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THE CONSTRUCTION OF SOCIAL DIFFERENCE IN

A PREHISTORIC INUIT WHALING COMMUNITY

by

Peter James Whitridge

A Dissertation Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy

ARIZONA STATE UNIVERSITY

May 1999

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ABSTRACT

Archaeological survey and excavation were carried out at the Classic Thule Inuit winter village of Qariaraqyuk (PaJs-2), located on Somerset Island in the central Canadian Arctic. Five dwellings of varying size and layout and a community house. or karigi, were excavated and two midden areas tested. A model of Thule social relations, emphasizing the relationship between whaling activity and the material construction of social asymmetries between and within households, was developed from archaeological and ethnographic data. North Alaskan Inupiat societies among whom bowhead whale hunts were conducted by boat crews led by wealthy whaling captains, or *umialit*, are argued to provide a good analogy for Thule whaling in the Central Arctic. Thule settlement systems and Qariaraqyuk site structure are consistent with large regional and local populations during the peak period of site occupation (ca. AD 1200-1400), and the presence of umialik-boat crew organization. Excavated dwellings were differentiated by the abundance of whaling gear and prized carcass portions, the size, complexity, and symbolic marking of household space, location within the community, and access to exotic commodities, suggesting that a moderate degree of wealth, prestige, and social power accrued to whaling leaders, and hence Classic Thule whaling communities were not fully egalitarian. The gender division of labor inferred from ethnographic and archaeological sources was borne out by a highly differentiated use of space for women's and men's traditional activities. Men made disproportionate use of the socially and ritually pivotal karigi space, and consumed more exotic commodities than women. Status differences between households, and between women and

iii

men, were thus constructed with some of the same symbolic resources. However, invidious status comparisons between households, and between women and men, appear to have been subverted somewhat by the involvement of the various social sub-groups in complementary economic and ritual activities, and different arenas of material culture display.

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۷

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vi

TABLE OF CONTENTS

	Page
LIST OF TABLES	x i
LIST OF FIGURES	
CHAPTER	
1 INTRODUCTION	1
	1
Social inequality	8
Primitive communism	11
Universal predispositions	14
Complex hunter-gatherers	15
Transegalitarian societies	20
2 THEORETICAL BACKGROUND	30
Age and gender differentiation in egalitarian societies	30
Social difference	42
Difference and power	50
Excavating difference	56
3 OUTLINE OF THULE PREHISTORY	65
	65
Canadian Neoeskimo chronology	66
Eastern Classic Thule	69
Economy	78
Settlement systems	85

CHAPT	ER Page
	Social relations
4	A MODEL OF THULE SOCIAL RELATIONS
	Analogies for Thule whaling
	The organization of North Alaskan whaling economies
	Gender and socioeconomic organization
	The Birnirk-Thule transition
	Test implications
5	RESEARCH AT QARIARAQYUK 128
	Environment and resources 128
	Previous investigations 137
	Settlement history
	Survey and sampling strategy 145
	House excavations 157
	Analysis of collections 161
6	SITE STRUCTURE
	Introduction
	Dating
	Test implications
	a. Winter site demography 187
	b. <i>Karigis</i>
	c. Settlement organization
	d. House groups

CHAPTER Pa		Page
	e. Whaling success	212
	f. Consumption of prized whale portions	217
7	INTER-HOUSEHOLD DIFFERENTIATION	234
		234
	Origin of house assemblages	234
	Test implications	237
	a. Participation in whaling	237
	b. Dwelling size and complexity	246
	c. Location in settlement	250
	d. Rare and exotic materials	252
	e. Symbols of social rank	263
	f. Ritual paraphernalia and spaces.	275
8		279
		279
	Categories of gendered activity	279
	Test implications	285
	a. Regionalization of activities	285
	b. Rare and exotic materials	304
	c. Symbols of social rank	315
	d. Ritual paraphernalia and spaces	317
	e. Inter-household differences	320
9		326

CHAPTER F	⊃age
Assessing the model	326
Implications for Thule prehistory	334
Methodological implications	345
Theoretical implications	349
Conclusions	357
REFERENCES	361
APPENDIX	
1 HOUSE EXCAVATIONS	410
2 ARTIFACT TABLES	433

Table		Page
1	Climatic data for Hazard Inlet area	132
2	Surface finds recorded during 1992 survey at Qariaraqyuk	149
3	Surface observations on house depressions used in PCO of house "types"	150
4	Attributes of house "types" determined by k-means clustering	154
5	Hard organic debitage categories	163
6	¹⁴ C samples and results	166
7	Adjusted estimates of House 38 sample ages	173
8	Distribution of harpoon head types	175
9	Distribution of harpoon head attributes	176
10	Distribution of arrowhead tang types	182
11	Seriation of contexts based on frequency of arrowhead tang types	183
12	Model of house occupations	186
13	Alternate estimates of numbers of hunters and boat crews	190
14	Mean number of boat crew increments	192
15	Results of PCA of whale bone distribution	223
16	Debitage frequency by house and material	235
17	Frequency of harvesting gear by house	238
18	Frequency of prestige whale bone elements by house	244
19	Roofed area of dwellings	247
20	Architectural features of dwellings	249
21	Probable imports and exports at Qariaraqyuk	255

Table		Page
22	Frequency of materials by house	257
23	Blade/bit material by house	266
24	Ornament frequency by house and material	273
25	Ritual/community artifact frequency by house and material	277
26	Artifact categories used in CA of gender regionalization	283
27	Scheme for combining unit-levels for CA	288
28	Material categories used in CA of preservational bias	289
29	Whale bone shaving weight classes	294
30	Results of CA on functional artifact categories	296
31	Relative frequency of ivory usage for women's and men's artifacts	307
32	Frequency of metal usage for women's and men's artifacts	310
33	Summary of scarce and exotic materials usage by women and men	313
34	Relative frequency by house of women's scarce and exotic materials.	322
35	Women's ornaments by material class and house	323
36	Summary of results with respect to test implications	327

xii

LIST OF FIGURES

Figure		Page
1	Birnirk and Thule sites mentioned in text	2
2	Canadian Arctic place names	3
3	Thule winter settlements in the Somerset Island region	4
4	Distribution of Natchuk and Sicco harpoon heads	70
5	Major Thule harpoon head types	71
6	Calibration of combine dates from Nelson River site.	73
7	Distribution of Clachan harpoon heads	77
8	Zonal model of settlement shifts beginning at Classic-Modified Thule transition	79
9	Distribution of Thule whaling sites and seasonal bowhead migrations	81
10	Generalized version of Classic Thule settlement round.	86
11	Model of gradients of social status	103
12	Typical North Alaskan winter house	114
13	Model of increasing regionalization of gendered activities	120
14	Photograph of Qariaraqyuk facing north	129
15	Photograph of Qariaraqyuk facing east	130
16	Possible Thule migration routes through Central Arctic	142
17	Thule settlement systems on southeast Somerset Island	144
18	Measurements taken on house depressions	147
19	Qariaraqyuk survey area	148
20	K-means pure locational clusters used in seriation of house types	155

Figure		Page
21	Frequency of house types by smoothed cluster	156
22	Excavation areas	159
23	Sum of all calibrated dates	167
24	Calibration of combined construction dates	169
25	Calibration of House 38 abandonment date (H38-1)	171
26	Calibrated dates from House 38 treated as sequence	172
27	Calibration of combined abandonment dates	174
28	Thule winter site size distribution	188
29	Whaling scene incised on Classic Thule snow knife	191
30	Population versus number of whaling crews	194
31	"Sightlines" leading from mouth of winter house tunnels	203
32	Major elements of Qariaraqyuk site structure	204
33	Structural homologies between settlement and dwelling space	207
34	Upsiksuis at Qariaraqyuk	211
35	Multi-lobed houses at Qariaraqyuk	213
36	Roofed areas of houses	214
37	Roofed areas of houses and house groups (upsiksui)	215
38	Traditional bowhead carcass divisions at Point Hope	219
39	Distribution of whale bone within Qariaraqyuk survey area	222
40	Contour plot of PC 1 scores	225
41	Contour plot of PC 2 scores	226
42	Contour plot of PC 3 scores	228

xiv

Figure		Page
43	Contour plot of PC 4 scores	229
44	Contour plot of PC 5 scores	230
45	Contour plot of binomial probabilities	232
46	Contour plot of binomial probabilities - humeri excluded	233
47	Probable sources of Qariaraqyuk trade goods	256
48	Copper blade thicknesses	262
49	Slot widths for men's knife classes	264
50	Slot widths for major artifact classes	265
51	Knife slot widths by house	267
52	Projectile slot widths by house	268
53	Proportion of thin-slotted artifacts by house	269
54	Column plot of CA on material classes	290
55	Row plot of CA on material classes	292
56	Column plot of CA on functional artifact classes	295
57	Eigenvalues for CA on functional artifact classes	298
58	Row plot of CA on functional artifact classes	302
59	Slot widths for ulus and men's knives	312
60	Reverse side of Thule drill bow collected near Arctic Bay	355
61	Plan of House 29	413
62	Photograph of House 29	414
63	Plan of House 33	416
64	Plan of House 34	418

xv

Figure

Page

65	Photograph of House 34	419
66	Plan of House 35	421
67	Plan of House 38	422
68	Photograph of House 38	423
69	Plan of House 41	427
70	Photograph of House 41	428
71	Photograph of Qariaraqyuk excavations	431

CHAPTER 1: INTRODUCTION

Introduction

This dissertation reports the results of archaeological research into social asymmetries at the prehistoric Thule Inuit site of Qariaraqyuk (PaJs-2), in the central Canadian Arctic (Figures 1-3). During the peak period of site occupation, approximately AD 1200-1400, Qariaraqyuk was a thriving community of perhaps 350 people, the main winter village of a group that hunted bowhead whales (*Balaena mysticetus*) during late summer and early fall from a settlement located five kilometers away, on the open coast of Prince Regent Inlet. Qariaraqyuk appears to have been the largest Classic Thule winter village in the Eastern Arctic, and based on the nature and abundance of whale bone, the seasonal residence of the region's most successful whalers.

By analogy with North Alaskan Inupiat whalers, and other moderately inegalitarian hunter-gatherer societies, it was expected that social relations in such a community would have been characterized by some degree of inequality in the power, prestige, and material wealth of individuals and households. The 1992-1994 program of survey and excavation at Qariaraqyuk reported here was designed to collect data suitable for testing a model of the expression of such social asymmetries, based on a reading of the North Alaskan ethnographic literature informed by Bourdieu's practice theory. The latter's emphasis on the material dimension of the construction of social difference, through the practical experience of such things as the layout of dwellings and the objects contained therein, provides an archaeologically apt idiom for modeling and interpreting the material traces of differentiation, as reflected in



Figure 1. Birnirk and Thule sites mentioned in the text





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Figure 3. Thule winter settlements in the Somerset Island region

various aspects of site structure, differences in the construction and contents of households, and differences in the things and practices associated with women and men.

Living hunter-gatherers have long interested anthropologists as representatives of a mode of simple, small-scale social and economic organization that has great antiquity. With increasing recognition over the past 20 years of marked variability in organizational complexity among prehistoric hunter-gatherers, archaeological interest in groups possessing relatively complex attributes has grown (complexity here referring to the *relative* degree of differentiation of some phenomenon of interest - "plaited" in its Latin sense - heterogeneity but not necessarily inequality; see McGuire 1983 and discussion below). The major themes of this research have been the transition to agriculture and the emergence of marked social inequality (ranking and stratification), the latter often linked to increasingly elaborate exchange networks, ritual activity, and craft specialization. Research into complex huntergatherers has thus tended to pay little attention to groups occupying relatively marginal environments, where neither agriculture nor extreme social inequality were present at European contact. A major exception to this pattern is the Inupiat of North Alaska and their ancestors, as cast in this light in Sheehan's (1985) oft-cited paper on the social ramifications of whaling organization (see also Sheehan 1997; Cassell 1988). The large historic whaling villages of North Alaska were clearly characterized by great disparities in material wealth, the richest and most powerful individuals being the leaders of whaling boat crews. Although some have guestioned the "complexity" of this case (Arnold 1996b), farflung and intensive exchange networks,

competitive feasting, and warfare were also present, all conventional hallmarks of complexity, even if ranking was not institutionally elaborated and full-blown craft specialization was absent.

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The North Alaskan Inupiat appear to have been the most complex and inegalitarian of Inuit societies, but they were not the only whalers. Low level whaling persisted into the contact period along the arctic shores of the North Atlantic, following the spread of North Alaskan whalers throughout the Eastern Arctic during the first half of the second millennium AD. Although it is not generally maintained that these Thule migrants established settlements and territorial groupings on the scale of those in coastal North Alaska, along the southeast coast of Somerset Island a situation analogous to the latter seems to have existed briefly between about AD 1200-1400 (Figure 3). Several large and closely spaced Classic Thule winter villages are associated with huge amounts of bowhead whale bone, and appear to have participated in extensive interregional exchange networks. The smaller demographic scale of this phenomenon suggests that it is unlikely to have possessed the full suite of complex organizational traits present historically in North Alaska, but nevertheless Classic Thule groups represent a potentially instructive case study in the brief florescence and collapse of societies more complex and inegalitarian than bands, but much less so than chiefdoms.

While it is likely, as discussed below and in Chapter 2, that various dimensions of status differentiation are present in even the smallest human societies, the material expression of social difference in such groups may be subtle enough to escape consistent archaeological detection using current approaches. It is only by working

back from the larger, more organizationally complex, and more inegalitarian societies to so-called egalitarian bands that we will be able to develop the methodologies for exploring prehistoric social relations in the smaller and simpler societies, and so determine the conditions under which complexly differentiated economic and social formations begin to arise in the first place. It is for this reason that Qariaraqyuk was selected for the research project reported here. While Qariaraqyuk appears to have been exceptionally large and differentiated for an Inuit community, based on Inuit ethnographies (including ones relating to still larger historic whaling communities like Point Hope) it seems unlikely that very marked social differentiation ('ranking' or 'stratification' as conventionally understood) existed here. There appear to have been both practical and ideological limits to the status and wealth that any individual could accrue in Inuit societies. The present work might thus be thought of as a case study in the social archaeology of a "moderately complex" hunter-gatherer society.

Following discussions of past approaches to hunter-gatherer inequality (Chapter 1) and theories of social difference (Chapter 2), Classic Thule prehistory is outlined in Chapter 3 to provide a background to the model of Classic Thule social relations developed in Chapter 4. Chapter 5 is an overview of the research conducted at Qariaraqyuk (additional details are provided in the Appendices), and in Chapters 6 through 8 the model's test implications for site structure, interhousehold differentiation, and gender differentiation, respectively, are assessed. Chapter 9 provides an overview and discussion of the test results, and an exploration of the implications of this research.

Social inequality

Social inequality could be thought of as the differential agency of individuals or groups with respect to the things that members of a society desire to possess, whether these be material goods, knowledge, freedom of action, the admiration of others (prestige), or power and authority to influence the actions of others. However, there is often a slippage of meaning between different authors' treatment of this subject. One of the more profound ambiguities is the varying perception of equality as a situation of equal *opportunity*, which may be competitive and allow for the differential accumulation of wealth, prestige and power, or equality as the empirically equal *distribution* of social goods (Flanagan 1989:248; Beteille 1994:1010).

Accepting the former leads to the analytic privileging of those forms of inequality that impose substantial impediments to the achievement of socially valued ends, principally social stratification, in which status is ascribed at birth, and ranking, in which only the most successful social or economic performances are rewarded with distinctive superordinate statuses. This position also leans (though not inevitably) towards the analytic dismissal of the sorts of inequalities that arise from more or less universal and uncontrollable aspects of social identity, principally age and sex. Such factors must be "held equal" for more arbitrary barriers to social mobility to be discerned. The distributive view, however, acknowledges not only the most blatant forms of inequality, but the sometimes subtle material differences that arise between individuals or groups, whether or not such variation is mapped onto their perceived biological characteristics. Since the measure of equality is empirically determined to be the actual possession of social goods, and need not vary systematically for whole categories of individuals, it is not necessary to hold particular aspects of social identity constant.

For two important reasons it is unfortunate that archaeologists have tended to follow the lead of most social-cultural anthropologists in taking the first tack, and conflating inequality with stratification and ranking. Firstly, as a science of the material residues of human activity, archaeology is uniquely equipped to investigate the subtle material differences that may distinguish individuals or groups, whether or not they possess corresponding emic ranks or statuses. Few social-cultural anthropologists would contemplate a comparative study of the refuse of a group of households, such as archaeologists regularly engage in, but patterns of consumption that are difficult to observe and impossible to reliably extract from interviews may be discerned in this manner. By privileging formally marked categories of social difference at the expense of material or etic differences, archaeology is in danger of pledging itself to investigate precisely those abstract social categories (rank, stratum, caste, etc.) that are the most difficult to ascertain from the material record (Hayden 1995:17-18). The unmarked, perhaps even unconscious, patterns of material difference thus dismissed can actually be seen as the determinative substratum of the formal structures to which archaeology has often addressed itself. Social anthropology itself has being moving away from this sort of model of social life since the 1950s (Layton 1996), but continues to privilege the ideal (e.g., kinship structures, verbal discourse) over the material. A multitude of practical activities - constructing and inhabiting a dwelling, making and decorating a pot, enacting a ritual, producing and consuming food, seeking to achieve a

respected position in the community - constitute the real social field, of which its named features are merely the emergent structural properties (cf. Cowgill 1996).

Secondly, subtle forms of material inequality logically occupy an intermediate position between complete social equality (if such has ever existed), or at least a relatively egalitarian situation, and the more readily identifiable forms of social difference that we recognize as ranks and social strata. Although archaeologists have had some limited success at identifying ranking and stratification in the material record, until we turn our attention to finer grades of social variability within more egalitarian societies we will be no closer to the goal of providing an account of the emergence of marked social inequality in the first place. Allowing, on the archaeological and ethnographic evidence, that small-scale hunter-gather societies represented the universal condition of human existence from the emergence of anatomically modern humans until the terminal Pleistocene, that such societies tend to be relatively egalitarian with respect to access to the means of survival, and that patterns of egalitarianism progressively and independently decayed in many parts of the world during the Holocene, two of the questions that must be addressed are (1) how egalitarian, in fact, are social relations in the smallest and simplest human societies?, and (2) how were these social formations transformed in various ways into others that we cannot fail to identify as inegalitarian.

The flaw in much archaeological research on the origins of social inequality is that it has proceeded directly to the second problem area without rigorously considering the first, attempting to account for the emergence of ranking or stratification before addressing the possibility that incipient forms of these inegalitarian social structures

exist widely in simple societies. Research has thus focused inordinately on revolutionary social transformations, and on the most dramatic catalysts (environmental change, technological innovation, demographic expansion) that might account for such profound organizational shifts. The usual cursory treatment of the first problem area is either to consider all small-scale, band-level societies as essentially devoid of any theoretically significant forms of inequality, or to ascribe inegalitarianism to a predisposition among at least some individuals in every society to seek to maximize their own genetic fitness at the expense of others. Neither of these treatments is adequate.

Primitive communism

The former approach to pre-inegalitarian social formations is most fully developed by the theorists of "primitive communism." An intellectual stream runs from Romantic political philosophers such as Rousseau, who envisioned small-scale social life as a state of noble savagery, through Lewis Henry Morgan, on whose ethnological works Marx and Engels based their materialist stages of human history, to contemporary Marxist anthropologists working in a social evolutionary vein (e.g., Leacock and Gailey 1992; Lee 1988, 1990; Trigger 1990). Other models of social evolution, such as those of Steward (1955), Service (1971; 1995), and Fried (1967), may not logically require such an egalitarian stage, but nevertheless consider any inequities in small-scale band societies to be of negligible theoretical importance. Difficulties arise due to the thin empirical basis for such a prehistoric Eden.

The model is based almost exclusively on ethnographic and ethnohistoric

research that has merely demonstrated the extent to which small-scale societies held land in common, shared the basics of existence within the community, and guarded the autonomy of their selves and kin groups. What has gone little remarked is that the things that are most widely shared in small-scale societies (especially food) are precisely those things that are virtually guaranteed to the members of more complex chiefdoms and states, under normal circumstances. The conventional wisdom on hunter-gatherer sharing, that no one goes hungry unless all go hungry, begs the question of how commonplace an occurrence is selective starvation amongst more complex societies, and ignores the vigilance that hunter-gatherers must practice to ensure an equitable distribution of the game brought in to camp (Peterson 1993), the reciprocal flows of debt and prestige that accompany it (Dowling 1968; Testart 1988), significant differences in the quality of shares received (Spielmann 1989; Speth 1990; Walker and Hewlett 1990) and, most damningly, the existence of poverty in some hunter-gatherer bands (e.g., Rasmussen 1931; Holtved 1967; Legros 1985).

The holding of much of a polity's land in common is a frequent feature even of complex societies, although titular ownership may be symbolically vested in the person of the chief or king, or in the state itself. By contrast, usufruct rights to dwelling sites and resource extraction locales are by no means uncommon amongst hunter-gatherer kin groups, and individual ownership of clothing, tools, domestic animals, and items produced for exchange is often unambiguous.

What appears to be a general sharing of everything with everyone breaks down on closer inspection, and appears as no more than the sort of generalized reciprocity

that is practiced amongst individuals in any society who are as closely related as are most of the members of hunter-gatherer communities (Burch 1988:109), or who engage in a neighborly generosity to ensure harmonious day-to-day social interaction and periodic mutual assistance. In the absence of such kin ties or expectations of assistance, sharing is much less in evidence, and the literature on hunter-gatherer bands includes instances of orphans and elderly people without family who live in abject poverty (e.g., Holtved 1967:146).

What is least shared in complex societies, especially surplus commodities and money, can neither be said to be widely shared by hunter-gatherers, since they possess little or none of these things. When such things are introduced by outside agents, or when indigenous goods acquire these values through the creation of external markets, as in the fur trade, they frequently become a focus of social conflict and hoarding (Gerrard 1989; Peterson and Matsuyama 1991). Luxuries and liquid surplus commodities do not participate in the same spheres of free exchange as food and other essential resources in any societies (e.g., Bohannan 1955; Burch 1988; Shipton 1989; Ferguson 1992). Property rights in relatively small and simple versus relatively large and complex societies are thus not fully comparable because the scale of the social formation determines the proportion of kin and neighbors, as opposed to strangers, with whom one interacts, and the scale of the economy determines the existence of surplus commodities and exchange currencies. Where they *can* be compared, it appears that the sorts of goods that are shared, as opposed to guarded, are not so different in large and small societies, and hence the qualitative differences between them have been overstated. Whether this was also

true of prehistoric societies can only be determined through archaeological research, but archaeological data do not figure prominently in models of primitive communism.

