeDq-2:745 | antler spoon |
| b. | KeDq-2:770 | wood bowl bottom |
| c. | KeDq-2:714 | whale bone platter fragment |
| d. | KeDq-2:813 | wood wick trimmer |
| e. | KeDq-2:713 | soapstone vessel fragment |

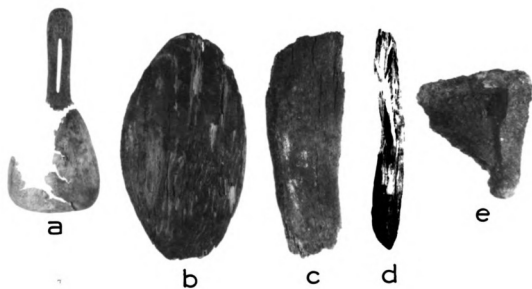


Figure 114

Artifacts from Talaguak House 11

Figure 115

Artifacts from Talaguak House 11

- | | | |
|----|------------|-------------------------|
| a. | KeDq-2:716 | knotted baleen thong |
| b. | KeDq-2:718 | perforated baleen strip |
| c. | KeDq-2:711 | cut baleen strip |
| d. | KeDq-2:715 | cut baleen slab |

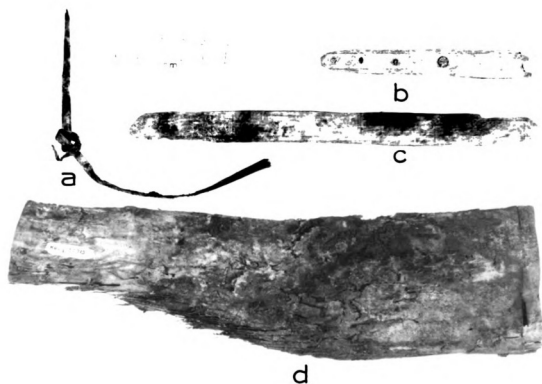


Figure 115

Artifacts from Talaguak House 11

Figure 116

Artifacts from Talaguak House 11

- | | | |
|----|------------|------------------------------------|
| a. | KeDq-2:746 | toy wood Thule type 2 harpoon head |
| b. | KeDq-2:738 | toy slate ulu |
| c. | KeDq-2:763 | canine pendant |
| d. | KeDq-2:757 | bone pendant |
| e. | KeDq-2:759 | ivory kayak (?) figurine |

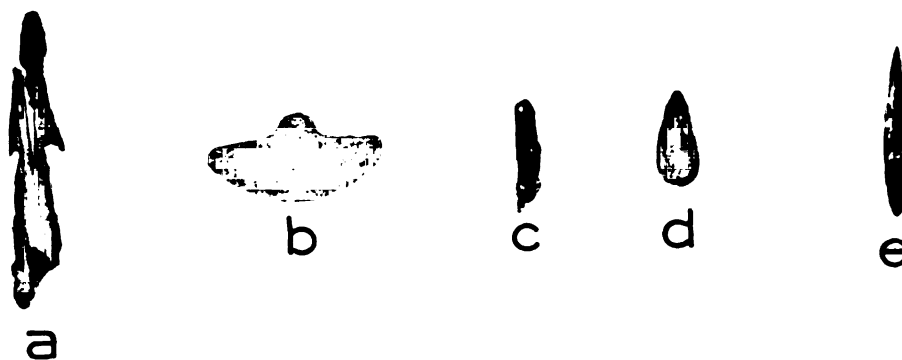


Figure 116

Artifacts from Talaguak House 11

Figure 117

Artifacts from Itinapik House 1

- | | | |
|----|------------|---------------------------------|
| a. | KeDr-13:18 | ivory Thule type 2 harpoon head |
| b. | KeDr-13:9 | walrus tooth ferrule |
| c. | KeDr-13:11 | drilled polar bear canine |
| d. | KeDr-13:3 | antler slat |
| e. | KeDr-13:17 | bone knife handle piece |
| f. | KeDr-13:10 | slate adze blade fragment |
| g. | KeDr-13:15 | chert endscraper |
| h. | KeDr-13:6 | wood shaft fragment |

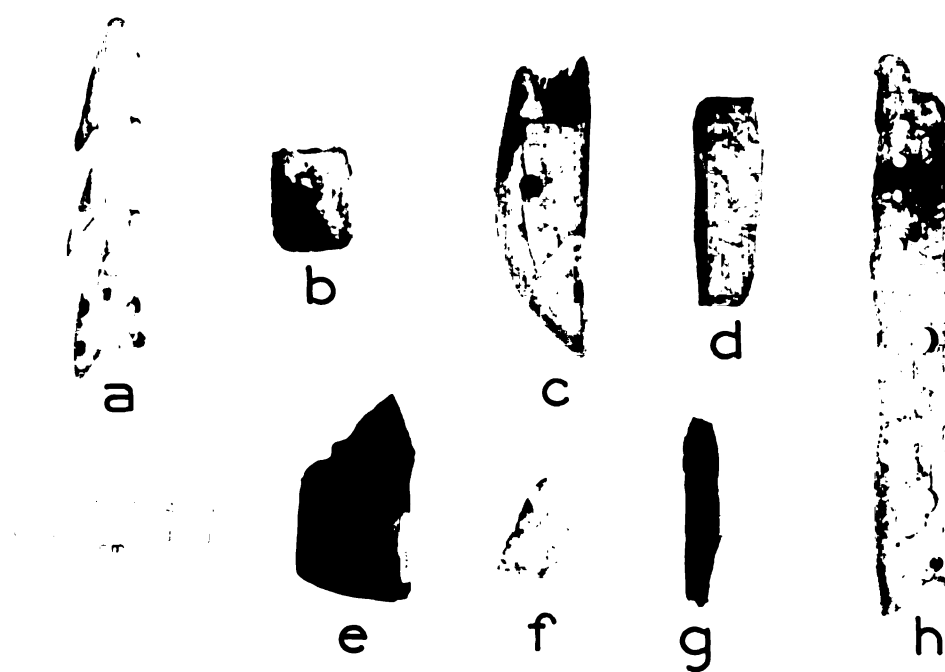


Figure 117

Artifacts from Itinapik House 1

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