Universal predispositions

The problem with evocation of a self-interested acquisitiveness rooted in basic human nature is that it is not based on cross-cultural psychological observations, and so cannot be considered a verified theory of human behavior or personality development. The proponents of this view dangerously base their arguments on loose analogies with primate behavior (Maschner [1991: 931] cites Sahlins [1959] on the "'hierarchic strivings' present in higher primates"), common-sense understandings of human nature (Hayden 1995:20), and even folk conceptions of such things as "Type A" personalities (Hayden 1995:18, 1996:54), while ignoring a large literature on cross-cultural psychology (e.g., Berry et al. 1997). While an ingrained drive to maximize one's inclusive fitness may well be part of our evolutionary heritage, it is equally clear that the formation of such personality traits as acquisitiveness or a drive for social dominance are mediated by idiosyncratic cultural beliefs and behaviors and the social environment of the developing individual. If this were not the case, then such things as attitudes towards wealth redistribution would be constant from group to group, which they are not.

Studies of toddler's interactions with each other over objects indicate that at least in some Western societies, some individuals seek dominance over others, and control of desirable things, from a very early age (Furby 1980), hinting at the existence of a biological underpinning. However, the expression of these

tendencies is strongly influenced by the differences in socialization that individuals receive through instruction and participation in, and observation of, interpersonal relations. Such differences are observable between groups of 1-3 year old children (ibid.), emphasizing the profound influence of the social environment on behavioral modalities. Adopting this psychological tack, we are faced with the formidable, though not necessarily insurmountable, task of specifying how personality development varied from group to group in our prehistoric case studies, and how this relates to the differential likelihood of individuals having an acquisitive personality or a desire for social dominance. Although a biological substratum to dominance behavior may be universal, tolerance of these behaviors varies cross-culturally [see review of anthropological approaches to identity formation in Poole 1994]. In seeking the roots of markedly inegalitarian social formations, we must still investigate the possibility that some societies, even surficially egalitarian ones, had a greater predisposition towards inequality than others, and if so why this arose and how it was reproduced from generation to generation. It is certainly the case that the world's hunter-gatherer societies, lumped together for the most part as egalitarian bands in earlier social evolutionary formulations (e.g., Service 1971), have been found to vary enormously in organizational complexity and egalitarianism, and even the simplest hunter-gatherer bands have finally come to be seen to possess theoretically important dimensions of social differentiation (Flanagan 1989; Helliwell 1995).

Complex hunter-gatherers

Much of the current interest in prehistoric hunter-gatherer social relations can be

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traced to the influence of the volume edited by Price and Brown (1985) on "complex" hunter-gatherers. Although not the first attempt to unpack the catchall category of hunter-gatherer (Woodburn [1980, 1982] made a useful distinction between immediate and delayed return hunter-gatherers, closely paralleled by Binford's [1980] distinction between foraging and logistical modes of economic organization, and Testart's [1982] analysis of variability in hunter-gatherer storage), the contributors to that volume demonstrated through archaeological and ethnographic case studies that hunter-gatherer social and economic formations could not accurately be subsumed under a single term such as "band." Elaborate intergroup exchange, substantial architecture, stored surplus production, differential wealth accumulation, intragroup ranking, and stratification could all be inferred for particular prehistoric societies, extending the familiar repertoire of inegalitarian, or at least "culturally complex," hunter-gathers far beyond the well-known cases of the Northwest Coast.

The use of the term "complex" to designate relatively large-scale hunter-gatherer polities with one or more of the above characteristics is perhaps unfortunate, since the term continues in use as a relative descriptor of both societies and particular cultural features. The proceedings of a recent conference on the archaeology of complexity (Meyer et al. 1996) includes a group of papers devoted to complexity in the Paleolithic (see also Knecht et al. 1993), including one that applies the concept to the Acheulean-Middle Stone Age transition in Sub-Saharan Africa (Willoughby 1996). By this reckoning, all anatomically modern human societies are complex, at least with respect to their forebearers, and indeed there are intimations of social

inequality (White 1993) and intensified intergroup communication (Conkey 1985; Clark et al. 1996) in the later Upper Paleolithic.

This use of the term "complex," as an adjective to describe the relative degree of organization or differentiation of some phenomenon of interest, is perfectly sensible. Its application to situations of inegalitarianism is also justifiable, since increased social inequality almost inevitably involves increased differentiation of social roles and statuses, and hence can be considered an increase in complexity. However, the reverse is not true; complex labor organization is occasionally encountered in the archaeological record without corresponding evidence for broad-based axes of social inequality, notably in the U.S. Southwest (at least by some accounts; see Plog 1995 for a review of this debate), and among Iroquoian groups (Leacock 1978; Trigger 1990), but in other areas as well (Alexander 1992). Differentiation may also be heterarchical, rather than hierarchical, in being associated with the proliferation of spheres of social power that are not ranked (or not consistently ranked) with respect to each other (Ehrenreich et al. 1995; Rautman 1998). Given the potential confusion that arises from the wider connotations of "complex" (McGuire 1983), the investigation of social inequality per se would best label itself as such, as Price and Feinman (1995) have chosen to do.

One of the important implications of complex hunter-gatherer research, and one that had been anticipated as a result of the Man the Hunter Symposium (Lee and Devore 1968:5), was that hunter-gatherers who had in the past occupied some of the world's most productive environments, and who subsequently succeeded to agriculture or were replaced by agriculturalists, at some point probably resembled
the "exceptional" Northwest Coast cases more than the seemingly typical examples of simple, band-level hunter-gatherers documented by 19th and 20th century anthropologists, who frequently occupied relatively marginal environments (desert, tundra, boreal forest, tropical rainforest). Archaeologists who looked only to the ethnographic record for models of prehistoric hunter-gatherer social relations would be prone to underestimate the likelihood of encountering marked social inequality and complex, storage- and trade-based economic systems. Complex huntergatherers have thus emerged as a key element in models of social and cultural evolution (e.g., Price and Brown 1985; Johnson and Earle 1987; Gregg 1991; Ames 1994; Price and Feinman 1995; J. Arnold 1993, 1996a, 1996c; Trigger 1998). It seems increasingly likely that relatively complex, and probably inegalitarian, huntergatherers took the first steps towards agriculture (Hayden 1990; Bar-Yosef and Belfer-Cohen 1991), and that in many parts of the world the first ranked polities were based on predominantly hunting-gathering-fishing economies (e.g., Natufian Levant [Henry 1989], Middle Jomon Japan [Kobayashi 1992], Middle Period Northwest Coast [Matson and Coupland 1995], Late Period California [Arnold 1992], Middle Archaic U.S. Midwest/Southeast [Jefferies 1995; Saunders et al. 1997]).

A persistent snag in complex hunter-gatherer research is the question of what exactly qualifies as an instance of hunter-gatherer complexity. It has proved impossible to arrive at a consensus on sets of organizational criteria that unambiguously mark prestate societies as having crossed some meaningful threshold of complexity (or inequality). The traditional societal trajectory of band-tribe-chiefdom-state has become unwieldy since the concept of "tribe" as

an evolutionary stage fell into disfavor (Fried 1967). Johnson and Earle (1987) replace this level with the vague "local group," of which they recognize relatively simple (acephalous) and complex (big man collectivity/corporate group) variants. While each of the latter terms (big man, corporate group) alone is not problematic, they appear to refer to broad and somewhat distinct organizational trajectories beyond the band, and neither is associated with a particular pattern of social inequality. Feinman and Neitzel (1984) point to this sort of ambiguity as the sign of a profound dilemma in the social evolutionary enterprise, namely that there appears to be little consistency in the specific cultural features that accompany changes in the degree of social inequality or complexity between bands and states. It is impossible to come up with a typology that might simplify the investigation of prehistoric social change when the attributes of real world cases do not cluster into meaningful types. Archaeologists have tended to draw back from the typologizing of prestate societies, preferring to investigate a deliberately imprecise category of "middle range" or "intermediate" social formations that fall between bands and states on a case by case basis (Gregg 1991; Arnold 1996a), or have narrowed the search to smaller clusters of co-varying attributes, such as elements of household or community labor organization (Arnold 1993, 1996b; Blanton 1995; papers in Coupland and Banning 1996).

In the profusion of research into hunter-gatherer inequality, there has been a conspicuous lack of attention to "non-complex" societies. Attention appears riveted on the proliferating indices of complexity - exchange networks, craft specialization, stratification, slavery, settlement hierarchies, militarism - that often follow or

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accompany the appearance of marked inequality, rather than on the relatively simple, but presumably incipiently complex societies, from which the inegalitarian formations arose in the first place. Diehl (1996) remarks on this neglect of "notquite-so-inegalitarian" societies, and champions the theoretical importance of such groups for models of social change. Hayden (1994, 1995, 1996, 1997) has recently proposed an ambitious model for the emergence of social inequality that deals explicitly with the lower end of the "middle range," which societies, following Clark and Blake (1994), he refers to as "transegalitarian."

Transegalitarian societies

Hayden (1995:20) adopts the now-conventional analytic distinction between complex and simple hunter-gatherers by recognizing a category of "generalized," egalitarian hunter-gatherer societies in which any inequalities based on age, sex or possession of special skills are considered insignificant. Without actually entertaining the possibility of a truly inclusive perspective on inequality in small-scale societies, he broadens the focus of research to include somewhat less inegalitarian societies than some researchers are prepared to allow into the complex huntergatherer camp. Hayden argues that economic abundance (following Cowgill 1975) provides the crucial prerequisite for ambitious individuals (aggrandizers) to secure superordinate positions within the community through Machiavellian schemes that mobilize the community surplus in such a way that they come to occupy the hub of a network of resource and debt flows. This process is seen to unfold in more or less the same fashion whether or not the structure of the resource base promotes

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independent household production or the formation of corporate groups.

Under conditions of reliable, but minimal, surplus production "Despot" communities arise in which aggrandizers extract a surplus from other households by extorting payments for defense from wars that they themselves help promulgate, and through receipt or skimming of death compensation payments to end those very wars. Despots also coordinate feasts that serve primarily to promote community solidarity, advertise community success to other groups, and encourage low level production and exchange of the prestige goods displayed as ornaments or distributed as gifts during such celebrations.

"Reciprocator" communities exist somewhat further along the continuum of transegalitarian societies, and are characterized by increased emphasis on the transmission of bridewealth, and surplus production that could be displayed, distributed, and consumed as food and prestige goods at reciprocal feasts (i.e., feasts held with the expectation of a more or less equal return by the invited participants). These developments put a premium on successful surplus accumulation for expanding the labor capacity of households or lineages (through the acquisition of women), and increased the economic and status differentials between aggrandizers and others and between mature and young individuals (who would be put in the debt of the patrons who raised their bridewealth payments). Feasting begins to be deliberately deployed to create relations of debt between aggrandizers and their followers, by manipulating the Maussian logic of the gift (Mauss 1990).

At much higher population densities "Entrepreneur" communities may emerge, in

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which social rank is largely determined through the outcome of elaborate and fully competitive feasts (in which failure to provide a more elaborate return results in a loss of prestige) and the provision of costly life crisis payments, particularly those involving the exchange of women in marriage. These payments and the provision of goods for feasts are construed by Hayden as loans that repay with interest the original investment, and thus encourage supporters to fall behind the most successful "entrepreneurs." Warfare is considered an impediment to the intergroup trade and feasting on which the wealth economy relies, and so declines relative to that present in Despot and Reciprocator communities. Leaders assume important ritual roles, often involving legitimating ancestor cults, and increasingly pass on their own wealth, alliances, and statuses to offspring, which along with occasional slavery signals the first appearance of stratification. The purported societal compatriots at this level include early Neolithic goddess-worshipers of "Old Europe" and Upper Paleolithic proprietors of reindeer crossings on the Central Russian Plain.

There are a number of useful elements in this model that are worth retaining. The relatively broad definition of transegalitarian communities begins to redress the myopic research emphasis on only the most inegalitarian and economically complex hunter-gatherers. The notion of aggrandizer individuals or households who employ a variety of tactics for mobilizing surplus production and enhancing their wealth and status directs our attention to the possibility of encountering strategically diversified households (participating inordinately in activities other than primary production, such as surplus accumulation, specialized food or craft production, long distance exchange, ritual, warfare) at various levels of societal complexity. The general

emphasis on feasting is also a useful approach, particularly given its potential archaeological visibility (e.g., Junker et al. 1994; Potter 1997; Wiessner 1996), but needs to be expanded beyond the area of debt creation. Feasts or, more inclusively, commensal meals, often in concert with ritual, gaming, or artistic performances, do in fact appear to be a more or less universal means of forging and reproducing alliances by subtly or explicitly creating social obligations, affective ties, and domains of shared meaning amongst the participants. Such gatherings of families or communities provide an important context for the elaborate personal displays not appropriate to normal productive (i.e., work) activities, a chance to engage in the "cultural" activities (music, dance, oration, bodily ornamentation, ritual, games, sport) that have probably been common media for communicative action since the Upper Paleolithic (White 1992). These activities constitute performative arenas, in which the acquisition or production of distinctive goods, techniques, and knowledge is rewarded with the admiration of others, insofar as these things satisfy human cravings for quality and, often, difference or novelty.

Hayden ignores the subtle means by which ambitious individuals may in these various fashions *positively* demonstrate their competence and attractiveness (as spouses, house mates, sexual partners, economic managers, work partners, ritual leaders, exchange partners, war leaders, political spokespersons, etc.), emphasizing only the manipulative, almost sociopathic, deceptions that are involved in the creation of debt relations. While such machinations are undoubtedly a key element in elite formation and reproduction, when engaged in to the exclusion of all else they are precisely the sorts of activities that generate the envy and mistrust of other

people, and *inhibit* alliance formation (e.g., Nelson 1983:305). The aggrandizers depicted by Hayden may well have become wealthy Midases, but seem unlikely to have often achieved the sort of social approbation that is critical for mobilizing community sentiment and labor behind some group task, such as a major hunting or trading expedition, warfare, the construction of substantial dwellings or ritual facilities, agricultural improvements, etc., at least until their actions could be backed up with violence. As Woodburn (1982:445) writes of !Kung leadership: "what is particularly striking is that personal qualities suggesting that a !Kung individual is ambitious for power or wealth exclude such a person from the possibility of leadership." Spencer (1959:154) notes: "A wealthy man feared the envy of the shamans and the evil which they could unleash."

Issue can also be taken with Hayden's implicit assertion of the universality of certain debt-creation strategies amongst transegalitarian societies. He makes particularly strong claims for the importance of death compensation (in Despot communities), child growth payments (among Reciprocators and Entrepreneurs; see also Owens and Hayden 1997), and bridewealth (Entrepreneurs). While these transactions may be fairly common in the societies in Hayden's sample (mainly from New Guinea and the Northwest Coast), and bridewealth, at least, has long been recognized as a relatively widespread practice that may promote inequality (Collier and Rosaldo 1981), these mechanisms are essentially absent from the Inuit world, although several Inuit societies are readily classifiable as transegalitarian on other criteria. In fact, Hayden (1995:49) assigns coastal northwest Alaskan Inupiat communities to his Reciprocator category on account of their use of "warfare, fear,

and exchange of surpluses to gain political and economic control," but glaringly ignores the *sine qua non* of wealth and status amongst those groups, namely leadership of the whale hunts that represented the backbone of the pan-regional economic network (see Chapter 4). One of the archaeological indicators Hayden proposes for Reciprocator communities, "the first elaboration of feasting facilities or public architecture" (ibid.), is indeed present in many Inuit societies (Taylor 1990), but among them are the Netsilik (Rasmussen 1931), Copper (Jenness 1922) and Caribou Inuit (Birket-Smith 1929), widely considered among the type-societies of the egalitarian band (Damas 1969a; Service 1971; Steward 1955). In spite of the presence of such public feasting and festival structures (*qagsge*), these groups fail to meet most of the other Reciprocator criteria, and are distinctly out of place amidst the named examples of Reciprocator societies.

Where Hayden is not proposing overly-specific, even idiosyncratic, mechanisms and correlates of status differentiation, he swings to the opposite extreme, and proposes archaeological indicators of the societal categories so general as to lose all meaning. Hence, "compared to Despot communities, indications of warfare may decrease or increase or remain constant in most Reciprocator communities" (Hayden 1995:49). Until marked ranking or stratification appears, at the Entrepreneur stage, virtually all of the indicators are relative ones - more exchange, more feasting, higher population densities, more interhousehold wealth differentiation, greater (or lesser or the same) incidence of warfare, increasing mortuary differentiation. These are the same indicators of societal complexity that have been employed for some time, and continue to function adequately without an

elaborate just-so story to fit them together.

To improve on Hayden's model we need to expand the scope of societies under consideration to include generalized hunter-gatherers, since many possess versions of the institutions mobilized to promote status differentiation amongst more inegalitarian societies, and not all practice vigilant egalitarianism to the same degree. Simultaneously, we need to acknowledge a broader array of mechanisms for accruing social power in societies at all levels of complexity (Cowgill 1996). For example, Hayden confines ideological factors, especially leadership of ritual associated with ancestor cults, to the more advanced stages of transegalitarian inequality, but ritual leadership more generally is an important category of the "personal skills" that are an aspect of authority in bands (e.g., Dunning 1960). Even in relatively egalitarian Central Inuit societies, shamans receive substantial payments for healing services and the provision of amulets (Rasmussen 1931; Oosten 1981), and occupy pivotal roles in community ritual practice and social reproduction. Iglulik and Baffinland Inuit shamans select the partners in ritual spouse exchange at an important festival (Boas 1964; Saladin d'Anglure 1993), and Netsilik shamans may compel the performance of female infanticide (Oosten and Remie 1997). Grant (1997) reports that the leaders of contact-era millenarian movements exercised sufficient authority over their followers to direct them to carry out violent acts against other individuals. Traditionally, shamanic renown was a frequent attribute of the camp leader, or issumataq ("he who thinks"), among these Central Inuit groups, and of the umialik (pl. umialit, literally "boat owner," but better glossed as "rich man," with the additional implication of whaling leadership) among the more complex societies

of coastal North Alaska. The *umialik* not only directed whale hunts, but possessed technical expertise in whaling ritual (charms, songs, taboos), and coordinated such community ceremonial as the whaling festivals, and formal intergroup feasts (Rainey 1947; Spencer 1959). Ritual leadership thus represents a dimension of social power that clearly spans relatively simple and complex Inuit societies (this is also true of Athapaskan and Pueblo groups of the U.S. Southwest; Lightfoot and Upham 1989).

Similarly, economic leadership is an important attribute of the respected and powerful Inuk (singular of Inuit), or *inumarik* (i.e., "real Inuk," real person). The advice of an *issumataq* on where and when to move camp, and how to coordinate some cooperative endeavor like a caribou drive, is followed to the extent that that advice is believed to be efficacious, especially as borne out by the *issumataq*'s personal harvesting success in the past (Oosten 1986b; similar leadership criteria obtain among northern Athapaskan groups [VanStone 1974]). An *umialik* can only attract the best whaling crew if the prospective paddler or harpooner believes that he will share in the fruits of a successful hunt. While the managerial and hunting skills of an *umialik* would have been well known within the community, they were deliberately marked through tattoos, symbols incorporated in clothing design, and incised designs on drill bows that functioned as hunting tallies, all specifying the individual's past whaling success (Spencer 1959:154).

In fact, a great variety of activities are subject, in varying degrees, to a competitive social logic in small-scale societies. Authority appears to accrue to individuals who can perform reasonably well in a number of such social arenas, and exceptionally well in whatever the most important ones happen to be, thus

compelling the admiration or grudging respect of others, and their deference in decisions affecting matters of community importance. A problem with the social evolutionary enterprise has been the predilection to overly specify the social mechanisms or arenas that are thought to be crucial to status differentiation (whether debt manipulation, management of economic production, exchange, warfare, ritual, or whatever), with analytic circularity as a frequent result. Whatever criterion is deemed essential, societies that lack it are egalitarian or simple, and are excluded from further discussion.

It would be better to theorize the operation of the social field more broadly, in such a way as to allow for the real organizational and developmental diversity that is observable archaeologically. This means refraining from the delineation of specific, essential mechanisms for the promotion of social differentiation. The social field is construed very differently in different societies, and provides distinct constellations of opportunities for (or barriers to) achieving superordinate positions. For any given society what we need, in effect, is a map of the social field, specifying the structural principles of differentiation and ranking according to which the performances of individuals and groups produce social effects: change (or stasis) in wealth, or prestige, or power, or whatever may be considered a social good. The particular configuration, the *topography*, of the social field is ultimately a result of historical processes unique to the society in question, and cannot be derived *a priori* from an understanding of human nature and the local resource base. All societies with equivalent degrees of social inequality have not passed through the same developmental sequence. However, by virtue of the convergent trajectories of social

differentiation observable archaeologically, there is every reason to believe that there are functional features of the social field that can be elucidated by general theory. To determine whether such universal principles impinge on the organization of the social field and underlie its specific manifestations in different times and places, we need to pull back and consider the social life of the so-called egalitarian societies that have been dismissed from discussions of social inequality. It would appear to be easier to understand how an array of complex phenomena arose by looking first at the simpler common ancestor, than by proceeding directly to a comparison of the divergent instances of complexity themselves.

CHAPTER 2: THEORETICAL BACKGROUND

Age and gender differentiation in egalitarian societies

Virtually all researchers who consider some societies to be egalitarian in some essential way also acknowledge the existence in the latter of social differentiation according to age, gender, and personal skills (Fried 1967; Service 1971; Johnson and Earle 1987; Lee 1990). For reasons that are never entirely clear, subtle hierarchy based on these principles is considered of negligible importance if the society also possesses practical or ideological barriers to the differential accumulation of wealth and power in any way that substantially cross-cuts age and gender statuses. In proceeding to a consideration of social inequality in societies where legitimate wealth and power differentials do occur, the "universal" factors of age and sex are frequently held constant. However, common as these principles of differentiation may be, they are not "constant" in human societies. While anthropologists continue to debate the degree of inequality in particular cases, it has become apparent that small-scale societies are characterized by enormous diversity in the construction, valuation, and privileging of gender and age groups, and the extent to which cross-cutting differential accumulation (i.e., by families, households, or kin groups) is tolerated. Both egalitarian and inegalitarian ideologies may be found among these societies, and may either mask or reflect the reality of everyday social practice. The not infrequent divergence of ideology and practice, and the existence of heterarchical social formations in which gender or age hierarchy varies from one domain to another, perhaps underlie the conflicting assessments of the egalitarianism of particular societies or particular dimensions of social practice.

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Age-based hierarchies of some variety are widely encountered ethnographically. Every individual undergoes a long period of dependency, usually lasting to some degree at least until s/he enters into marriage. Brideservice, indebtedness due to the payment of bridewealth or the acquisition of the means of production (elaborate equipment, a dwelling, land), and/or a period of extended learning of productive tasks often effectively prolong economic dependency. Such a period of transition between dependency and autonomy appears to be briefest among some hunteraatherers, where marriage is freely entered in to, productive equipment and dwellings are easily manufactured, and resources are freely available to band members (Collier and Rosaldo 1981; Woodburn 1982). Even in such situations, the establishment of a social network (e.g., sharing and trading partners) and the achievement of full productive capacity (based on knowledge of resource) distributions and extraction techniques, and the assistance of allies and offspring) may proceed gradually over some years. At another extreme, economic and social dependency may be deliberately cultivated through debt and/or monopolization by elders of the means of production (boats, domestic animals, land), esoteric knowledge (with associated ritual statuses), or even spouses. Some polygynous Australian Aborigine societies, in which elder males severely restricted young men's access to women and highly valued ritual knowledge and appropriated their labor and production, represent one gerontocratic extreme among hunter-gatherers (Bern 1979). However, the logic of human accession to productive and reproductive maturity appears to be such that families or households inevitably pass through a developmental cycle (Chayanov 1986) that tends to be materially, if not also

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symbolically, experienced as inequality at some stages. Most mature individuals have accumulated more economic, cultural, and social capital over their lifetime than younger individuals possess, resulting in the nearly universal occurrence of *de facto* gerontocracy (although with advancing age the productive capacities of an individual wane, social allies die or cannot be maintained, and status may decline, even to the point of poverty). This sort of age-based social differentiation would appear to be the prototype for any cultural elaboration of achieved status. Age grades may come to be increasingly marked off from each other through the elaboration of life crisis ceremonial, and potentially provide an avenue for individuals who have accumulated more than others to effectively appropriate age-grade statuses as social ranks, by setting ideals for the celebration of such events that not all can meet.

Archaeologically, age hierarchy may be difficult to recognize. The most obvious potential expression is in mortuary treatment, since material wealth and other symbols of status may be directly linked with an individual whose age can be determined osteologically. Differences in the size and elaborateness of briefly occupied dwellings, and the richness of their material assemblages, might reflect the developmental stage of the household (hence age-based differentiation) if it proved possible to exclude other forms of interhousehold or interperson ranking (e.g., based on the absence of anything but age or sex-based differentiation in mortuary treatment, nutrition, and activity-induced pathologies). Until very recently (Moore and Scott 1997), children's material culture has been virtually ignored by archaeologists, but may contain clues to age-based differentiation.

Of perhaps greater theoretical significance, and certainly of greater

archaeological visibility, is social differentiation that is mapped onto biological sex, and conventionally distinguished from the latter as gender. The rapid growth of feminist anthropology since the 1970s has resulted in a great deal of attention to cultural variability in the construction of gender, including the presence and extent of gender-based inequality (e.g., Strathern 1987; Miller 1993). Researchers have tended to approach the problem by seeking regularities in patterns of gender hierarchy or asymmetry across cultures (e.g., Murdock and Provost 1973; Friedl 1978: Spain 1992; Brettell and Sargent 1993; Bonvillain 1995), and more recently by inquiring into the irreducible uniqueness or arbitrariness (hence "unnaturalness") of different cultural formulations of gender (Moore 1988:11). Like Marxist theorists of primitive communism, some feminist anthropologists have fallen into the trap of investing in the theoretical necessity of the primordial equality of women and men (as originally advocated by Engels [1972]), and hence the inherently arbitrary nature of gender categories and relations. This is thought necessary to avoid the false legitimization of gender hierarchy as a biological given, and thus relies on the separation of socially constructed gender roles from biological differences.

While most of the specific content of a culture's construction of gender relations is unpredictable, cross-culturally gender does tend to be of central importance for defining social and economic roles. In small-scale societies, gender and age are frequently the only recurrent determinants of role differentiation. There are, however, some cross-cultural regularities in particular aspects of the gender division of labor (GDOL), which among hunter-gatherers include the greater involvement of men in hunting and of women in harvesting wild plants. The notion of a universal

and absolute division of subsistence labor has attracted a great deal of anthropological controversy, resulting in the following important corrections: (1) in many societies women gather or trap small game (e.g., Jarvenpa and Brumbach 1995; Wadley 1998); (2) in some societies many women regularly hunt large game (e.g., Agta [Estioko-Griffin and Griffin 1981]); (3) in some societies the occasional woman regularly hunts large game (e.g., Inuit [Jenness 1922], Chippewyan [Jarvenpa and Brumbach 1995]); (4) even in societies where women rarely if ever pursue large game they perform critical roles (both practical and symbolic) in the larger hunting production sequence (ibid.; Bodenhorn 1990, for Chippewyan and Inupiat).

The above qualifications do not amount to a refutation of the original observation that men tend to be more involved in hunting than women. This is significant because of (1) the organizational ramifications of such a task division for all spheres of economic activity, particularly as the relative economic importance of large game hunting increases, and (2) the social prestige that often accrues to hunters from the sharing of game (Testart [1988] and Hawkes [1993] explore the ineluctable logic behind the sharing of large animal carcasses and the consequent flow of prestige; Henriksen [1973:43] notes: "Although the Naskapi give away meat and skins because they are obligated to do so through the rules of common sharing, they stand to gain prestige in doing so."). The division of subsistence labor thus underlies further social and economic divisions or asymmetries, and hence is of great theoretical relevance to gender difference in hunter-gatherer societies.

The most often discussed explanation for this widespread feature of the gender

division of subsistence labor is that it is a correlate of the sexual division of reproductive labor. In the absence particularly of suitable weaning foods (as among many hunter-gatherers), mothers' mobility and task versatility (although not their overall labor capacity) are constrained by the necessity of nursing children in a way that fathers' are not, a role that frequently lasts for three or more years for each child (Kelly 1995:248). With a total fertility rate of 4.7 children per woman and an average nursing period of 3.7 years (Bentley 1996), !Kung women may be so encumbered for 17 years of their adult life. From this perspective, the cross-cultural patterning in the GDOL reflects no profound differences in abilities on the part of women and men, but the structural ramifications of extended periods of child care performed by women during their reproductive lives (Brown 1970). While fathers and other individuals can and do perform substantial amounts of childcare in small-scale societies (Hewlett 1992; Peacock 1991), and mothers of young children can and do perform substantial amounts of labor and other activities beyond childcare (ibid.; Bentley 1996), the cross-cultural modalities in the GDOL appear to proceed, in the first instance, from a desire for task efficiency through an allocation of work that accommodates constraints imposed by the reproductive division of labor.

Brightman (1996) provides an exceptionally thorough review of the rejoinder to this position in an analysis of the most widespread and, implicitly, prototypical modality in the hunter-gatherer GDOL, namely the almost universal allocation of large game hunting primarily (though not always exclusively) to men. Among others, he dissects arguments based on physiological difference and notes that the various factors comprising this argument (the inhibiting effects of late pregnancy, nursing,

menstruation, and relatively less physical strength on female hunting) each only provide a relative advantage (sometimes slight) to male over female hunters, and then usually for limited periods. Indeed, the ability of women to hunt is not in dispute. as attested by the occurrence of variable degrees of hunting by women among many hunter-gatherer societies (Jenness 1922; Estioko-Griffin and Griffin 1981; Jarvenpa and Brumbach 1995; Takeda 1996; Wadley 1998). However, Brightman does not consider how in the aggregate this constellation of slight relative disadvantages might amount to a significant disability. In addition, heightened female mortality might constitute a reproductive disadvantage for groups in which women consistently hunted large game. Brightman cites Hewlett et al. (1986:55) on the fact that only (!) 3.7% of Aka deaths were attributable to hunting accidents, while allowing that levels of male hunting mortality among Inuit groups were sufficient to severely skew sex ratios. Finally, providing similar generalized training and task allocation to both women and men may drastically undermine the potential for heightened productivity that flows from economic specialization, putting the group at a relative economic disadvantage.

Dismissal of the latter factor involves the assumption that productive (and reproductive) labor among hunter-gatherers is sufficiently unskilled as to confer no advantage on a sharp GDOL. This drastically undervalues both women's and men's expertise in hunter-gatherer societies. Brightman (1996:692) specifically attacks the notion that the manufacturing, childcare, and hunting skills of arctic and subarctic groups are so specialized as to preclude a gender-neutral task generalization, noting that the literature on these regions is "especially rich" in examples of such women

generalists (predictable because of the overwhelming importance of hunting in these areas). Yet, he notes that the most common inuit idiom for rearing a female hunter (not to mention a male clothing manufacturer and keeper of the dwelling [Robert-Lamblin 1986, Saladin d'Anglure 1984]), which need usually arises due to a familial imbalance in sex ratio, is to train an individual from infancy in the tasks appropriate to the gender role. "From infancy onwards the education of these children prepared them for their future role in their "borrowed sex"" (Robert-Lamblin 1986:42). The investment clearly required to produce a skilled Inuit adult (see also Briggs 1991) of whatever gender configuration belies his subsequent claim (Brightman 1996:693) that the problem raised by sex ratio imbalance would not exist in the first place if all women and men were trained as hunters (and presumably in all other tasks). The volume of specialized technical and ecological knowledge possessed by northern hunters (Feit 1973; Freeman 1976; Freeman and Carbyn 1988; Ridington 1990), and the level of expertise demanded by the technology of clothing, transportation and harvesting (e.g., Oswalt 1976, Hatt 1969; Oakes 1991), seriously undermine Brightman's apparent belief that he has deduced an adaptive solution to life in the circumpolar north ("increasing the versatility of the labor force" [Brightman 1996:693]) that has not been stumbled upon in some 10,000-15,000 years of human occupation of these latitudes. The presumed advantage of such versatility is also hard to reconcile with precisely the opposite trend in human societies over the course of the Holocene - increased occupational specialization of all kinds. In fact, current understandings of neurological development indicate that the level of mastery of a variety of adult skills (spatial competence, particular athletic aptitudes,

language acquisition, musical ability; Bornstein 1987) is substantially determined by the age at which skill acquisition began, through the establishment of specialized pathways and regions in the developing brain. Real differences in competence result from training that begins early, is intensive, and is of long duration, thus conferring significant performative advantage on lifelong role specialization.

Brightman's alternative to a bio-functional rationale for the existence of some GDOL, and for the *particular* pattern of task allocation that assigns hunting to men, is to propose that men monopolize hunting because of the prestige that accrues from distributing a valued commodity (meat), the rigid GDOL then flowing from the constitution of symbolically resonant taboos surrounding hunting weapons and participation in the chase. This fails to account for the patterning in tasks other than hunting so marked in cross-cultural studies (e.g., Murdock and Provost 1973), and which are fairly adequately explained by the "reproductive immobilization" hypothesis Brightman rejects (e.g., Brown 1970, Peacock 1991). Brightman then asks the obvious question: "Since the division of labor effects a relative impoverishment of women's prestige and authority, the Gramscian question of how their consent is secured is central" (Brightman 1996:723). His less than compelling speculation on this point is that "most foraging women themselves regard the political stakes in question as negligible, when and if they reflect on their access to hunting or hunting weapons in such terms" (ibid.), which implies either a primordial mystification of female consciousness, or an innate sexual bifurcation in the desire for social dominance.

The alternative that Brightman rejects, men's greater size and strength as a basis

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for threat or violence, would seem to be the only solution that does not invoke different intellectual processes. This line of argument might be warranted by the persistence of sexual dimorphism in hominid evolution (female:male weight and height ratios are .84 and .93 in contemporary human populations [Silk 1993:225]). In fact, this may be an important dimension of the division of subsistence labor in the first place. McGrew (1992:88-120) reports a very marked sexual differentiation of dietary specializations among our nearest primate relatives that closely parallels that found among hunter-gatherers. Female chimpanzees procure and consume more insects and nuts requiring processing (i.e., "gathered" animal and plant food) and males more mammals (i.e., "hunted" animal food). Within the category of mammalian game, females procure and consume proportionately more relatively immobile individuals (i.e., young of terrestrial species) and males more arboreal and aggressive individuals. McGrew (ibid.: 103-104) links these differences in faunivory to sexual dimorphism in stature and musculature, and behavioral differences consequent on mothers' involvement in childcare. This preponderance of male hunting among our nearest primate relatives raises the interesting possibility that the GDOL in food procurement that Brightman (and Testart 1986) attributes to a more or less symbolic process of taboo elaboration in fact long predates the development of complex symbolic functions in human evolution.

Acknowledging activity differences between females and males consequent on reproductive roles does not result in an insidious naturalization of culturally elaborated gender roles and statuses, since no particular value need be imputed to these differences: they are merely *difference* (for recent feminist perspectives on the

theoretical importance of sex/gender difference see e.g., Irigaray 1993; Moore 1994). It does however address the problem of the relative ubiguity, cross-culturally, of particular patterns of labor organization and social differentiation, the biological reality providing the kernel of sex difference about which the truly arbitrary bulk of gender roles and meanings accrete. In this manner, sex/gender difference can be conceptualized as a (perhaps the) prototypical form of ascribed status (much as age difference is a prototype of achieved status), the point of differentiation of the social field into groups whose roles never entirely overlap. This is equally true of the frequent situations in which sex difference is not conceived of as purely binary, i.e. where various intersex gender identities are recognized, such as the berdache, the gender-switched Inuk referred to above, or continua of symbolically marked "feminine" and "masculine" activities that may be performed to varying degrees by either women or men. The occurrence of individuals who manifest unconventional gender identities (such as Inuit women who electively become proficient seal hunters) does not erase the fact that conventional gender role assignments preexist (and persist despite) these categorical transgressions.

The cross-cultural frequency with which sex/gender difference is hierarchically configured, with men or maleness occupying the superordinate position, is an important theoretical dilemma. The argument for a nearly universal independent convergence of symbolic structures so as to promote this arrangement of the social field (Brightman 1996) is difficult to sustain without recourse to more or less innate sex difference of the sort discussed above. Reproductive roles, together with sexual dimorphism in stature and strength appear to fulfill the requirements. The greater

mobility allowed to men's economic roles, consequent on the attention of women to nursing children, offers broader scope to social alliance formation outside the family or household, while the particular association of men with hunting amongst smallscale hunter-gatherers and horticulturalists opens up a logic of resource distribution (the sharing of large food packages) that tends to provide men with an important avenue for acquiring prestige (Dowling 1968; Testart 1988; Hawkes 1993; Brightman 1996).

Since social power flows, at least in part, from threat or violence at all levels of societal complexity, the differential predilection of men and women for interpersonal violence would also appear to be an important determinant of the preponderance of men's superordinate status. Whether this relates to women's role in childcare or men's average greater size and strength, or both, the violence widespread in human societies, not least small-scale ones, approaches a male monopoly. Of 22 cases of !Kung homicide documented by Lee (1979), all were perpetrated by adult males, and 14% of the victims were female. Male monopolization of violence and the not-infrequent victimization of women in small-scale societies (Otterbein 1979; Knauft 1987) provide strong circumstantial evidence for the contribution of threat or violence to the promotion of men's superordinate position in many of these societies.

Sex/gender (henceforward simply gender) categories are neither pure biological fact nor arbitrary construct, but the product of a reciprocal, reflexive determination of embodied biological and social identities through the channeling of more or less inevitable developmental processes of personality formation and reproductive roles into historically specific patterns of gendered social practice. It is precisely because

gender identities, whatever their content, are universally a key foundation of social identities that the growth of archaeological research on gender offers hope for major advances in our understanding of social relations in the past. While deconstructions of a pervasive androcentric bias in archaeological interpretation first raised consciousness about gender issues (Conkey and Spector 1984), and promised minimally to prompt the peopling of the past with women and children, researchers have increasingly come to appreciate the profound theoretical importance of gender relations to any investigation of prehistoric society and, by virtue of the social arrangement of the economic field and the refraction of society in ideology, of virtually the entire archaeological record.

Social difference

Differential success in the performance of conventional age and gender roles is an important point of conflict in small-scale societies. It is the vigilant equalization of such differences in wealth or the presumption of authority that is most often identified as the hallmark of egalitarian foragers and horticulturalists. Such vigilance is symbolically encoded in egalitarian ideologies (expressed in taboos, proverbs, myths, and precepts for social conduct), and may be practically enacted through free access to land, demand sharing of food and tools (Testart 1987; Peterson 1993), respecting explicit rules for partitioning resources (Damas 1972; van de Velde 1976), and through patterns of mocking discourse that denigrate the accomplishments of prominent individuals. Among the Inuit, such leveling discourse is elevated to an art form, namely the song duel in which the adversaries compose and publicly perform

cutting yet humorous and artful songs enumerating each other's conceits and transgressions (e.g., Rasmussen 1930; Anderson 1974/75). In spite of such mechanisms (indeed song duels have the paradoxical effect of enhancing the renown of the more entertaining performer), there are numerous ways in which individuals garner prestige, authority, and even material wealth in some small-scale societies.

As suggested above, the logic of sharing and social leveling in relatively egalitarian societies applies principally to food and the means of production of the essentials for survival (important materials, access to land, access to spouses) so as to ensure more or less democratically the reproduction of the social group. The relative autonomy of the basic productive unit, usually the family or household, appears to be a correlative social good. Although this logic may be rigidly adhered to, it provides rein to a sort of social gamesmanship in the interstices of the egalitarian economic structure; practices that do not strictly impinge on the basic well-being of families or households become arenas of covert social competition. A number of strategies for maneuvering within even a very level social field can be identified.

The first involves the accumulation of, or acquisition of technical mastery in the production of, a potentially vast array of *immaterial* or ephemeral things. This category includes variations on such widespread "artistic" productions as instrumental music, song, dance, story-telling, poetry, and oration, as well as the aesthetic design and craftsmanship of buildings, clothing, bodily adornment, and tools. Excellence in sport and games is of a similar nature. Even in the absence of

substantial specialization in any of these things, or the necessity of incorporating exotic commodities, hence with equal access to the means of their production, the quality of such productions may inspire the admiration and emulation of others, hence confer prestige, or some more intangible quality of "social attractiveness," on the creator or performer.

The possession and dissemination of technical knowledge of various sorts is also a social good. This may include innovative variants on existing technology, novel technologies, ecological (including pharmacological) knowledge of resource distributions and characteristics, and esoteric knowledge in the form of cosmological understanding, contact with supernatural entities, and knowledge of customary ritual practice.

Bodily attributes, such as physique and beauty, also provide scope for social differentiation through physical training and bodily ornamentation (hair style, skin painting) or alteration (cranial deformation, scarification, piercing, tattooing, control of skin pigmentation). With the possible exception of dress and adornment, considered below, these bodily modifications represent material markers that escape the logic of sharing through their essential inalienability, and ephemeral existence congruent with the lifespan of the individual.

The above forms of knowledge and aesthetic technique may be learned, invented, or acquired from neighboring groups, providing a range of opportunities for individuals to seek social rewards. Aspects of personal conduct may also achieve a similar effect, especially through conformity to local cultural ideals (e.g., humility, generosity, religiosity, honesty, loyalty, courage, honor). These differentiating axes

of social practice may contribute substantially to an individual or group's capacity to pursue probably the most important form of "immaterial accumulation," namely of social alliances.

All societies specify a range of formal and informal categories of social relationship. Many of these are received statuses, proceeding from one's position in a kinship network, but even some kin ties (especially relatively distant ones) must be deliberately produced or activated through the performance of actions appropriate to that relation. Fictive kinship and other relations with non-kin may be ascribed, for example through inheritance, name-sharing, or relations between one's parents and others, but again must often be cultivated to produce a social effect, and many are voluntaristic in the first place (see e.g., Marshall 1976:360 and Nuttall 1992 on the voluntarism associated with recognizing name-sharers).

Individuals thus experience varying degrees of freedom to accumulate active social relationships (e.g., as spouse, sexual partner, acknowledged kin, joking partner, sharing partner, trading partner, harvesting or work companion, etc.), subject to their attractiveness as social partners, and their ability and desire to perform the actions necessary to create and sustain the relationships. Alliance formation (whether underlain by guile or pure companionability) is itself a practical expertise to which individuals may differentially aspire, or be predisposed, although the forging of some minimal social network would appear to be not only a practical prerequisite for the individual to survive and reproduce, but a psychological imperative as well. The quality and extent of the resultant social network appears often to be the proximate determinant of accession to whatever level of social

authority is permitted in small-scale societies, such as that of camp leader, war leader, ritualist, or the director of some economic enterprise, but may be predicated ultimately not only on sociopolitical skills, but on other individual qualities or competencies such as the "immaterial things" outlined above.

In relatively *in*egalitarian societies, many of these things are precisely what distinguish and help reproduce marked individual or group status, whether the emblems, stories, and performances that are explicitly recognized as the property of individual corporate groups on the northern Northwest Coast (Drucker 1955), or the emergent patterns of taste, alliance, and cultural competence that mark class membership in contemporary France (Bourdieu 1984).

A second category of "sub-egalitarian" social strategizing involves the *de*materialization of material things. That is, where the accumulation of material things is stigmatized, those things can be liquidated so as to produce a social effect. This principle underlies the much-noted social logic of meat distribution, where an individual (hunter) shares out the majority of a large carcass and thereby almost inevitably creates subtle relations of social obligation, even debt, on the part of the recipients, who are expected, perhaps vaguely, to make commensurate returns from their own harvests or tacitly accord prestige to the giver (Testart 1988). Even conventional means of minimizing this Maussian social indebtedness, such as belittling the kill, having others redistribute the carcass (Myers1988; Peterson 1993), or assigning ownership to someone other than the hunter (such as the person who first sighted the game [Testart 1987], the owner of the weapon [Marshall 1976; Ingold 1986], or everyone in the camp except the hunter [Bahuchet 1992]) cannot

completely mystify the exchange relationship that is enacted, since the identity of the hunter is not concealed (Testart 1988; and see Derrida 1992 for an exploration of the boundless implications of the logic of the gift). The good- natured distribution of valued commodities (e.g., ones obtained in trade, or through special effort), lending of possessions, or granting of access to land (to which an individual or group may have usufruct rights) may be similarly mandated by custom, but nevertheless the actual occurrence of such an event produces, if only briefly, an effect, creates an obligation, as if the energy latent at a node in the social field had suddenly been released and converted into another form.

Within a regularly interacting social group such webs of obligation accumulate and ramify in all directions throughout the network, and so particular exchanges are often considered of little account. However, aggregate patterns of participation in these exchanges do not go unnoticed, leading to the identification of individuals as lazy or greedy or generous (Woodburn 1982; Gerrard 1989; Kent 1993; McDowell 1990). The Netsilingmiut referred to a lazy individual as *nuniurut*: "While the temporarily disabled hunter was generally helped with gifts of food, nobody liked sharing with the nuniurut" (Balikci 1970:176). Within the bounds determined by practical and ideological mediations of indebtedness (the belittling of successful individuals and the badgering or ostracizing of the unambitious or selfish), differential participation in compulsory exchanges registers as a topography of social prestige that is ultimately expressed in such things as the individual's capacity to forge explicit social alliances.

A final loophole in the egalitarian logic relates to the category of *permitted*

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material things. Certain classes of possessions are widely considered to be personal property, even among the most egalitarian societies, and may or may not be subject to compulsory sharing. In practice, one is rarely called upon to "give the shirt off one's back." For example, the basic tools associated with gendered modes of production in Inuit societies are considered personal possessions: such things as a lamp, pot, ulu, and sewing kit are a woman's inalienable possessions, even if manufactured by a husband she subsequently divorces (Kjellström 1973). Interestingly, even toys are considered the child's personal property among the Polar Inuit (Holtved 1967). In most small-scale societies, individuals appear to own their tools and clothing outright, though refusal to lend certain of the former might be considered inappropriate (as might the asking). Similarly, dwellings are generally considered the property, while in use, of the household, and such usufruct rights may extend to harvesting regions or specific locations (Spencer 1959; Williams 1982; Layton 1986; Burch 1988).

The potential thus arises for the acquisition of possessions with particularly desirable characteristics (quality of craftsmanship, exotic materials, distinctive styles) that are closely associated by right with the person, especially while in use, and thus are not as liable to circulate through demand sharing as are surplus items or non-essential luxuries. The denial of a request for tobacco is unconscionable (Myers 1988), but beautiful clothing is as frequent an attribute of Inuit heros as ragged clothing is of socially excluded orphans (van Londen 1996). The widespread popularity among hunter-gatherers of exotic items of personal adornment, especially shell prehistorically (Baugh and Ericson 1994) and beads and cloth historically

(Karklins 1992), may relate to this potential for items that can be incorporated into personal dress to escape the necessity of general distribution. Alternatively, to the extent that possession of such desirable goods is tolerated as long as one shares them on demand, their acquisition may become an investment in the "dematerialized" surpluses that confer social credit or prestige on producers.

Age- and gender-based social differentiation are important features of all human societies, and provide the prototypes, as it were, for the construction of categories of achieved and ascribed status. Simultaneously cross-cutting and constituting these axes of social differentiation are multiple "microarenas" of competitive social practice that represent the media in which social differences are constructed, both between subgroups (women and men, young and old) and within subgroups. These can be seen to operate even in the presence of egalitarian ideologies, through a variety of strategies that escape the logic of equal distribution of food and the means of production and reproduction, namely investment in immaterial things, the conversion or dematerialization of things, and manipulation of a class of more or less permitted material things.

The extent and intensity of sharing may decline under a variety of circumstances, but especially due to increasing economic security. This security may be most liable to occur in areas of resource abundance, but more generally can accompany the development of more efficient means of surplus production (due for example to heightened intragroup labor coordination, increasing intergroup economic integration, or domestication). The inception of organizational changes of the latter sort appears to have been a nearly universal response of human populations to

encountering the limits of expansion of economic systems based on geographically extensive, mobile hunting and gathering at the end of the Pleistocene. The implication of abundance for a social system seen as already internally differentiated and competitive is an expansion of the limits within which differentiation is tolerated; the topography of prestige becomes increasingly rugged, with more lucrative rewards and more perilous risks. To explore the way in which the field of social differentiation becomes increasingly congruent with a field of power and wealth under these conditions benefits from additional theoretical concepts.

Difference and power

The degree to which relations of social difference acquire an inflection of social *hierarchy* varies widely. The manner in which power becomes inscribed in a social relationship must relate to the ability of an individual or group to promote indifference, deference, or complicity in social acts initiated by the latter. This may be achieved through the deployment of either or both of two broad categories of individual motivation - fear and desire - or by so disguising the strategic self-interest of the act as to obscure any consciousness of the social effect produced (or by naturalizing those very effects). Fear and desire represent a sort of yin and yang of social power that figure in social differentiation in societies at all levels of complexity. For example, desire to acquire the knowledge and skills (both social and economic) and possessions that elders control secures the participation of the young in age-based hierarchies, and fear (threat of violence or supernatural sanction) may frequently underlie gender asymmetries. In more complex and/or inegalitarian

societies the scope of both of these is expanded. Heightened inter and intragroup specialization and exchange increase the range and abundance of desirable commodities for which accumulation may be tolerated. The more complex economic articulation of individuals provides a ready-made alliance structure that may be mobilized for violence or threat in intra- and intergroup conflict (Coupland 1988; Spencer 1972). But it is the sheer proliferation of cultural roles and productions that gives rise to a social field of sufficient complexity that the agency and horizon of any individual comes to appear circumscribed, relative to the universe of possible social acts and knowledges. Bourdieu has developed a theory of the social field that is useful for modeling the imbrication of power and difference in this context.

Bourdieu's theory of social practice revolves around the concept of habitus:

The conditionings associated with a particular class of conditions of existence produce *habitus*, systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them (Bourdieu 1990b:53).

Through this vision of a reciprocal (re)production of the individual and the social, encompassing both individual perceptions and external structures, Bourdieu aims to reconcile the seeming incompatability of a structuralist objectivism (in which individual action is inherently constrained by externally imposed rules of thought and conduct) and an interactionist subjectivism (that derives structures from the interactions amongst self-conscious, common-sense agents [Bourdieu 1990b:129]).

Thought and actions are structurally constrained rather than purely elective, but

through a process of internalization of the structure of the social field as it exists at a particular historical moment; structure is practically produced and reproduced *within* individuals, rather than providing a pre-existing set of objective constraints on their actions.

Habitus generates the cultural competencies and expectations of individuals that specify the positions they are prone to occupy in social space, as a matter of both predisposition and capacity. Members of a dominated or dominant fraction of society pursue a particular career or lifestyle not merely because their opportunities are determined by inherited capital and learned abilities, but because they also possess the essential complement to opportunity, namely an embodied affinity for particular roles and cultural practices, produced through lifelong enculturation. Individuals may strategize, but always with respect to a particular understanding of, and perspective on, the social field that is predicated on their prior acquisition of the habitus peculiar to their social fraction and the corresponding position they occupy in social space.

Bourdieu (1984, 1985) claims to have discerned empirically that the positions in social space to which habitus predisposes one can be effectively described in terms of the volume and configuration of two varieties of capital possessed by individuals: economic and cultural. Economic capital represents inherited and accumulated wealth and possessions, while cultural capital refers to the suite of (inherited and accumulated) cultural competencies an individual controls. This dichotomy corresponds to one between the *materialized* and *embodied* properties of an individual agency (Bourdieu 1985:724), both of which are essential to any characterization of an individual's position in social space. The social recognition

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accorded to particular varieties and combinations of economic and cultural capital, their value or legitimacy, Bourdieu refers to as symbolic capital ("commonly called prestige, reputation, renown, etc." [ibid.]) and is equivalent to a symbolic power, a power to classify and rank the attributes of, and positions within, social space.

The concept of habitus helps us envision the way in which specific domains of social practice, and specific patterns of choice or competence within these domains, are drawn together into the constellation of differences that distinguish fractions of society, given that "the properties attributed to agents or institutions present themselves in combinations which have very unequal probabilities" (Bourdieu 1990a:133). Shared patterns of acquisition of particular categories of activity, occurring within shared material and symbolic domains (distinctly configured dwellings, neighborhoods, or communities filled with familiar types of objects and resonating with myth, proverb, taboo, and the residues of memory from the ongoing history of their use and occupancy) delineate regions of meaning and practice within social space. Through the internalization of the structures of local experience, individuals and groups of individuals are enculturated into domains of meaning and practice in such a way as to ensure the reproduction, the structural persistence, of these domains. These domains represent spheres of social understanding and competence, described by a horizon of awareness, which are simultaneously prisons, constraining the practical agency of individuals and naturalizing the social world as it is experienced.

The ranking of positions in social space with respect to each other is to a large extent the outcome of symbolic struggles over the cultural legitimacy of particular

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patterns of practice, particular habituses. Every cultural act has sociopolitical content insofar as it stands in some relation of similarity or difference to a body of prior acts that are previously associated with a particular position or set of positions in social space. Coherent sets of cultural choices (with respect to material culture styles, the design and use of dwellings, ritual activity, etc.) tend to accrete around certain core practices, especially economic roles in Bourdieu's analyses of modern societies. Economic roles are linked to power by virtue of the conditions of their attainment. These conditions include the volume of economic capital required to engage in them (e.g., to acquire land, materials, equipment, knowledge, or the labor of others) and the training required to master them. These put a premium on an individual's inherited economic and cultural capital, that is, on their particular habitus, due especially to the advantage conferred by immersion from childhood in the process of acquiring an embodied mastery over some practice.

Wherever economic role differentiation exists, as it does to some extent in virtually all societies (if only to the extent of part-time specialization in such things as curing or divining), the social field can be considered differentiated, opening up the investigation of distinguishing practices and competencies. Some of the key expressions of habitus that recur in Bourdieu's analyses include the organization and marking of architectural space, the way in which gender relations are construed, and patterns of material culture choice (patterning in the construction of categories of social difference may be mapped from one region onto another, as Bourdieu [1990b:72] suggests occurs with gender: "the fundamental oppositions of the social order...are always sexually overdetermined, as if the body language of sexual

domination and submission had provided the fundamental principles of both the body language and the verbal language of social domination and submission"). Symbolic power consists in the capacity to appropriate, defend, transform, and discard the choices that define access to positions in social space. Symbolic power is thus a power to arbitrarily invest difference with meaning, to rank differences as a means of conserving the value of particular practices.

The inherent arbitrariness of many of the things that are symbolically valued (the possession of which conferring or reflecting social dominance) is revealed by the tendency of "the logic of the struggle for distinction" (Bourdieu 1984:78) to move its stakes into new domains when the old ones are co-opted by illegitimate aspirants. This is analogous to the process of competitive emulation noted by Renfrew (see papers in Renfrew and Cherry 1986) and Cannon (1989). Economic capital tends inevitably to become implicated in cultural capital, since individuals in competition attempt to invest in meanings and practices that are relatively immune from emulation, i.e. that involve rare or exotic (hence costly) things, or a complex body of knowledge and competency that presupposes a long and involved training (hence freedom from economic constraints). The most extreme expression of this logic is the creation of such esoteric systems of signification that the meanings become obscure to other agents, and can only be interpreted by those participating in the system who already possess appropriate types and quantities of economic and cultural capital. Elites thus direct much of their communicative action toward other elites, and only obliquely, through a symbolic exclusion, at non-elites, except to the extent that they construe themselves as the privileged interpreters of the system in

which they have invested (e.g., as ritualists).

While Bourdieu emphasizes the coherency of the habitus, and its fundamental adjustment to a structured social practice of which it represents an internalized version, other emphases are possible. For example, the meanings promoted by elites are not unproblematic, but subject to resistance and contestation. In addition, individuals do not occupy a static position within the social field. Habitus defines some range of social options, of potential trajectories an individual may follow over a lifetime, hence individual social identities can be seen as changeable. Identity is not only variable over time, but differentiated or multiple at any given moment (Moore 1994). Social difference can thus be found even within the individual. Finally, since habitus represents an adjustment of practice and understanding to a particular social milieu, contact with alternative social formations raises the possibility of consciousness shifts. This may be a particularly important vector of social change among small-scale societies surrounded by ethnically diverse neighbors, and indeed Inuit (and other) culture hero myths frequently involve the odyssey through exotic social worlds of a low status individual who returns to assume a superordinate role in his home community (e.g., van Londen 1996). Habitus is not monolithic, but potentially fragmentary and fluid, creating opportunities for more radical social change than its routine functioning might imply.

Excavating difference

Bourdieu has developed not only a body of high level social theory and concepts that has proved useful in archaeological interpretation (e.g., Yates 1989), but has

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also provided practical demonstrations of the analytic idiom which helps constitute his theoretical stance in the first place (see especially *Distinction* [Bourdieu 1984] and *Homo Academicus* [Bourdieu 1988]). What is particularly compelling about Bourdieu's formulation of social life, from an archaeological point of view, is precisely that it is pre-engaged with the analytical methods for studying and describing it (is "concordant," in Carr's [1985] terms): "The social field can be described as a multidimensional space of positions such that every actual position can be defined in terms of a multi-dimensional system of co-ordinates whose values correspond to the values of the different pertinent variables. Thus agents are distributed within it, in the first dimension, according to the overall volume of the capital they possess and, in the second dimension, according to the composition of their capital" (Bourdieu 1985:724). This metaphoric construal of the social as a multidimensional space or field that is well-described in two dimensions converges with the statistical techniques Bourdieu employs for analyzing and representing it, namely multivariate statistical analysis.

Furthermore, in putting habitus at the center of his theoretical framework, Bourdieu privileges the conjunction of embodied practice and the material world as the locus for the production and reproduction of social structure, while deemphasizing the ideal structures (formal ranks, castes, strata, kinship statuses) with which anthropologically oriented social archaeologists have long struggled. Social status, one's position in the social field, is expressed (and produced) through a lifelong engagement in cultural productions and performances with an important material component. *Distinction* is a catalogue of the materialized practices, the distinctive and distinguishing expressions of taste in furniture, art, music, clothing, food, sport, occupation, etc., that are homologous with social origins and trajectory in contemporary France. Elsewhere (e.g., Bourdieu 1977), Bourdieu has emphasized the importance of the dwelling, a structuring structure *par excellence*, for shaping the embodied perceptions and social practices of its inhabitants. The house not only compartmentalizes activities, but manages also to incorporate a vast array of cultural meanings, through the mapping of myths, proverbs, and classificatory schemes onto its spatial organization, and the transference of these meanings onto the practices that occur within it.

The importance of the house, and spatiality more generally, in the production of social relations, and in the insertion of these relations into wider webs of meaning, has been increasingly recognized by archaeologists (Wilk and Rathje 1982; MacEachern et al. 1989; Kent 1990, 1991; Pearson and Richards 1993; Nielsen 1995; Coupland and Banning 1996; Steadman 1996) and others (Lawrence 1982; Moore 1986; Lawrence and Low 1990; Carsten and Hugh-Jones 1995; Levinson 1996). "Household archaeology" has now emerged as a legitimate archaeological subfield, and a primary research orientation in some regions and time periods (see e.g., papers in Banning and Coupland [1996], discussion in Ames [1994] for the Northwest Coast). This label encompasses a variety of research endeavors, including the attempt to relate cross-cultural regularities in house form and size to broad environmental, demographic, and socioeconomic parameters, in a more or less processual vein of archaeological analysis (e.g., Binford 1991; Whitelaw 1991; Hayden et al. 1996), and post-processual interpretations of the organization of

dwellings that emphasize sociosymbolic aspects of spatial structure and practice (e.g., Hodder 1990; Barrett 1994). That archaeological fascination with houses does not respect theoretical allegiance reflects the profound importance of architectural and house assemblage data wherever these occur archaeologically, not least because the household is a basic unit of economic production and social reproduction in most small-scale societies. Dwelling and, by the same logic, community layout are the closest things we have to blueprints for prehistoric social organization, and when combined with the contents of dwelling refuse deposits, allow the development of reconstructions of household-based patterns of intracommunity labor organization (review in Hendon 1996).

Although gender is recognized as a critical structuring principle of both dwelling layout and household labor organization (Kent 1991; Moore 1992; Spain 1992), there have been relatively few attempts to dissect the internal arrangement of gendered activities in dwellings based on the full range of available archaeological data. This is in spite of an accumulated body of spatial analytic methods (Hietala 1984; Kintigh 1990; Blankholm 1991; Kroll and Price 1991) suitable for the task. Since the house is the preeminent location of the production of habitus, and gender is one of the most important axes of individual and group differentiation (Bourdieu 1984:107-108), to understand differences *between* households in the structuring of social dispositions (hence social positions) we should be undertaking detailed intracommunity analyses of variability in the organization and symbolic inflection of gendered spaces.

The immediate problem in matching activities to architectural spaces is

determining the origin and history of the refuse that occurs in distinct dwelling or site contexts. This involves controlling for both preservational and depositional variability. Categories of refuse that can be determined to occur in use-related primary context (i.e., were discarded or abandoned at their location of production or use, including residual primary, de facto, and some provisional refuse, sensu Schiffer [1987]) provide a potentially rich database for directly inferring the spatial arrangement of activities. However, most of the artifactual and ecofactual material recovered by archaeologists tends to occur in transposed primary context (i.e., having been deliberately removed to disposal areas from high-traffic activity areas), or in secondary context (the context of its original discard or abandonment having been substantially altered by subsequent cultural and natural site formation processes). While secondary deposits may have been so profoundly transformed as to make them useless for all but site-level interpretation, refuse in transposed primary context (secondary and some provisional refuse, [Schiffer 1987]) may provide a reasonably representative cross-section of the spatio-temporal association of household or group activities, subject to preservational and curational biases.

This is due to the fact that human activities, including ones that generate refuse, are not randomly distributed in space, but tend to occur (and recur) in spatially delimited regions, whether or not enclosed by architectural features like walls. Similarly, activities tend not to be temporally diffuse, but to occur (and recur) for delimited periods of time. Activities must thus be conceptualized in four dimensions (three dimensional space and time) that are punctuated by different "densities" of use or occupancy. The activities of agents are *regionalized* (Giddens 1984, 1985;

see also Pred 1985), and can be envisioned in terms of vectors, points and areas that are the sites or regions of differential occurrence of particular categories of activity, and differential use by particular categories of agents. Although most spaces are multipurpose, used by various individuals or groups for various things, and hence activities frequently overlap in three dimensions, the differential use of space is clarified, analytically, when the dimension of time is added, since different activities and individuals tend not to occupy the same space at the same time.

To the extent that some everyday dwelling- or site-based activity (eating, manufacturing) generates refuse that interferes with subsequent uses of a space, that refuse will tend to be removed by regular maintenance or discard processes, and to the extent that activities are regionalized with respect to some pertinent social variable, such as age, gender, class, or economic role, the refuse thus periodically removed will represent a residue of the socially and symbolically distinctive suite of activities performed by an individual or group in a region of time-space. A secondary refuse deposit, say a kitchen midden, can thus be thought of as the product of numerous superimposed dumping episodes, each of which represents a sample of refuse drawn from the regionalized practice of the users of the dump. Whatever the associated domestic maintenance processes, a tendency can be deduced for the spatio-temporal association of refuse-generating activities to be preserved in more or less attenuated form in the spatial associations of categories of refuse (exhausted tools, manufacturing waste, food debris, etc.).

The degree of subsequent smearing of this initial association (amongst the objects in, say, a basketload of household garbage) will be determined by the mode

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of disposal and the taphonomic history of the discard context (e.g., scavenging by people or animals). A fine-grained midden deposit might preserve the stratigraphic integrity of individual dumping episodes, while a very coarse-grained record might preserve much weaker associations that will only emerge if a large number of depositional contexts (features, strata, arbitrary unit-levels) are available for analysis. In fact, it is precisely the regionalization of activities, in concert with discard processes themselves (i.e., factors influencing the nature and periodicity of collection and disposal of refuse) that should be the proximate source of any structure in primary and secondary refuse deposits not due to post-depositional taphonomic transformations. This structure will emerge as local departures from the aggregate contents of the deposits under consideration. The categories of tasks, objects, styles, and materials that distinguish the meaningful and practical enaction of a materially reified habitus will thus, by virtue of the meaningful and practical regionalization of embodied activities, tend to be associated to a greater or lesser extent in an analytically observable fashion.

In order to begin unfolding the axes of social difference (with respect to such things as gender and status) that structure material patterning in the record, we need to establish linkages among analytic domains, especially between refuse deposits and architecturally describable dwellings or rooms, and between categories of refuse and a gendered division of labor and status. The methodological and interpretive tools of a household archaeology are essential at this juncture. Feminist anthropology additionally provides a body of theory necessary for modeling the intersection of power and social identity in small-scale societies, although the

archaeological operationalization of these concepts requires additional attention. It is essential that we refine our techniques for inferring gender associations, for actually identifying the traces of women, children, and men in the record, if archaeology is to proceed beyond the (inevitable) reflection of contemporary gender conflicts and anxieties. Determining a gender association for a particular task, such as pottery manufacture or flintknapping, on the basis of artistic representations, mortuary associations, skeletal pathologies, direct historic analogy, or, as a last and only provisional resort, cross-cultural regularities in the performance of this task, we can then look for statistically emergent spatial associations (in various categories of primary and secondary refuse) between the residues of this activity and other artifact and ecofact types, not limiting ourselves to the discovery of toolkits. Associations amongst functional tool classes are important, but so too are associations amongst tool classes and the refuse from consumption of various plant and animal foods, and with architectural loci, ritual paraphernalia, material types, stylistic motifs, and so on. In seeking to discover the sets of social difference that constituted the generative principles of social practice, we need to draw together as wide a range of meaningful and practical linkages as possible (Hodder 1991).

By drawing attention to the enaction of social identities through material practices, Bourdieu frees archaeologists from the burden of identifying ideal structures (rank, stratum, caste, kinship category) in prehistory. As core features of habitus, economic role, gender relations, and spatial practice are accorded analytic prominence, but the archaeological wealth of idiosyncratic detail on the material culture of social groups and individuals acquires added significance in light of Bourdieu's theorization of its importance for the construction of social difference.

CHAPTER 3: OUTLINE OF THULE PREHISTORY

Introduction

The Eastern Arctic, comprising the portions of Canada east of the Mackenzie Delta region and north of the tree line, along with Greenland, was first colonized by Paleoeskimo groups of the Arctic Small Tool tradition (ASTt) approximately 4000-4500 BP. The Paleoeskimo occupancy was punctuated by regional abandonments and subsequent recolonizations, culminating in a general collapse of Dorset Paleoeskimo populations roughly coincident with the initiation of a second major migrationary pulse from the west, that of the Neoeskimo Thule culture beginning at ca. AD 1000 (see review in Maxwell 1985).

The extent to which Dorset groups survived into the period of Thule occupation, and interacted with Thule peoples, is a matter of longstanding debate in arctic archaeology (e.g., review in Park 1993). While recent reports of late 12th century ¹⁴C dates on Late Dorset in the High Arctic (Helmer et al. 1993; LeMoine and Darwent 1998) continue to bolster the case for temporal overlap, the absence of unambiguous archaeological indicators of Dorset-Thule contact, profound changes in late Late Dorset material culture and settlement organization, and the historically documented Dorset abandonment of southern Greenland before the Norse arrival in the late 10th century, suggest at the very least that Dorset groups were in crisis, and probably in severe decline. Whether any survivors were assimilated by Thule groups could be revealed by comparison of ancient DNA from Dorset and Thule human remains (Dorset burials are exceedingly rare, but hair and teeth occur frequently in archaeological collections), but present evidence suggests replacement

of Dorset populations was virtually complete. Through descent from these Thule migrants, Historic Inuit can be considered the descendants of Birnirk populations of North Alaska (Utermohle 1988), and indeed the Thule migration itself might be seen as merely an eastward *continuation* of the colonization of North Alaska by Birnirk groups that was underway by about AD 500.

Canadian Neoeskimo chronology

The Thule culture was first recognized as a result of the researches of the Fifth Thule Expedition (Mathiassen 1927). The expedition's archaeologist, Therkel Mathiassen, noted the similarity of Thule and North Alaskan subsistence-settlement systems, namely the emphasis on bowhead whaling and the frequent occurrence of land-based winter villages of semi-subterranean sod, stone, and wood or whale bone houses. Although failing to recognize the scattered evidence of an earlier Paleoeskimo occupation in his excavations of Thule winter sites (Jenness [1925] distinguished Dorset from Thule material culture by analyzing museum collections) and downplaying continuity between Thule and Historic Inuit culture (the Thule origins of the Inuit are now widely accepted; e.g., McGhee 1972), Mathiassen correctly posited a Thule migration from North Alaska at ca. AD 1000. Not only was Mathiassen's description and categorization of Thule material culture so thorough as to have undergone little subsequent modification, but his chronological estimate for the migration (based on the elevation of Thule sites above sea level, and the extrapolation of isostatic emergence rates from better-studied Scandinavian beach ridges) proved to be extremely resilient.

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Archaeologists have struggled to refine the Thule chronology ever since, but the delay in recognizing the difficulty of correcting for reservoir and fractionation effects in ¹⁴C dates based on sea mammal materials (McGhee and Tuck 1976; Arundale 1981) has meant that most Thule sites excavated before the early 1980s are relatively poorly dated, radiometrically. This situation may now have changed dramatically with Dyke, McNeely, and Hooper's (1996) determination of a marine reservoir correction for ¹⁴C dates on bowhead whale bone originating in the Canadian Arctic.

Most of the wood utilized by Thule groups was obtained as driftwood, and has been considered useless for ¹⁴C dating because of the unknown period of time during it which it may have been in transit. In the aggregate, however, ¹⁴C dates on driftwood match those on terrestrial materials (willow, heather, terrestrial mammal bone and antler) quite closely for the Thule period as a whole (Morrison 1989), and are due for cautious revival (Eggertson and Laeyendecker 1995:184). In fact, the vast majority of the driftwood deposited in the Canadian Arctic Archipelago has probably been in transit across the Arctic Ocean and North Atlantic for decades rather than centuries (ibid.; Dyke et al. 1997), although the conditions and mechanisms of its delivery vary over time due to climate and currents. The "old driftwood" problem may be more serious for components relating to the first occupation of any given area than for later Thule settlement.

Excluding problematic dates on marine materials, and distinguishing driftwood dates, Morrison (1989) has calibrated the Thule ¹⁴C database. Based on his analysis, the inception of the migration appears to be well-dated to about AD 1000,

and a second discrete migration event into the High Arctic from Alaska (the Ruin Island Phase [McCullough 1989]) to about AD 1200. There is a steep decline in Thule dates at AD 1400 corresponding to the Classic-Modified Thule transition (previous placements of the Classic-Modified Thule transition as early as AD 1200 should now be adjusted in line with these results). Thule groups progressively abandoned most of the Canadian Arctic Archipelago between about AD 1400 and 1500, leading to the expansion of settlement in previously occupied Low Arctic regions, and the colonization of new territories in southern Greenland (Jordan 1984), Labrador (Kaplan 1980; Fitzhugh 1994), and Nouveau Quebec (Maxwell 1985).

The abandonment of the Norse colonies during the 15th century (McGovern 1994) can be considered a related process. Consonant with these movements was the reorientation of subsistence-settlement systems, including a decline in land-based winter settlement, the intensification of fishing and winter breathing hole sealing, and the decline or abandonment of intensive bowhead whaling. The progressive breakdown of the stylistic homogeneity of Thule material culture during Modified Thule times further implies reduced interregional interaction. The subsequent Modified Thule-Historic Inuit transition proceeded unevenly across the Eastern Arctic. It occurred primarily during the 17th and 18th centuries in Greenland and Labrador (Gullov 1985; Jordan and Kaplan 1980), following sporadic 16th century contacts with Europeans, and at about the same time along various parts of the Hudson Bay coast (Clark 1977, 1980). In spite of isolated European visits to Baffin Island in the late 16th century (S. Arnold 1993; Fitzhugh and Olin 1993), the historic period only began in earnest in most of the Canadian Arctic during the 19th

century, as whalers, explorers, traders and missionaries increasingly penetrated the central regions from both east and west (see reviews in Damas 1984).

Eastern Classic Thule

The very different settlement histories of various parts of the Eastern Arctic make the application of a uniform scheme of chronological subdivisions within Eastern Classic Thule problematic, and previous proposals (e.g., McGhee 1984a) have not met with general acceptance. The problem is exacerbated by the scarcity of features or sites dated by multiple ¹⁴C determinations on terrestrial materials from well-defined contexts, and uncertainties over harpoon head seriations developed by Mathiassen (1927), Ford (1959), Collins (1937) and others (discussed in Park 1994). However, the existence of a few well-dated and/or briefly occupied sites/features, and especially stylistic cross-ties with the North Alaskan sequence, allows the discrimination of a phase of initial colonization that, following Arnold (1986), can be labeled Pioneering Thule.

Immediately pre-Thule Neoeskimo sites in North Alaska assigned to the Birnirk culture exhibit very substantial continuities with Thule material culture, but distinctive harpoon head styles (Stanford 1976). In particular the Natchuk harpoon head type is clearly derived from the earlier Birnirk type, and is sufficiently rare in the Eastern Arctic that it can be considered a relatively brief stylistic "moment" in the Eastern Thule sequence (Figures 4 and 5). It is widespread in only the earliest



Figure 4. Distribution of Natchuk and Sicco harpoon heads

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Figure 5. Major Thule harpoon head types

Western (i.e., Alaskan) Thule components (ibid.; Larsen and Rainey 1948; Giddings and Anderson 1986), and in the Western Canadian Arctic occurs at the Nelson River site (Arnold 1986), well-dated to about AD 1000 (Figure 6), as well as Washout (Yorga 1980), Cape Kellett (Manning 1956), Co-Op, and Lady Franklin Point (Taylor 1963). In the central region, it occurs at M-1 (Collins 1952), Maxwell Bay (Taylor 1963), and an unnamed site near Pond Inlet. Natchuks provide an unambiguous link between Late Birnirk and earliest Thule in both Alaska and Canada and map, with a frustrating gap, the pattern of Thule expansion from the Beaufort Sea coast to northern Baffin Island during the early 11th century. Other features sometimes considered diagnostic of earliest Eastern Thule (e.g., Arnold and McCullough 1990; Schledermann and McCullough 1980; Maxwell 1981) persist into later Classic Thule and even Historic times in some parts of the Eastern Arctic, including winter houses with a detached kitchen wing (Whitridge 1997) and pottery (Savelle 1986), and so are of limited utility.

McGhee's (1969/70) model of the Eastern Thule migration stands as the most systematic and influential attempt to deduce its characteristic social and economic formations, and is reasonably consistent with the data from Late Birnirk and Pioneering Thule components that have subsequently emerged (Stanford 1976; Arnold and McCullough 1990). Stevenson (1997) has recently proposed an alternative model of Eastern Arctic prehistory, including the Thule migration(s), based on a structuralist analysis of historic kinship terminology, but it relies on obsolete interpretations of the archaeological record and so has little relevance here.



Figure 6. Calibration of combined dates (R_COMB) from Nelson River (1031±52BP)

McGhee argued that the climatic amelioration of the Medieval Warm Period from ca. AD 900 would have encouraged the development of open water whaling techniques by Birnirk groups along the North Alaskan coast (perhaps by adoption from Punuk groups in the Bering Strait/Bering Sea region). A simultaneous expansion of bowhead summering range in the Beaufort Sea region would have made its coasts at least as attractive as those of the Chukchi Sea. Because of the difficulty of predicting summer bowhead aggregations, an eastward expansion of Birnirk groups to exploit these opportunities must have been based on mobile, open water whaling from relatively small settlements. Groups would establish winter quarters in proximity to successful whale harvests, but would not initially tie themselves to permanent winter village sites. The flexibility of this harvesting system would have facilitated relatively rapid exploratory settlement of the Eastern Arctic, even though McGhee's posited mingling of Pacific and Atlantic bowhead populations in a zone of continuous availability across the Arctic Archipelago probably did not occur (Dyke, Hooper, and Savelle 1996). Pioneering Thule whaling would thus have been quite different from that subsequently established at prominent points on the Chukchi and Bering Sea coasts, where productive spring shore lead whaling promoted the growth of large permanent villages from ca. AD 1200 (Sheehan 1995, 1997).

Eastern Arctic populations grew and expanded due to some combination of natural increase and continuing migration from the west (including the Ruin Island phase migration). Sicco harpoon heads (defined here as waisted Thule 3's with raised or parallel line decoration), a type that first appears in North Alaska during

Late Birnirk times as a borrowing from western Alaska Punuk (Yamaura 1979), are more common but only slightly more widespread than Natchuks, and like the latter appear to fall out of the sequence relatively early on (Figures 4 and 5). Thule harpoon heads identified as Siccos fall into at least two groups. Those from Pioneering Thule and Ruin Island Phase sites have elegant lateral "wings" that come to a sharp wedge-shaped point in cross-section. Those from early Classic Thule sites (e.g., Booth Islands, Qariaragyuk, Brooman Point) tend to be blunted laterally, and may approach an ovoid cross-section rather than being distinctly "winged." They may also be associated with undecorated Sicco-like Thule 3's, which variously are hexagonal in section, strongly waisted or shouldered, and/or possess vestigial side slots, although this type is somewhat more widespread than the Sicco, hence presumably later. While Siccos appear to fall out of the sequence fairly early on (perhaps the early 13th century), the cultural and chronological significance of this sort of stylistic variability has not been investigated. The abundance of sites lacking Natchuks and Siccos, and/or radiometrically dated to this period, suggest that populations expanded dramatically during the 13th through 14th centuries, as a vast integrated settlement network developed across the Eastern Arctic (McCartney 1991).

Following McCartney (ibid.:33-34), a Classic Thule "interaction sphere" can be posited on the basis of the widespread occurrence of such commodities with limited sources as meteoritic iron, native copper, Norse metal, amber, and nephrite, as well as the continuing homogeneity of material culture styles. A new harpoon head

variant, Morrison's (1983) Clachan type (essentially Thule 2's with inserted, rather than integral, barbed end blade), is distributed from the Mackenzie Delta to the Hudson Bay coast (Figures 5 and 7) and at least as far north as Bathurst and Cornwallis Islands (if not Greenland), and provides a horizon marker for this phenomenon (perhaps along with Sicco-like Thule 3's). The core of the Clachan distribution is the Coronation Gulf area, the major source of the native copper (as well as soapstone [Morrison 1991] and surplus caribou hides [Whitridge 1993]) that appears to have been among the more important Thule trade goods (Morrison 1987; McCartney 1988, 1991). The Clachan was made possible by a genuine Eastern Thule invention, the riveted end blade, since the laterally projecting barbed blade could probably not have remained in place under the stresses of harpooning a seal if it had been fastened with the traditional technique of converging prongs. The rivet may have been an adjustment, in the first place, to the inefficiency of the latter method for holding precious, hence thin, metal end blades. Thule harpoon head rivets are commonly made of copper and Clachan barbed blades (which have only been recovered in the Coronation Gulf area) exclusively so. In what amounts to a prehistoric marketing triumph, the Coronation Gulf copper trade thus provided both the commodity and some of its major modes of consumption.

The abandonment of the densely settled channels of the Central Canadian Arctic proceeded rapidly from about AD 1400, and can be circumstantially linked to the climatic deterioration of the Little Ice Age. The onset of this prolonged period of cooler temperatures (ca. AD 1400-1900) was abrupt, "the most dramatic change in atmospheric circulation and surface temperature conditions in the last 4000 years"



(Kreutz et al. 1997:1294). While bowhead whales did not disappear entirely from the Central Arctic, their distribution shrank and shifted (e.g., from the west to the east coast of Prince Regent Inlet; see Dyke, Hooper, and Savelle 1996; Ross 1993:542), and their period of availability likely diminished. In the High Arctic prehistoric settlement closely mapped the distribution of polynyas (Schledermann 1980a), areas that experience extended periods of open water and act as refuges for marine mammals and sea birds during the periods when sea ice prevails elsewhere. A decline in their seasonal extent and duration, together with the retreat of bowhead whale range, may have been truly catastrophic for Thule groups.

The settlement adjustments to these environmental changes resulted in the fragmentation of the Thule interaction sphere, through the creation of uninhabited zones separating Greenland (with its amber, meteoritic iron, and Norse goods) from the Low Arctic islands, and the Victoria Island region from the densely populated Mackenzie Delta region (Figure 8). The latter break prevented the diffusion of netting technology from the Western Canadian Arctic during the 15th century (Morrison 1990; Whitridge n.d.). This breakdown or drastic attenuation of the interaction sphere may have done as much to hasten the collapse of whaling as changes in bowhead availability, since, as discussed in later chapters, the conversion of whale products into other desired commodities appears to have been an essential element of the whaling economy.

Economy

Classic Thule economies were based primarily on the communal hunting of a

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variety of large-bodied mammalian prey so as to produce surpluses that could underwrite land-based winter settlement. Along the Central and High Arctic channels frequented by bowhead whales during their annual migrations (Figure 9), yearlings of this large species were targeted with a technology based on skin boats and elaborate harpoons with floats (McCartney 1980, 1995; McCartney and Savelle 1985, 1993; Savelle and McCartney 1988, 1990, 1991, 1994). The degree to which whaling communities successfully procured individuals of the preferred size varied according to the number of whaling boat crews put in the water, and the sex and age composition of the bowheads that occurred in the vicinity of particular settlements. Whales were flensed on or near shore, the surplus meat, blubber and maktak (skin) cached in boulder or gravel caches on raised beach ridges, and some returned, along with baleen and bone, to settlements for consumption and processing. In "core" whaling areas (sensu Savelle and McCartney 1994), caches occur in the thousands adjacent to large summer and winter villages, and may stretch for kilometers along the flensing beaches. In "peripheral" whaling areas, where whaling success was less predictable, settlements are smaller, probably necessitating the cooperation of several communities in the harvest (McGhee 1984a; Savelle 1987).

Contemporaneously with settlement of prime whaling grounds, Classic Thule groups occupied areas where whaling was less productive, there harvesting other large-bodied, aggregated marine mammal populations (including walrus, and more rarely narwhal and beluga [Savelle 1994]), as well as the ubiquitous ringed and bearded seals that were an economic mainstay in all regions. Ringed seals can be

Figure 9. Distribution of Thule whaling sites (after Dyke et al 1996: Figure 19) and seasonal bowhead migrations (Moore and Reeves 1993)



reliably harvested during all but the open water season throughout the Eastern Arctic, and were an important source of meat, blubber (for lamp fuel and food), and hides for producing waterproof clothing and *kayak* covers (a *kayak* is a covered oneor two-person skin boat used for hunting and travel; pl. *kayat*). Bearded seals are less common and their food quality somewhat poorer, but were sought for their thick hides for manufacturing *umiak* covers, thongs, and boot soles (an *umiak* is a large, open skin boat used for bowhead whaling and transporting people and cargo; pl. *umiat*). Other seals (harp, hooded) were of variable local importance. Open water harvesting of ringed seals appears to have been important initially in western and central Low Arctic areas where none of the larger-bodied sea mammals were abundant (Morrison 1983), but eventually gave way to other activities.

Caribou was the most important terrestrial species, and in Low Arctic regions could be harvested in large numbers during their spring and fall migrations using drive systems (*inukshuit*) to channel the animals to areas where they could be killed with bow and arrow or with lances from *kayat* (Stenton 1989; Savelle and McCartney 1988). Their meat and marrow were considered to have very high food value, and their sinew, antler and bone were important raw materials. However it was their superbly insulating fall hides, universally prized for winter clothing in the circumpolar north (Stenton 1991; Hatt 1969), that made caribou an essential resource. Arctic fox and polar bear skins provided less preferred substitutes, but these species were also actively trapped or hunted, especially on the High Arctic islands where caribou are scarce. Muskoxen were of local food importance on some of the Arctic Islands and on the Barrengrounds, but their hides make poor clothing. Marine and freshwater

fish species, especially the anadromous arctic char, were important in some Historic Inuit economies in the Eastern Arctic, but appear to have been a relatively low ranked resource for Classic Thule groups (Whitridge n.d.). Waterfowl, sea birds, and other avian species, as well as other small terrestrial game (arctic hare, wolf) were similarly harvested in consistently low amounts. Plant foods were of little dietary importance.

In addition to animal foods and raw materials, Classic Thule groups relied on a variety of gathered resources. Driftwood was scarce in most regions, but highly desired for boats, sleds, tents, weapon shafts, and numerous other small manufactured objects wherever bone, antler or ivory represented poor substitutes (Arnold 1994). Historically, wood was also obtained by special trips to the tree line. or through trade. Soapstone was utilized for lamps and cooking pots, but locally available stone or pottery often substituted (McCartney and Savelle 1989; Savelle 1986). Crypto-crystalline stone was generally of little importance to Classic Thule groups, being replaced by ground slate (and more rarely traded nephrite) and probably the highest level of metal use of any prehistoric group north of Mexico (see McCartney and Mack 1973; McCartney 1988, 1991). The bulk of this metal was traded from native copper sources in the Coronation Gulf region and from the Cape York meteorite in northwest Greenland. From at least the mid to late 13th century Norse metal was making its way into the Canadian Arctic, probably also by way of northwest Greenland (McGhee 1984b; Schledermann 1980b). Various plant materials were widely available for such things as lamp wicks and bedding. Trade in many of the above materials, and likely also such locally scarce or unavailable

animal products as bowhead *maktak*, baleen, and oil, caribou hides, other animal skins, and ivory, was widespread, judging from the regular occurrence of exotics on Classic Thule sites and the importance of trade ethnographically (see Stefansson 1914).

Thule economic activity thus consisted in the large-scale cooperative procurement of one or a few focal species, mainly during the late summer and fall, with reduced levels of harvesting activity at other times of year. For the larger bodied species, the typical Inuit division of labor assigned most harvesting to men and most processing to women. Women participated in animal harvesting through the maintenance of field camps, as drivers in caribou hunts, as sometimes major producers of small game and fish, but only occasionally as large game hunters themselves. The bulk of women's economic activity involved the processing of animal hides and the manufacture of clothing and other hide objects (tents, boat covers, bags, etc.), along with most of the food preparation, management of the household's stores, maintenance of the dwelling, and care of young children (from around the age of 8 [Guemple 1995:22], children assisted their parents in the tasks appropriate to their gender). Men's traditional roles included hunting large terrestrial and marine game, often including field butchery, caching and/or transport of the kill. and the manufacture of most implements made from bone, antler, ivory, wood, stone, and metal. An important feature of the Inuit GDOL is the extent to which women's and men's roles were complementary rather than overlapping. Even where women and men conducted similar tasks, such as fishing or butchering a carcass, they tended to employ different implements, different techniques, and

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engage in them in different spatial contexts.

Settlement systems

The Classic Thule harvesting economy was associated with a semi-sedentary settlement system (see Savelle 1987 and Savelle and McCartney 1988 for analyses of Thule subsistence-settlement systems in the Central Arctic; the following account is generalized from these and ethnographic sources such as those reviewed in Freeman 1976 and Damas 1984). The sod winter house anchored the annual round (Figure 10). It was situated on the coast close to stores put up in late summer/early fall, and probably occupied from freeze-up in the late fall until the onset of warm weather and new harvesting opportunities in late spring, a period of some 6-8 months (October/ November to April/May). Based on the abundance of snow knives and breathing hole sealing gear in winter house assemblages, and the scarcity of seals at these sites actually procured in winter, it seems probable that many groups spent at least part of the winter sealing from snow houses on the sea ice, most likely during the period of increasing daylight from February through April. The rest of the winter was probably spent in gearing up, ceremonial activity, and socializing (including interaction with nearby winter villages), with casual sealing, fox trapping, fishing, and bear hunting.

As the temperature warmed (April-June), sod houses were probably progressively abandoned for nearby tents or *qarmat* (semi-subterranean skin-roofed houses intermediate between a tent and sod house); tent rings and *qarmat* commonly occur at Classic Thule winter sites. Families may also have become mobile at this time,

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since the period before meltwater ponds on the sea ice and snow disappears from the land (April-May) is an excellent time for travel (i.e., to other communities or harvesting areas). It is also an important period for hunting first denning, and then basking, ringed seals, and the polar bears that feed on them. Early summer (June-July) is one of the most pleasant times of the year to be outdoors, with comfortable temperatures and 24 hour daylight. Basking ringed and bearded seals, caribou, small mammals, migratory birds, and sea-run anadromous fish would have been more or less casually pursued at this time, often from small tent camps scattered across the landscape. Some families may have set up tent or *qarmat* camps at particularly productive caribou hunting and fishing sites by interior lakes and rivers (e.g., Stenton 1989).

The bulk of the year's food production occurred in late summer and early fall (August-September). This is the open water season in the Central and High Arctic, hence the major period of availability of large migratory sea mammals (bowhead, walrus, beluga, narwhal). Fishing is most productive at this time, as ocean-fattened anadromous char and whitefish run into their wintering lakes. It is also the season during which caribou are in peak condition (nutritionally, and in terms of hide quality) and most aggregated. Where these resources were simultaneously available in a group's harvesting territory, there may have been an age- or status-based division of families into caribou hunters/fishers and sea mammal hunters, such as observed historically among the Mackenzie Inuit (Morrison 1988) and Iglulingmiut (Damas 1969b). Alternatively, the division of harvesting labor may have occurred predominantly at a regional scale, as in historic North Alaska (Burch 1988; Sheehan 1995, 1997), with intergroup trade the mechanism for evening out resource imbalances.

As the weather deteriorates and the sea freezes in late fall (October-November), families would have begun moving back to winter villages and preparing sod houses for occupancy. If the late summer/early fall harvesting zone was distant from the winter village a period may have been spent in *qarmat* at transit points on the landscape, waiting for travel conditions to stabilize, as was sometimes the case historically. However, because Classic Thule subsistence-settlement systems appear to have involved less complex residential mobility than Modified Thule and Historic systems, groups are less likely to have utilized such transit camps. Historic reliance on *qarmat* during spring and fall probably increased with the abandonment of heavy sod winter houses, as the harvesting economy shifted to a pattern of increasing winter mobility emphasizing breathing hole sealing from temporary snow house villages (Savelle 1987).

Social Relations

There has been relatively little explicit attention to Classic Thule social relations. The great burst in Thule research since the late 1970s has been predominantly concerned with zooarchaeological and settlement analyses of the harvesting economy (Henshaw 1995, 1999; Kankaanpää 1996; McCartney 1979a; McCullough 1989; Morrison 1983; Park 1989; Sabo 1991; Savelle 1987; Savelle and McCartney 1988, 1994; Stenton 1989). While this has produced a dramatic increase in our understanding of the seasonality, prey selectivity, spatial organization, and economic

organization of Thule subsistence-settlement systems, there has been little serious examination of the way in which these systems may have been socially embedded. There has been even less consideration of how social relations may have been ideologically construed, although McGhee (1977) long ago demonstrated the potential for exploring Thule symbol systems.

Stevenson (1997) has advanced an ambitious model of Inuit social organization that emphasizes the differential expression, or rejection, by historic groups of opposing principles of Inuit social life manifested in kinship terminology: *ungayuk* (solidarity) and *naluktuk* (hierarchy). The model relies primarily on ethnohistoric kinship data, with historical archaeological data brought to bear on Stevenson's main area of concern, variability in Cumberland Sound Inuit social systems. Although the development of Historic Inuit kinship from Thule antecedents is discussed (ibid.:309-321), the culture historical framework against which structural modulations of kinship are seen to unfold is highly idiosyncratic and at odds with much recent research.

In particular, Stevenson's positing of a West, rather than North, Alaskan origin for most Eastern Arctic Inuit collapses in light of the emerging consensus that the West Alaskan-derived Ruin Island phase migration was a relatively late, and geographically restricted, population influx. Canadian Inuit are descendants principally of migrants who ultimately originated in North Alaska, though West Alaskan (i.e., Punuk) influence was certainly an important ingredient in Late Birnirk/Early Thule developments in the former area (Collins 1937; Ford 1959; Yamaura 1979; Harritt 1995). A late prehistoric movement of Inupiat or Mackenzie Inuit into Coronation Gulf to which Stevenson vaguely alludes (ibid.:316-317) is
discordant with all available archaeological and ethnographic data (Morrison 1983, 1990; Arnold 1983).

While Stevenson's insights into Historic Inuit social systems are of potential archaeological interest, he provides no clues as to how these idealist readings might be converted into falsifiable archaeological models. His kinship structures exist as invisible but rigid constraints on social action, except to the extent that structural contradictions within the system spark revolutionary social change. Phrasing social relations in this high structuralist idiom moves us further away from an archaeologically operational approach to prehistoric social practice.

In contrast, McGhee (1984a) approaches social organization through actual archaeological data, by first attempting to determine a Classic Thule winter village's population based on house contemporaneity, use life, and the residential capacity of dwellings. Park (1997) has employed a similar approach at the nearby Porden Point site, and arrives at similar conclusions. Although such things as McGhee's equation of single house floors with single seasons of occupation, and his interpretation of the thin midden accumulation, can be challenged (Whitridge 1996, and below), the notion that prehistoric Thule social organization can be tackled through analyses of site structure, house architecture, and intrasite differences in resource consumption (see also Park 1989), and then related to larger regional subsistence-settlement systems, is a fertile one, and has not been adequately pursued by subsequent researchers.

McGhee also explicitly compares alternate ethnographic models of the Thule social economy. He rejects a Central Inuit or North Alaskan Inupiat analogy, the

latter on the basis of the contrast between the sort of small-scale whaling practiced by a number of small cooperating communities posited for the Barrow Strait region, and the typically large-scale whaling from large settlements documented ethnographically for North Alaska. Even if it is allowed that the large Brooman Point winter village (the argument also extends to Porden Point) represents a palimpsest of several small, sequentially occupied settlements (Savelle et al. n.d. critique this approach to house contemporaneity), small-scale whaling from villages with six or seven winter houses is a known variant of the North Alaskan whaling pattern (Burch 1981). Furthermore, the sort of whaling practicable at the periphery of the bowhead summering range was probably quite different from that possible where whales were relatively abundant and predictable, namely in the core whaling zone of Prince Regent Inlet and Lancaster Sound (Savelle and McCartney 1994). There was a great deal of variation amongst Classic Thule whaling economies, and that associated with High Arctic sites like Brooman Point and Porden Point may occupy the least complex end of the spectrum.

McGhee's preferred organizational analogue is the Labrador Inuit, who wintered in communal houses with about as many residents as are inferred for Brooman Point, community size being constrained in both cases by the absence of an effective authority structure beyond the extended family group. This comparison is not unreasonable for small Thule communities, which probably were composed of a few closely related families under relatively loose leadership. For North Alaska, Burch (1981) refers to such groups as local families, noting that they often occupied a group of adjacent dwellings, or *upsiksui*. The membership of small villages was

essentially coterminous with a local family, but these groups were merely the constituent units of large whaling villages like Tikiraq and Utqiagvik. Multiple contemporaneous house groups analogous to North Alaskan upsiksui occur at sites in the Central Arctic core whaling area (Whitridge 1996), indicating that some of the larger Classic Thule winter villages were composed incrementally of such extended family groups (Whitridge 1994a; Savelle and Wenzel 1996). However, median Thule winter site size for the Eastern Canadian Arctic, based on McCartney's (1979a) exhaustive inventory and additional survey data collected by Savelle (1989), is five houses (a mean of 7.4), indicating that a majority of settlements were in fact organized at or below the scale of a local family or "microband" (Damas 1969a). The danger in McGhee's and Park's approach is to generalize from these smaller sites to all Thule sites, or to "Thule society" in general. Forty-one percent (823/2016) of the houses in this sample occur in settlements with 15 or more houses (i.e., in settlements one standard deviation or more larger than the mean) indicating, subject to interpretations of house contemporaneity, that a substantial proportion of the Classic Thule population may have participated in more complex social networks for at least half of the year (McCartney 1980).

Savelle (1987:202-213) has drawn attention to the more structured (i.e., more organized, or complex) arrangement of Classic than Modified Thule or Historic winter sites in the Central Arctic, and of those in predominantly whaling as opposed to caribou hunting regions; the greatest social and organizational complexity occurs amongst the most logistically organized groups. Savelle notes that this dichotomy is analogous to the "Siberian" and "Eskimo" poles of community organization proposed

by Chang (1962). This is supported by a correlation between a high degree of spatial structure and the occurrence of features analogous to the Western Arctic *karigi* (pl. *kariyit*), a community structure erected by an *umialik* as a workshop for his whaling crew and a center for village ceremonial (see McCartney 1977, 1979b; McCullough 1989; Habu and Savelle 1994 for excavated examples).

This patterning is further borne out by a comparison of Classic Thule whaling sites classified according to their peripheral, intermediate, or core location with respect to summer aggregations of bowheads (Grier and Savelle 1994); regions with highest whaling success exhibited the greatest winter village spatial organization, and hence likely the greatest socioeconomic complexity. Sites in the latter areas also appear to have been more closely articulated with each other in information-exchange networks, reflecting heightened intergroup interaction among the larger and more complex whaling communities (Savelle 1990). All of these observations are consistent with the argument that the population of some large Thule winter sites was large, rather than such sites representing merely sequential house occupation.

McCartney (1991) explicitly relates an expanded set of such indices of Classic Thule organizational complexity to the North Alaskan pattern of wealth-based social hierarchy as outlined by Burch (1980, 1981) and others (Sheehan 1985; Cassell 1988). North Alaskan *umialit* participated disproportionately in inter- and intragroup exchange, by virtue of their control over large shares of the whaling harvest, and their position at the apex of the network of social alliances that was necessary for the creation of the whaling crew in the first place. The wealth, status, and authority of *umialit* were thus reflexively determined by their ability to convert whaling products

into other desirable goods, which they would then distribute through various exchange mechanisms (Burch 1988) to reinforce their social position. The occurrence of extensive trade in luxury and staple goods, surplus production and storage of whale products, regional clusters of large whaling villages, and *kariyit*, suggested to McCartney that Eastern Classic Thule societies may have been characterized by a similar form of wealth-based status differentiation between *umialit* and others, and that such differences might be observable archaeologically (McCartney 1991:39). The research reported here essentially represents an exploration of some of the implications of McCartney's and Savelle's model of the Classic Thule whaling economy. The model and its implications are fleshed out in the following chapter.

CHAPTER 4: A MODEL OF THULE SOCIAL RELATIONS

Analogies for Thule whaling

The following model of Thule social relations proceeds mainly from a consideration of the contact-era North Alaskan social system. The use of analogy is unavoidable in archaeology, whether that analogy is based on a direct comparison of historically related societies, or the application of more general anthropological principles distilled from cross-cultural investigations. Even the most benignly abstract social theory is developed with respect to an understanding of real social systems, both lived and observed. The use of specific historical analogies, as of general social theory, involves the danger of projecting too much onto the archaeological record, of obscuring the historical particularity of past societies. However, especially at this early stage of research into Thule society, it is necessary to develop an analytic backdrop against which points of similarity, contrast, and ambiguity with respect to ethnographically described societies can be thrown into relief. Since a wealth of ethnographic, linguistic, biological, and archaeological data indicates that all Inuit societies (from Seward Peninsula in West Alaska east to Greenland) share a relatively recent common ancestry, one clearly arising from the Thule expansion, all are of potential use for modeling the Thule social economy.

The difficulty with the ethnographic records of southern Greenland and Labrador Inuit societies (which engaged in small-scale bowhead whaling) is the protracted period of European contact that preceded anthropological study (Gullov 1985; Kaplan 1985). Profound contact-era social change is reflected in the abandonment of traditional multidwelling winter settlement organization for communal houses

during the 17th century (Schledermann 1976; Richling 1993). Sustained contact with groups in the Central and Eastern Canadian Arctic occurred much later, but these societies had already experienced a major transformation of subsistencesettlement systems at the Classic-Modified Thule transition, and there are few data on aboriginal whaling that persisted into historic times (Parry and McLure cited in Murdoch 1988:276; Mitchell and Reeves 1982; Stoker and Krupnik 1993). Bowhead whaling by Mackenzie Inuit is similarly poorly documented, but it appears to have been practiced to some degree by a number of groups in the Mackenzie Delta region (McGhee 1974; Reeves and Mitchell 1985; Friesen 1995).

Finally, it must be considered (indeed, expected) that Classic Thule whaling was organized in a manner that was different, at least in some respects, from any ethnographic pattern. For example, Grier (1996) makes the intriguing suggestion that a distinct role of whaling 'lancer' may have existed, based on patterned differences in the incidence of open water sea mammal hunting gear in Thule house assemblages, perhaps related to formal role differentiation surrounding the use of kayaks and *umiat*. The use of ethnographic analogy is an investigative technique that helps draw out the archaeological correlates of *particular* practices, and is not intended to impose an entire body of cultural practices on a prehistoric group. It is expected that certain elements of the model will be supported and others counter-indicated. By employing only the closest and most relevant analogies, and adjusting the model to take into account prior knowledge of the Thule record, it is hoped that the former will outweigh the latter.

Our only detailed descriptions of aboriginal Inuit whaling during the early historic

period come from North Alaska (Yupik groups of Alaska and Siberia are welldescribed, and followed whaling patterns similar to the Inupiat, but the historic connection to Thule is more distant). Although these groups were increasingly drawn into trade for Eurasian goods (especially metal and tobacco) from the 16th century, this represented merely the intensification of a 2,000 year old Bering Strait exchange network. The trickle of prestige goods from Siberia may have helped fuel the development of trade fairs (Hickey 1979), but other major elements of the historic whaling pattern were in place by at least AD 1200 (Sheehan 1995, 1997), or around the time of the principal period of Thule expansion. Furthermore, it is only in North Alaska that we encounter Inuit groups that placed as great a reliance on bowhead whaling as did Classic Thule groups of the Central Arctic channels.

The sources for North Alaskan social and economic organization include reconstructions of "traditional" (i.e., late precontact) society based on ethnographic and ethnohistoric research by Spencer (1959, 1972, 1979), Burch (1970, 1974, 1975, 1980, 1981, 1988, 1998), and Foote (1965), historical records (Bockstoce 1988), and other ethnographic works spanning the past century (Murdoch 1988; Rainey 1947; Vanstone 1962a; Worl 1980; Foote 1992). These are examined through the prism of Bourdieu's model of the social field, to draw out the material, archaeological correlates of the construction of social difference in a prehistoric Inuit whaling society.

The key organizational feature of North Alaskan (and Yupik) whaling was the whaling crew association brought together by a wealthy and influential *umialik*. This should not be construed as a "natural" form of whaling organization, although for

reasons further developed below it does provide the most compelling analogy for Classic Thule. Aleut, Koniag, and Chugach whalers achieved a highly respectable strike:kill ratio of 10-38% hunting whales from one or a few kayaks with poison darts, and then waiting days for them to surface and wash ashore (Crowell 1994). Nuuchah-nulth and Makah whalers used open boats and floats like most Inuit and Yupik groups (Waterman 1920), but lacked the precise boat crew social formation and guarded whaling leadership as a chiefly prerogative (Lantis 1938). Labrador Inuit also lacked many appurtenances of the whaling crew, including stable crew-based karigi membership (Taylor 1985, 1990). Mackenzie Inuit beluga drives were truly communal affairs, with rotating hunt leaders coordinating scores of kayakers (McGhee 1974; Friesen and Arnold 1995). Some hunter-gatherers made extensive use of only scavenged whale carcasses (Yesner 1995). North Alaskan whaling embodied particular leadership criteria and obligations, particular patterns of crew formation and organization, and particular patterns of allocation of risks and rewards. Invoking this analogy for Thule whaling thus invokes specific (pre)historic continuities between the North Alaskan and Central Arctic sequences.

The organization of North Alaskan whaling economies

To be designated an *umialik* was to have achieved the most prestigious position, akin to a formal rank, in Inupiat society. This status was only nominally predicated on ownership of an *umiak*, which nevertheless implied a certain amount of wealth, harvesting success, and control of labor. Traditionally, "the *umiak* was regarded as the most valuable single piece of property" (Spencer 1959:156). Several walrus or

bearded seal skins had to be obtained every 1-3 years through hunting or trade for the cover and lashings (Braund 1988), with associated labor costs in hide preparation and assembly. Driftwood (rare in some areas; Bogojavlensky 1969) had to be acquired for the frame, and its assembly involved payment to a specialist or substantial labor costs (Spencer 1972). Attachment and curation of the skin cover required frequent applications of sea mammal oil over its use life (Nelson 1983:217; Petersen 1986:142-145), which represented the costly diversion of oil away from use as fuel, food, or trade good. *Umiat* were inherited (ibid.; Spencer 1959; VanStone 1962a; Jolles 1995a), but because of the onerous maintenance costs such advantage might only last a season or two.

More importantly, to be considered an *umialik* one had to successfully organize a whaling crew, which demanded much more wealth, accomplishment as a hunter, ritual knowledge, and social skill than did acquiring a boat. The connection between a crew member and an *umialik*, whether kin or fictive kin, was a special form of partnership that was materially produced and maintained through the provision of gifts by the *umialik*, and also often by spouse exchange (creating an additional level of fictive kinship). The *umialik* had to be perceived as a worthwhile partner: generous in distributing his wealth, tactful in forging social alliances, and likely to be successful in the whale hunt. The wealth and power necessary to recruit crew members, underwrite their lost opportunity costs while involved in whaling-related activities, and then maintain the relationship by appropriate demonstrations of social and economic support, represented for men the fullest attainment of an ideal of lnupiat social life (Burch 1975). This could only be realized in partnership with a

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woman equally motivated to pursue the rank of *umialik*'s spouse, through exceptional performance in the spheres of women's competence and authority.

An able hunter and whaling crew member with an equally industrious wife (both, most advantageously, the eldest of their siblings) could support an increasingly large household (eventually including junior wives), the labor of which would be mobilized in the progressive accumulation of food and exchangeable products (especially hides and oil) that could be converted through trading partnerships to obtain other desirable goods. Surplus and exotic goods could be stockpiled and strategically redistributed to create obligations amongst a growing kin-based following, and an expanding network of fictive kin. An *umialik*'s essential ability to attract a following and direct its economic production is analogous to the role of a Melanesian Big Man (Sahlins 1972; Godelier 1986b).

The aspiring *umialik*'s proficiency in the requisite activities (hence attractiveness as a partner) would not only be enacted daily through various social interactions and performances, but materially and symbolically marked by the quantity and quality of things he and his household possessed: food, skins, oil, house, boats, sleds, dogs, harvesting gear, household equipment, clothing, ornaments. A successful *umialik* "had his choice of all that was good" (Brower, cited in Burch 1975:209). Upon assembling a crew and harvesting a whale, the *umialik* became entitled to accumulate tattoos and emblems that could be displayed on his clothing or tools (Murdoch 1988:138-142; Spencer 1959:154, 340), which together with valuable labrets and fine clothing deliberately marked his status. While an *umialik* was expected to avoid "undue" displays, "he was not obliged to conceal his wealth"

(Spencer 1959:154); the same likely applies for an *umialik*'s wife. He also came to assume increasing responsibility for the material, ritual, and military well-being of the community. The most successful *umialit* in the largest villages were known as *great umialit* (Murdoch 1988:430). This ideal social trajectory (outlined in Burch 1975:209-229) had its mythic (and ideologically mystifying) variant in the ubiquitous tales of orphans who became *umialit*, escaping their kin-less poverty through supernatural aid (Spencer 1959; Lowenstein 1992; van Londen 1996). That such a social transformation should be elevated to mythic proportions would seem to suggest, *a contrario*, the implausibility of its occurrence in ordinary life.

A 6-9 person whaling crew consisted of paddlers (in the historic period at least, occasionally including women), a highly skilled harpooner, and a helmsman, the latter role often being filled by the *umialik* (Murdoch 1988; Rainey 1947; VanStone 1962a; Nelson 1969; Worl 1980; Burch 1981:24; Spencer 1959, 1972). In addition, several women and youths helped supply the whaling camp, and the *umialik*'s wife performed an important ritual role. Spencer (1959, 1972) stresses the general competition amongst *umialit* to recruit the best harpooners, and suggests that this and other roles could readily be filled by non-kin. Burch (1975) asserts that the crew was drawn from within the local family kin network. However, both acknowledge that kinship ties beyond the immediate family were in an important sense achieved. Since kinship was reckoned bilaterally, most individuals could establish affinal or consanguineal ties with a substantial proportion of their territorial group. The major limits on household size and the scope of *activated* kin ties were the individual's wealth and ability. It also seems likely that *umialit* would sometimes have used the

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numerous formal mechanisms at their disposal to create fictive kin ties with prospective crew members; indeed, this would seem to be precisely the sort of situation that called such mechanisms into existence.

The whaling crew constituted a special kind of social formation that might be termed a "corporate labor association." Although they did not own property in common (the *umialik* owned and provided the boats, supplies, much of the equipment, and facilities) or reside communally, crew members entered into a formal arrangement to put their labor under another's direction, with the understanding that they would receive a specific share of its fruits, as well as other gifts and support. Because it involved a relatively long-term commitment of time, labor, and residency in a community (in gearing up, ritual activities, and whaling itself), it represents an escalation of the more temporary alliances that occur widely among huntergatherers, for hunting, trading, childcare, dwelling construction, feuding, etc. The economic dimension of crew membership was reinforced and extended through the accretion of other social ties (spouse exchange partner, joking relationships), and the association of the crew with a men's house or *karigi*.

The *umialik*-crew member relationship can be considered as a kind of exchange of labor for whaling shares and other resources (Figure 11, top). While the *umialik* only gained access to the labor of crew members by first activating real or fictive kinship relations, the performance of this relationship involved material transactions that put *umialit* in the position of gift givers and crew members in the position of gift receivers. By virtue of the *umialik*'s control of whale product dispositions (a logical extension of the hunter's/equipment owner's ownership of the game carcass [*sensu*

Figure 11. Gradient of social status based on differential participation in the umialik-sponsored whaling boat crew, differential access to harvest shares and exotic commodities redistributed by the umialik, and differences in the accumulation of symbolic debt/capital consequent on the receipt/disbursement of "unearned" resources.



Testart 1988] among many hunter-gatherers), crew members incurred a Maussian indebtedness to *umialit*, which is equivalent to a difference in social prestige or status (Figure 11, bottom). The group of kin that stood behind moderately wealthy individuals (harpooners, crew members) would have similarly participated in the social alchemy that transmuted resource flows into relations of social debt and credit. Members of the community who contributed nothing to the whaling economy but nonetheless shared in its fruits due to prescribed generosity (the widows and orphans of Inuit myth and proverb) would have engaged in the most unbalanced exchanges, and thus incurred the most extreme prestige differential. Gradations of status would thus have arisen by virtue of the differential control and redistribution of harvested and traded resources (Figure 11, bottom right).

The karigi (alternately qargi, qalegi, qashgi, kashim, kazigi, etc.; the 'karigi' spelling adopted here follows Spencer [1959] and the usage established for Thule features in the Central Arctic by Savelle [1987]), a structure like a dwelling but with benches around the walls rather than a sleeping platform, provided an architectural locus for intensive social interaction within and among crews (Rainey 1947; Spencer 1959, 1972, 1979; Sheehan 1990; Larson 1991, 1995). It was built and owned by one or two *umialit* for their respective crew members, and normally served as a men's workshop and "clubhouse." Besides the preparation of whaling and other gear, the *karigi* was the site of joking social interaction, story-telling, singing, gaming, competitive sports, and quasi-judicial decision-making. Women were members of their husband's or father's *karigi*, and visited it to bring food and watch any goings-on, but it was primarily a male domain during all but community feasts, ceremonies,

and shamanic performances.

Karigi affiliation had broad social implications, defining factions within communities that possessed more than one. Its preeminent effect, however, was to produce the social bonds and shared body of meaning, knowledge, and experience that allowed a whaling crew to function as a cohesive unit in the whale hunt, as well as in arenas of social competition and conflict: "A crew developed its own *espirit-decorps* [sic], felt itself the rival of other crews, was drawn together, worked together, and played together at all times of the year." (Spencer 1972:116). The *karigi* was a surrogate dwelling for the members of a whaling crew, both practically and symbolically fabricating their relationship as one of co-residence, of housemates. Spencer (1979) further draws attention to the way in which the whaling crew, thus thoroughly socialized through the regionalization of its activities in the *karigi*, could perform as a violent, gang-like action group within the community. In a similar vein, Bandi (1995) has suggested that the emergence of the *umialik*-led whaling crew provided the organizational prerequisite for the intensification of intercommunity feuding and warfare in the Bering Strait region during Punuk times.

The roles of the *umialik* and crew-based *karigi* association in the community were effectively sanctified through their coordination of, and performance in, the rituals and feasts that occurred in the *karigi* (Rainey 1947:244-253, 257-263; Spencer 1959:332-353; Lowenstein 1993). Shamanistic aptitude was a beneficial, but not necessary, attribute of the *umialik*. However, the *umialik* did have to attend to the proper observance of a complex body of esoteric whaling ritual, which involved assembling and deploying songs and amulets, ensuring adherence to taboos,

contracting the production of ritual paraphernalia, and hiring the services of a shaman. The major events of the annual ritual cycle were centered on whaling and most occurred in or adjacent to the *karigi*, including ceremonies associated with opening the *kariyit* in the fall, the whale tail festival that preceded the spring whaling season, the extensive observances immediately surrounding the whale hunt, and the celebration that followed a successful season. The quasi-priestly roles of the *umialik* and his wife, with lesser roles performed by crew members, ensured the propagation of the game, and hence the reproduction of the Inupiat cosmos.

The *karigi* was also the site of much of the exchange that occurred outside the regional trade fairs. Whaling festivals were important occasions for the distribution of whale products and gifts by the *umialik*, and for formal exchanges between the members of different *kariyit* (Rainey 1947; Spencer 1959; Larson 1995). The potlatch-like Messenger Feast, in which *umialit* invited rivals (and their entire followings) from other villages for an elaborate sequence of feasting, exchange, sports, dance, song, and competitive gifting, was the major non-violent context for interaction between communities, and thus an important opportunity for an *umialik* to enhance his prestige, as well as that of his following, crew, *karigi*, and community, within the region.

The North Alaskan mode of whaling organization consisted not merely in a set of structural rules and roles, but was inseparable from the spaces and objects that figured in its practical reproduction. The role of *umialik*, and the ability to forge extensive social alliances more generally, was predicated first and foremost on material wealth in food, surplus products, and exotic commodities. These were

strategically manipulated to attract a kin-based following, and eventually recruit a whaling crew. Kin ties were of critical importance, but were activated to a large degree in the distribution and consumption of material things. Social alliances were further expressed in the spatial organization of communities. Followers of an *umialik*, or lesser local family head, occupied adjacent houses (*upsiksui*), and the *karigi* provided the key spatial context for the social, economic, and ritual interactions that (re)produced the whaling crew association, larger *karigi*-based factions, and the regional prestige and internal solidarity of the community itself.

Gender and socioeconomic organization

The well-demarcated GDOL in Inupiat society differs little from that outlined above for other Inuit societies. An association of women with "domestic" activities (supervision of stores, house maintenance, childcare), clothing production, much of the processing of game, and variable amounts of small game hunting and fishing, and of men with large game hunting and manufacturing items from materials other than hide, is essentially universal in the Eskimo world (Ager 1980; Bodenhorn 1990; Briggs 1974; Guemple 1986, 1995; Giffen 1930; McElroy 1979; Matthiasson 1979; Reimer 1996). As among other northern hunters (e.g., Jarvenpa and Brumbach 1995; Brumbach and Jarvenpa 1997), women sometimes participated in large game hunting, although only men were consistently trained in this regard and their worth assessed according to their hunting skill. Among the Copper Inuit, where women occasionally sealed (Jenness 1922), the word *angut*, 'man' and 'father,' is the root of *angujuq*, 'catches seal,' *angutaq*, 'spoils of the hunt,' *angunahuarpoq*, 'is out hunting, i and *angutighaujutihut*, 'act together as men,' 'exchange wives' (Rasmussen 1932). A woman's social standing was assessed primarily with respect to her performance of conventional female activities. A woman might inherit a boat and even sponsor a whale hunt, but only men were identified as *umialit*. Strict taboos prohibited menstruating women from handling harvesting gear or going onto the sea ice (indeed, they were supposed to remain in the house; Spencer 1959:243), providing additional restrictions on female harvesting. References to women occasionally acting as *umiak* paddlers (Murdoch 1988; Spencer 1959:179; and see discussion in Sheehan 1997:198-199) may reflect the same contact-era demographic collapse and consequent labor shortage that led Spencer to emphasize the frequency with which non-kin were recruited into whaling crews. In addition, commercial whaling created a high demand for baleen and alienated whaling labor (Bockstoce 1986). These market pressures are analogous to those that promoted hunting by Agta women (Estioko-Griffin and Griffin 1981).

Women appear to have been as active as men in early Historic trade with Europeans in all parts of the Arctic (McElroy 1979; Giffen 1930), although they participated less in trade with other Inuit groups (Giffen 1930:78). In North Alaska, where wealth accumulation was central to the social economy and major trade fairs had emerged in precontact times, women had the option of engaging in formal trade partnerships (Burch 1970). This was possible by virtue of women's and men's comanagement of domestic production, and provided opportunities for both to contribute to the maintenance and increase of household wealth through competent trading. Given the greater volume of labor and stores managed by senior females in *umialik* households, it seems likely that women's participation in intersocietal trade would have varied with household wealth. However, because men were expected to supply the household with most of its raw materials, and these were the major items exchanged between partners (especially hides and oil), the great majority of goods flowed between male trading partners (ibid.).

Both women and men participated in ritual activity throughout the Inuit world, although there appears to have been a slightly greater tendency (a marked tendency in some areas) for men to become shamans, and for the activities of women shamans to be more circumscribed than those of men (Saladin d'Anglure 1993; Oosten 1986a: Lowenstein 1992:194). In North Alaska women were additionally associated with harvesting ritual, the wife of an *umialik* in particular performing numerous rites surrounding the whale hunt and whaling festivals (ibid.; Rainey 1947; Bodenhorn 1990). The umialik's wife produced some of the ritual paraphernalia, asked for the whale, drew it to the hunters ("the whale comes to the whaling captain's wife," according to a recent informant [ibid.:61]), ensured it did not thrash in the water and harm the hunters, and greeted the whale's soul. Women's properly generous and respectful behavior in the butchering and sharing of animals was considered an important determinant of men's hunting success (ibid.). Bodenhorn's conclusion from this that women were hunters is specious. Women and men performed complementary and equally essential roles in ritual and in the harvesting economy, but this does not erase the ubiquitous practical and symbolic association of gender with specific categories of activity. This division would have been even more marked before the disappearance of the whaling crew-centered karigi complex that began

with the abandonment of the buildings around the turn of this century, followed by the gradual dissolution of *karigi* affiliations and ceremonial in most communities (Larson 1995).

Bodenhorn's (1993) dismissal elsewhere of distinctly gendered community and household spaces, with a correlative lack of differentiation amongst gendered bodies of knowledge and experience, appears to have little bearing on the traditional situation as reconstructed by previous researchers or from the archaeological record. The dance or festival house was usually a temporary snow structure in historic Eastern Arctic winter villages, and does not appear to have been a male domain, although Christianized women had to be coaxed to participate in Labrador Inuit kashim activities (Taylor 1990), and seating at certain festivals in the Baffinland Inuit gaggi was arranged by gender and age, with women occupying a peripheral space close to the wall (Boas 1964:192). Among the Copper Inuit the dance house was a communal space onto which several family dwellings opened, and was used by women while men were out hunting (Jenness 1922). In Alaska, however, analogous structures were predominantly male spaces. Among Yupik groups, the kazigi was used by men as a sleeping place and for sweat baths (Lantis 1947:104-109; Nelson 1983), in addition to serving the functions of men's workshop and community festival house. In North Alaska, the karigi served primarily the latter functions (Spencer 1959:182-192). Women brought food, participated in ceremonial events, and might join in more mundane karigi activities (except when menstruating), but did not spend their days there as the men did. The degree of female participation in karigi activities appears to have varied inversely with the size of the

community (Burch 1974), and positively with the woman's age. Post-menopausal women had greater freedom to speak publicly in the *karigi* than did younger women (Guemple 1995).

While not fully a "men's house," the North Alaskan karigi was marked as a male space, hence men were brought into association with the principal locus for group feasting, ritual, and recreation. In addition, the karigi provided a context for communal instruction and socialization of young men and boys. Smaller-scale work gatherings of women in a dwelling provided a similar context for instruction and socialization of young women and girls (Oakes and Riewe 1995; Issenman 1997a), but lacked the ideological resonance of an institutional setting. It is difficult to construe this as other than the well-worn male/public - female/private dichotomy. The karigi was a communal, public space usually inhabited by men, while the dwelling was the property of the conjugal family, and the normal locus for women's indoors activities. The symbolic marking of the house as a female domain proceeds from such things as women's iconic association with tending the lamp, as well as from their practical responsibility for the management of household stores. It is expressed in the derivation of the Inuktitut term for uterus (illiag) from the root illu, 'house' (Nuttal 1992). Women not only inhabited houses, but in a metaphorical sense they were houses.

Issue is sometimes taken with the assignment of many of women's roles to a "domestic" sphere. This seems to reflect a Western discomfort with the term and the concept, but need not be taken to imply a diminution of the importance of householdand family-related activities. Even in Western societies, "private" spaces may be the sites of important political activity by women, and it is thus inappropriate that "the *content* of action is often conflated with the *material spaces* of action " (Staeheli 1996:602). A superordinate role in the domestic social economy was not a burden but a position of power and responsibility for Inupiat women. As Ellanna and Sherrod (1995) argue, the management of household stores was an important source of social and economic leverage, and controls exerted by women over reproduction (including such direct interventions as birth spacing, abortion, and infanticide, but also active involvement in the formation of economically and socially strategic marriage alliances and namesake relationships) placed elder women especially in a position of significant social power.

Women and men's social and economic activities were regionalized to such an extent that they constituted heterarchical spheres of competence and authority. They normally ate, worked, and socialized apart from each other. Conventional spatial practice (*sensu* Lefebvre 1991) channeled the movements of gendered (and sexed) bodies throughout women's and men's lives, investing them with distinct assemblages of meaning, experience, and competence, and so practically producing the representations of the social order (expressed, for example, in myth, language, and communal ritual) that ensured its reproduction from generation to generation. Even the house was internally demarcated into areas contextually linked to women and men, especially when both were present (Spencer 1959:49-61). The kitchen and lamp stand were considered areas of women's responsibility, while men often sat on the edge of the sleeping platform or on the floor (Figure 12). The central floor area was kept free of refuse and furniture, and was used by men if they were

present. Sleeping places were determined by gender and age: "The owner and his honored relatives, i.e., father, uncles, etc., slept on the bench. His mother and sons slept under it, while women and less honored persons slept in the hallway or near the *kataq* (ibid.:55)." A particularly well-finished store room with planked floor was sometimes attached to the tunnel, was the preferred sleeping place for those using this part of the house, and "when wife exchange took place, the head of the house took the borrowed sexual partner here with some sense of ceremony (ibid.)."

The extent to which gendered regions of social and economic practice (and their associated spaces) were hierarchically inflected is often difficult to determine. For example, there is disagreement over the degree to which spouse-exchange partnerships may have been initiated primarily by men, or jointly by women and men. Spencer (1959:84) and Rainey (1947:242) report the former, and this appears to have been the case among St. Lawrence Island Yupik (Schweitzer 1989), Iglulingmiut (Rasmussen 1929), Baffinland Inuit (Boas 1964), and Netsilingmiut (Rasmussen 1931). Male shamans selected partners, sometimes at a man's request, in temporary ritual spouse exchanges (distinct from a spouse exchange partnership) among the Iglulingmiut and Baffinland Inuit (Saladin d'Anglure 1993). Burch (1975:107) indicates that cases of Inupiat women initiating spouse-exchange are known, and questions the validity of Rainey and Spencer's data mainly on the grounds that women and men have equal freedom to initiate divorce, hence a wife is unlikely to put up with an authoritarian husband. Data are not provided on the relative frequency of divorces initiated by women, although Murdoch (1988:412) encountered more cases of husbands abandoning their wives than the reverse (see

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also Kjellström 1973:189). Guemple (1995), generalizing to all traditional Eskimo societies, suggests that women were less likely to seek divorce because men had the greater claim to the dwelling, hence the woman would first have to locate a household to take her in. Guemple is also quite categorical in support of Spencer's position: "After marriage a woman exercises little personal control over the allocation of her sexual and procreative capacities, these being subject to the consent of her husband. He might share her sexuality with a friend or trading partner - even arrange a temporary or permanent exchange with another man - without consulting her (Guemple 1995:23)."

With respect to overall patterns of decision-making, in the Eastern Arctic (Guemple 1986, 1995; Briggs 1974; Reimer 1996) and in the Yupik area (Ackerman 1990; Jolles and Kaningok 1990; Jolles 1997; Lantis 1946) men appear to have been politically dominant, in that their decisions were publicly considered to have force over the family's activities (even including domestic affairs). Among North Alaskan Inupiat also, men generally possessed more decision-making authority than women (Spencer 1959; Pospisil 1964; Burch 1975; Guemple 1995). However, men's political dominance was heavily mediated in all regions by the widely acknowledged greater competence of women and men in their respective spheres of conventional action. Furthermore, most researchers indicate that women exercised substantial influence in private over all types of decision-making, with the practical effect of producing a situation of near equality, or what Burch (1975:91) refers to as "benevolent despotism" on the part of men.

While it is tempting to see men's control over women's sexuality as a clear

indicator of men's superordinate position in Inupiat society, the notion of marked gender hierarchy is explicitly disputed by many researchers (ibid.; Bodenhorn 1990, 1993; Ellanna and Sherrod 1995). Murdoch (1988:413-414) described the situation of women at Point Barrow in the late 19th century as one of "perfect equality," although his understanding of this phrase is clarified when he notes that this is identical to that described (in simplistic and patronizing terms) by Simpson several decades earlier: "A man seems to have unlimited authority in his own hut, but, as with few exceptions his rule is mild, the domestic and social position of the woman is one of comfort and enjoyment" (Bockstoce 1988:523).

Power relations between women and men varied substantially on a case by case basis, and age-based status sometimes overrode gender. Post-menopausal women in particular were both spiritually and politically empowered (Spencer 1959:251-252; Guemple 1995). It may be more productive to consider this somewhat ambiguous situation as one of gender heterarchy. In fact, this appears to be the general tenor of gender relations throughout the Eskimo world (e.g., Guemple 1995; Briggs 1974), with the possible exception of some patrilocal Greenlandic groups amongst whom the superordinate position of men was most strongly expressed (Holtved 1967). While noting that women "can never attain to a full equality" (Jenness 1922:162) because of men's dominance of the core economic activity - hunting large game -Jenness's description of Copper Inuit gender relations seems to echo those from most other parts of the Arctic: "Marriage involves no subjection on the part of the woman. She has her own sphere of activity, and within that she is as supreme as her husband is in his" (ibid.). The clearest material dimension of the production of gender difference is the spatial segregation of women's and men's activities, especially to the extent that *kariyit* were marked as predominantly male spaces. Associated with this is the greater proximity of men, and especially *umialit*, to the ritual practices (and paraphernalia) that helped construct the individual's position in society, and the society's place in the cosmos. The heightened participation of *umialik*'s wives in whaling ritual may have defined one pole in an axis of status differentiation among women that paralleled that between men. A similar set of parallel discourses on status was produced through participation in intersocietal trade, with men more active than women, and men and women from wealthy households more active than those from poorer households. The objects or materials thus obtained by women and men may have been different (Burch 1970), or may have been deployed differently, since gendered activities were associated with distinct bodies of material culture.

The Birnirk-Thule transition

Before generating specific implications for the expression of the North Alaskan mode of whaling and gender organization in the Classic Thule record, it is necessary to define more precisely the historical moment in an ongoing process of social change that immediately precedes the Thule migration. Of overriding interest are changes in the organization of household and community spaces during the period of initial intensification of whaling activities at the Birnirk-Thule transition in North Alaska. The Birnirk houses at the type site (Ford 1959), at Safety Sound (Bockstoce

1979), and Birnirk House 32 at Cape Krusenstern (Giddings and Anderson 1986), all lack the detached kitchen that is one of the typical features of historic North Alaskan houses (Murdoch 1988; Spencer 1959; Slaughter 1982; Burch 1983). However, Birnirk House 33 and all of the early and late Western Thule houses at Cape Krusenstern, a Late Birnirk/early Western Thule house at Pingusugruk (Sheehan 1997), and an early Western Thule house at Jabbertown (Larsen and Rainey 1948) have detached kitchens. This trait is also present in some of the earliest Thule houses in the Canadian Arctic, such as at Washout (Yorga 1980), Nelson River (Arnold 1986), and Pearce Point (William Taylor, pers. comm.).

The simultaneous inception, in early Thule times, of intensified whaling activity and the removal of the kitchen to a location peripheral to the principal dwelling space strongly suggests that the seeds of an androcentric *karigi* complex were sowed at this time as well. An early Western Thule *karigi* has yet to be unequivocally identified in North Alaska, but Anderson plausibly suggests that some of the side rooms of uncertain function attached to the largest multiroomed houses of this period at Cape Krusenstern may have served an analogous function (Giddings and Anderson 1986:91). These may represent an incipient version of the *karigi* institution that only appeared in its fully developed form with the emergence of large, permanent whaling villages.

The household was the basic social and economic unit in smaller Inuit communities, and often functioned with relative autonomy for much of the year. In early Thule society, however, the contexts for domestic social interaction were spatially dismantled, and gendered activities increasingly segregated. The

displacement of the cooking hearth as a real and symbolic focus of domestic activity produced a fragmentation of domestic space, and of the household as a cohesive unit, that seems to have been a precondition for the redeployment of male labor in the service of the *umialik*-led whaling crew (Figure 13). As Lefebvre (1991:32) suggests "production and reproduction...are inextricably bound up with one another: the division of labor has repercussions upon the family and is of a piece with it; conversely, the organization of the family interferes with the division of labor. Yet social space must discriminate between the two - not always successfully, be it said in order to 'localize' them."

The *karigi* soon replaced the dwelling as the spatial context of much male indoor activity, just as the whaling crew usurped the role of the household, and especially the male-female dyad, as the dominant social and economic institution. Since the household appears to have been the most important domain of female power in historic Inuit societies, these transformations of household and labor organization may have negatively impacted women's status. One of the effects of creating a separate kitchen is that a large proportion of women's work is hidden from view, literally and symbolically concealing women's labor: "walls, enclosures and facades serve to define both a *scene* (where something takes place) and an *obscene* area to which everything that cannot or may not happen on the scene is relegated: whatever is inadmissable, be it malefic or forbidden, thus has its own hidden space on the near or the far side of a frontier (Lefebvre 1991:36)." While men obtained a communal context for their regionalized activities, no comparable context for women's associations is evident, but rather one of their major activity loci was

Figure 13. Model of increasing regionalization of gendered activities with appearance of detached kitchens and promotion of inter-household labour coordination based on an androcentric karigi complex during early Thule times.



displaced down, to the front, and away, symbolically subordinating it (the rear of houses, *kariyit*, and boats came to be associated with men of high status).

The spatial promotion of gender difference in early Thule society may also have promoted gender inequality. This does not necessarily imply, however, that gender hierarchy was always an essential accompaniment of male labor associations. Cherry (1978) suggests that the necessity of exercising ritual and secular power varies at different stages in a process of social change. The establishment of Minoan palace states, for example, placed greater demands on the power of elites than their subsequent maintenance (ibid:429). An elaboration of gender difference at the Birnirk-Thule transition may have been critical during a period of rapid and profound social change, but might actually have declined once new formations were in place. This (along with the decline of the karigi association in some areas, especially where whaling was unimportant) may account for the subsequent disappearance of detached kitchens in some regions. Only the early House 3N at Ahteut has a detached kitchen amongst the dwellings in Giddings' (1952) interior Kobuk River sequence; they are absent from the late prehistoric houses at Cape Krusenstern and Choris (Giddings and Anderson 1986); and they disappeared from the Eastern Arctic during later Classic Thule times.

This mutual entanglement of household gender relations and community-level labor organization is consonant with various researchers' suggestions that the practical construction of gender is a key component of broader patterns of social differentiation, and can even be considered the prototypical form of the latter (Bourdieu 1990a; Collier and Rosaldo 1981). Johannessen (1993) reports a

somewhat analogous situation during the appearance of increasingly large polities in the American Bottom. Linked to changes in patterns of community layout, dwelling form, and economic organization are changes in cult practice that resulted in a marked ritual duality during the Stirling phase between major centers like Cahokia and smaller settlements. The former are associated with male/war/sky/ bird iconography, and the latter with female/agriculture/fertility/serpent motifs. In effect, gender has been mobilized to help materially mark out different locations within the social field, the female association being with the subordinate and the male with the superordinate. In Godelier's (1986a:136) words, social hierarchies derive from male domination "and plunge their roots into it." To pursue this possibility, archaeological implications of the North Alaskan whaling model, as cast in the light of theories of the practical and symbolic construction of social difference, are outlined below.

Test implications

The material correlates of the North Alaskan social economy as outlined above are drawn out to construct an archaeologically testable model. In subsequent chapters this model is evaluated with respect to the Eastern Arctic archaeological record, to determine the extent to which Classic Thule whaling was organized in a fashion similar to that in historic North Alaska (i.e., on the basis of *karigi*-centered whaling crews), and produced the posited social effects (material asymmetries between households, and between women and men). The test implications are set out with respect to three analytical categories: settlement systems and site structure, interhousehold differentiation, and gender differentiation.

It is expected that whaling crew organization was present at all but the smallest Thule sites (i.e., those that could not have mustered at least one crew's worth of labor). In North Alaska, whales were hunted by as few as one or two crews (Burch 1981:25). To the extent that crew-based whaling provided the organizational focus of Thule society and economy (as Sheehan [1985] suggests for prehistoric North Alaska), this pattern of labor aggregation should be reflected in the overall structure of settlement systems. At the intrasite scale, correlates of whaling crew organization include the presence of *kariyit* and *upsiksui* (house groups). Large villages are predicted for the most viable whaling locales, which will be manifested in both house counts and the degree of spatial organization of settlements. Whaling or cosmological symbolism may also be mapped onto the most important locales, as is well-documented for Point Hope (Rainey 1947; Burch 1981; Lowenstein 1993).

Marked inequities in the distribution of wealth, prestige, and authority in North Alaskan whaling communities were based largely on the extent of a household's participation in whaling. However, it is perhaps unwise and unnecessary to attempt to identify "*umialik* households" or "harpooner households." Firstly, individuals could become rich without taking on the role of *umialik*, although some participation in whaling (e.g., as harpooner, paddler, boat owner, ritual specialist) was necessary to acquire more than a nominal share of the whale products which were the major source of these communities' wealth.

Secondly, unless some dwelling under consideration was occupied exclusively during the *umialik* or harpooner phase of an individual hunter's career, the associated refuse will be a palimpsest resulting from the more or less diverse

economic orientations of its occupants over decades or centuries of use. It is possible that some sites in the High Arctic were very briefly occupied, as McGhee (1984) and Park (1997) have argued, potentially allowing the ephemeral role of household heads to be discerned, but the tendency in the core whaling areas appears to have been for dwellings to remain in use for a generation or more (see below).

There is, however, a tendency for whaling equipment and leadership to remain within families (Spencer 1959; VanStone 1962a; Worl 1980; Jolles 1995b:327). Evidence of participation in whaling, and the material correlates of whaling-based wealth and status, are thus posited to accumulate in particular households over their use life, reflecting the passage of successive individuals along career trajectories that tended, to a greater or lesser extent, towards whaling leadership, and the passage of the household through developmental cycles that paralleled the momentary economic and social roles of its heads. The differential occurrence of whaling gear in houses at Classic Thule sites noted by Grier (1996) likely reflects such a phenomenon. The aggregate participation of a household's occupants in whaling over a dwelling's use life should thus be reflected directly in the relative abundance of whaling equipment and skeletal elements associated with the most highly prized bowhead carcass portions. Such households should occur within upsiksui, and likely in close proximity to other upsiksui and kariyit, and contain greater relative frequencies of locally rare and exotic materials, markers of wealth and social status, and ritual paraphernalia.

Per the (literal) dislocation of male and female labor effected by the karigi-based

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whaling crew, it is expected that the gendered use of space will be highly regionalized, and reflected in the segregation of architectural spaces and gendered refuse. Paralleling (and providing a model for or reflection of) the markers of social difference amongst households, women's artifacts and spaces are expected to be less associated with exotic and scarce materials, tokens of social rank, and ritual paraphernalia than men's. These things may additionally vary with the social position of households, reflecting parallel male and female status hierarchies. The three sets of expectation are set out below.

1) Site Structure

a. The North Alaskan mode of whaling organization will be expressed in the demographic scale of winter aggregations, and present where these populations reach or exceed a size threshold corresponding to at least one whaling crew's worth of male labor.

b. House-like features functioning as men's workshops and the sites of whaling preparations and ceremonial (i.e., *kariyit*) will be present in whaling villages.
c. Internal site organization (including symbolic structure and the proliferation of functionally differentiated spaces) will be most fully developed at large whaling villages.

d. *Upsiksui* (house groups), corresponding to kin-based factions that provided the core of a whaling crew, may be present and associated with *kariyit*.

e. Whaling success will vary with winter site size, corresponding to the number of whaling crews.
f. Consumption of prized whale portions will vary within sites, corresponding to the location of *kariyit* and whaling households.

2) Interhousehold differentiation

a. House assemblages will be differentiated by degree of participation in whaling, reflected in the relative abundance of whaling gear and prized whale portions.b. Whaling participation will be correlated with house size and organizational complexity.

c. Whaling participation will be correlated with location in village, including occurrence in upsikui (if present), proximity to *kariyit*, and perhaps proximity to other *upsiksui*/whaling households.

d. Whaling participation will be correlated with heightened consumption of locally rare or exotic materials.

e. Whaling participation will be correlated with heightened consumption of material symbols of social rank.

f. Whaling participation will be correlated with heightened consumption of ritual paraphernalia and access to ritual spaces.

3) Gender differentiation

a. Women's and men's use of space will be architecturally differentiated and highly regionalized, as reflected in the presence of kitchens, male-dominated *kariyit*, and a general segregation of the tools and refuse from gendered activities.

b. Men's activities will be associated with heightened consumption of locally rare and

exotic materials.

c. Men will be associated with heightened consumption of material symbols of social rank.

d. Men's activities will be associated with heightened proximity to ritual spaces and paraphernalia.

e. Women's association with exotic materials, status markers, and ritual may additionally vary among households in parallel with overall household association with these indices.

Following a description of research activities at Qariaraqyuk, these test implications are evaluated against archaeological data in Chapters 6-8.

CHAPTER 5: RESEARCH AT QARIARAQYUK

Environment and resources

Qariaragyuk (PaJs-2) is located on the north shore of Hazard Inlet, a small arm of Prince Regent Inlet at the far southeastern corner of Somerset Island, at 72°03'32" N 94°05'52" W in the Canadian Central Arctic (Figures 3, 14 and 15). The name, "little skin bag," is the one currently used at Resolute for Hazard Inlet, and refers to its shape (the site was formerly designated Mount Oliver). The nearest communities are Resolute, 290 km to the north, and Spence Bay, 275 km to the south. The southwestern portion of the island is a northern extension of the Canadian Shield, composed of gneiss, granite, and quartzite cut by diabase dykes (Dyke 1983). The island's interior consists mostly of low, glacially scoured hills reaching heights of 500 m, with wet, vegetated valleys between. In some places the interior is overlain by a partly vegetated blanket of glacial till. The southeastern coast consists of a strip of isostatically raised marine beach sediments with a thin cover of vegetation, dotted with ephemeral ponds and bordered to the west by low (<200 m), bare outcrops of limestone, dolostone and sandstone. The latter rocks were used for oil lamps and whetstones, and larger slabs obtained for the floors, platforms, and walls of winter houses. The Shield provided diabase for picks used in roughing out the lamps (McCartney and Savelle 1989), pyrite for starting fires (McLintock 1859:180), mica that was cut into small mirrors, and slabs of gneiss that were used for the bases of composite pottery and stone lamps. Nodules of low quality chert, apparently utilized to a slight extent by Thule groups, can be readily picked up off the beach. The terrain is alternately rugged and marshy, with

128

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Figure 14. Photograph of Qariaraqyuk, facing north towards house row and bluffs





stretches of sharp, platy felsenmeer in areas, making overland travel on foot during the summer difficult almost everywhere except the beaches.

Average daily temperature in the study area only rises above freezing between mid-June and the end of August, and winters are cold (Table 1). This is exacerbated by persistent winds averaging 15-25 km per hour at all times of year (Fletcher and Young n.d.). Qariaraqyuk is at the southern margin of the zone that experiences a period of no mid-winter twilight (Jacobs 1979), inhibiting hunting and travel in December and January. By contrast, three months of 24 hour daylight and temperatures rarely below freezing provide ideal harvesting conditions in summer, deteriorating rapidly in early fall. Most of the island is classed as polar desert (Bliss 1990), with annual precipitation of less than 200 mm. Summer is characterized by long stretches of relatively warm sunny weather, interspersed with periods of light drizzle and fog.

Extensive open water is only present on Prince Regent Inlet for about two months of the year. The sea ice along the coast and on Hazard Inlet is adequate for foot travel until about mid July, although leads progressively widen and meltwater pools on the surface throughout early summer, which with the disappearance of snow from the land make travel by dog sled increasingly difficult. The ice on southern Prince Regent Inlet breaks up during July, although winds move the pack unpredictably to and from the shore. It freezes during October (Smith and Rigby 1981:12), ending open water travel, but may not provide a stable surface until some time in November (Lyall 1979). Bellot Strait, immediately south of Hazard Inlet, and an area around its eastern outlet, constitute the Bellot Strait polynya (Smith and Rigby 1981:16), which

	average	average	average
	monthly	monthly	monthly
	temperature	rainfall	snowfall
	(°C)	(mm)	(mm)
January	-29	0.0	17.0
February	-32	0.0	7.6
March	-26	0.0	20.0
April	-22	0.0	8.4
May	-9	2.6	11.2
June	0	12.5	23.5
July	4	21.8	1.0
August	2	35.0	1.5
September	-4	0.0	29.2
October	-12	0.0	31.2
November	-22	0.0	23.0
December	-26	0.0	8.2
annual	-15	69.0	160.0

Table 1: Climatic data for Hazard Inlet area (Dyke 1983:3)

remains partly unfrozen most winters. This gives rise to frequent fall and winter fogs which according to McLintock (1859:198), who wintered 10 km southwest of Qariaraqyuk during 1858-1859, "adds seriously to the drawbacks of a spot already sufficiently cheerless, gameless, and 'wind-loved'." The extent and duration of open water in the region would have been somewhat greater during the Medieval Warm Period (Mayewski et al. 1993; McKay 1990:286; Tynan and DeMaster 1997).

Well-vegetated moss-grass and sedge meadow cover comprises 10-20% of the Somerset Island landscape (Gajewski 1995) but is much rarer along most of the east coast. This likely influenced the selection of sites for winter settlement, since the walls and roof of the winter house were preferably insulated with a thick layer of sod. The trees of the Central Arctic consist only of ground-hugging dwarf species, and even driftwood is notably rare (McLintock 1859:212; Dyke et al. 1997). In fact, there are few plants of any economic significance in the area (Savile 1959; Porsild 1957). Several species have edible roots or leaves (no berries are reported), or can be made into a tea, but only mountain sorrel is widespread. Plants represented dietary variety and only very minor nutritional supplements. Heather was used to cover sleeping platforms, as added insulation for the house walls, and (along with various dwarf willows) as a supplementary fuel in summer. Cotton grass and sphagnum were used for lamp wicks, the latter also serving as an absorbent diapering material and liner for menstrual pads (Spencer 1959:244). Sturdy grasses were used for the insoles or liners of boots (Hansen et al. 1991:156). The humility of the island's flora is properly evoked by Edlund's (1990) inclusion of the area in her "dwarfed and prostrate shrub" bioclimatic zone, and by the Nestilingmiut's admonitory designation

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of Somerset Island as Eqornangerfiupnuna, 'the land of the place where one is always wanting his backside properly wiped' (Rasmussen 1931:108).

The impoverished flora support little terrestrial game. Peary caribou, muskox, arctic hare, arctic fox, wolf, ermine, and lemmings occur (and were all observed on the site during fieldwork), but only fox (a scavenger of the coast and sea ice) appears to be a reliable resource (valued for its winter hide but rarely eaten). Caribou are most abundant in the region of Stanwell-Fletcher Lake some 80 km to the northwest of the site. This is part of a small population (presently less than 6000) of Peary caribou that tend to spend late winter and early spring on Somerset Island and Boothia Peninsula, then return to Prince of Wales Island for summer and fall (Miller 1990; Gunn and Miller 1983). Northern Boothia Peninsula supports a resident summer caribou population estimated at about 600 (Thompson and Fischer 1980). The occupants of Qariaraqyuk would have had to make lengthy hunting trips or, perhaps more likely, obtain the caribou hides necessary for winter clothing in trade. Local populations may have been adequate to supply sinew, antler, and bone for various manufactures.

Migratory bird species are relatively abundant in summer (June-August), including various ducks, geese, loons, fulmar, and alcids, while ptarmigans and gulls are available year round (Alliston et al. 1976). Bird bones were used for needles, awls, beads, and sucking tubes, complete wings as whisks, and bird skins as hand towels or for clothing. All species were eaten, although loons are not very palatable and, along with ravens, snowy owls, and falcons, may have been sought more for ritual purposes. No major breeding colonies occur in the area, so birds would have made

a minor contribution to diet. Little or no use was made of marine fish by Classic Thule groups, but anadromous arctic char are abundant in Stanwell-Fletcher Lake, and Nudlukta Lake 45 km to the south (Kemp et al. 1977; Sekerak and Graves 1975).

By far the major resource is the area's sea mammal populations. Ringed seal are abundant in all seasons in Hazard and Prince Regent inlets, but are particularly accessible when sea ice provides a hunting platform. They are the most reliable source of food, fuel, and waterproof hides in coastal areas of the Eastern Arctic. Polar bears spend most of their lives on the sea ice in mobile pursuit of ringed seals and are correspondingly common in the study area (Stirling and Oritsland 1995). Bearded seals are not nearly as common as ringed, but are relatively abundant in the study area in summer, and were probably available in winter at the Bellot Strait polynya (Stirling et al. 1981:46, 52). However walrus, a comparable source of dog food and hides for boat covers, boots, and thongs, are rare (Davis et al. 1978), and are represented by only a single post-canine tooth (possibly traded) in the large faunal assemblage from the nearby Classic Thule winter site of PaJs-13 (Whitridge 1992). Harp seals are occasionally reported for Bellot Strait (Finley and Johnston 1977). They were not recognized in the PaJs-13 assemblage, but may be present in small guantities. Small whales occur in the waters of Hazard and Prince Regent inlets and Bellot Strait (ibid.; Stirling et al. 1981), and are a potentially important source of food, fuel, and ivory. Beluga are more abundant than narwhal, occasionally passing in large numbers within meters of the beach in front of the site, but both species appear to have been little exploited by Thule groups. This may be

due to the difficulty of hunting them outside of situations in which they can be trapped in a confined space, and a scheduling conflict with bowhead availability (Savelle 1994).

Bowheads are presently rare in the region (they were observed in 1990), having not fully recovered from the decimation of Eastern Arctic stocks by commercial whalers in the 19th century (Reeves et al. 1983; Ross 1993; Woodby and Botkin 1993). The study area represents the southern limit of the summer migration of the Davis Strait stock into the Central and High Arctic channels (Moore and Reeves 1993), likely due to heightened marine productivity in the area where Bellot Strait debouches into Prince Regent Inlet, and patterns of summer sea ice clearance (Savelle and McCartney 1994 provide a detailed discussion of seasonal bowhead distributions in this region).

Most of the Gulf of Boothia, immediately to the south, currently remains clogged year round with greater than 50% ice cover, much of it multiyear (Smith and Rigby 1981), which is more than bowheads normally tolerate (Reeves and Leatherwood 1985). Whale bone does occur at Thule sites on the east coast of Boothia Peninsula, suggesting that bowheads penetrated further south under a milder climatic regime (McCartney 1979a; Dyke et al. 1996). However, much larger numbers of whales are represented at Thule sites between Creswell Bay and Bellot Strait, indicating that this was likely the major summering range during Thule times. The Davis Strait stock is estimated to have been 11,000 strong before the inception of commercial whaling (Woodby and Botkin 1993), from which Stoker and Krupnik (1993, based on analyses in McCartney 1979a) estimate that Thule groups along

southeastern Somerset Island harvested 1800-2800 whales, representing an estimated 40% of all the whale bone in the Canadian Arctic. Savelle's (pers. comm., 1998) most recent determination of bowhead MNI for the area between Creswell Bay and Bellot Strait is 763 (grouping by site, or 686 for the region taken as a whole), based on his and McCartney's surveys of surface whale bone. Savelle estimates that this represents 20-40% of the total number of whales harvested in the region (i.e., suggesting a total Thule bowhead harvest of 1700-3800).

Adult bowheads can reach 18-20 m in length and may reach weights of over 60 tonnes (Reeves and Leatherwood 1985). Even a single 7 tonne yearling would provide roughly 3.2 tonnes of meat, skin and viscera, 2.8 tonnes of blubber to be rendered into edible and combustible oil, 1.0 tonnes of bone for house construction and artifact manufacture, and hundreds of kilograms of baleen (ibid.; Foote 1965:350). The flesh and blubber represent a secure winter's food supply for a sizable group (the caloric requirements of approximately 60 people for 6 months, if used solely as food [see Whitridge 1992]). The wealth of resources available to successful whalers thus contrasts markedly with the relative poverty of the region's other game and terrestrial resources. Heavy reliance by a sedentary community on the only abundant non-cetacean species, ringed seal, would quickly reduce local seal populations and force a residential move.

Previous investigations

The abandoned Thule settlements of southeast Somerset Island have probably always been known to Inuit, given the continuity of settlement on northern Baffin

Island and southern Boothia Peninsula, and the extensive travel range and geographical knowledge of historic informants (Boas 1964; Fossett 1996). They came to the attention of *qallunat* (white people) when the first Europeans passed through the area during the 19th century in search of a Northwest Passage and the lost Franklin expedition. References to archaeological sites in the area by 19th century explorers are noted by Mathiassen (1927, Part I:141), VanStone (1962b) and Savelle (1981).

With the encouragement of the Royal Ontario Museum, L. A. Learmonth, the first manager of the Hudson's Bay Company post at Fort Ross, undertook excavations and collecting at various sites in the region, mostly in 1948-1949 (VanStone 1962b). VanStone published descriptions of seven of Learmonth's collections, which range in age from Classic Thule to Historic. Unfortunately he did not publish maps detailing site locations, if such existed, so given the density of sites in the area it is often impossible to pinpoint a collection's origin. From the descriptions given it is at least clear that Qariaraqyuk was not collected at this time. Taylor (Taylor and McGhee 1979) excavated houses and/or collected at three Creswell Bay sites in 1961, and McCartney excavated two additional houses at Learmonth in 1976 (McCartney 1979b). Cape Garry was tested in 1973 (Yorga 1979) and three houses excavated in 1976 (McCartney 1979b; Rick 1980).

Savile (1959:968) first reported "about fifty half-buried Thule stone houses" at Qariaraqyuk in 1958, and it was inspected from the air in 1975 as part of the extensive whale bone survey program of the Thule Archaeology Conservation Project under the direction of Allen McCartney (McCartney 1979a; Clarke 1979).

The region was also surveyed on foot in 1977 as part of the Polar Gas Archaeology Project (Schledermann 1978). McCartney's project was designed to mitigate the effects of large-scale whale bone scavenging by carvers. The whale bone carving industry eventually suffered a major collapse, but the investigations of whaling sites on southeast Somerset Island continued in 1978 with a new research strategy for osteometric recording of Thule whale bone (McCartney and Savelle 1993).

Savelle recorded 51 houses and identified associated whale bones at Qariaraqyuk during a 1980 survey, and returned to measure whale bones in 1988 (ibid.; Savelle 1989). He continued with survey and measurement of Thuleharvested and naturally stranded bowheads in this area and other parts of the Central Arctic between 1990 and 1994. The results of Savelle and McCartney's research on Thule whaling and whale bone use are published in McCartney (1979a, 1979c, 1980), McCartney and Savelle (1985, 1993), Savelle and McCartney (1985, 1988, 1990, 1991, 1994), and Savelle (1987, 1997). Partial results have been published of excavations conducted by Savelle between 1989 and 1991 at several Classic Thule sites in the Hazard Inlet region that appear to be contemporary with Qariaraqyuk (Habu and Savelle 1994; see also Whitridge 1992 and Danielson 1994 for unpublished analyses of faunal material from these excavations).

Settlement history

Published comments on the culture history of southeast Somerset Island have been mostly cursory (McCartney 1979b; Taylor and McGhee 1979; McGhee 1984a; Savelle 1987; Savelle and McCartney 1988). Paleoeskimo sites are observed

frequently on raised beaches at higher elevations than the Thule residential sites. Damkjar surveyed for Paleoeskimo sites in the region and reports components ranging in age from early ASTt to Dorset (Eric Damkjar, pers. comm., 1994), while Bielawski (1988) has investigated Paleoeskimo sites on Stanwell-Fletcher Lake.

Late Dorset material in particular occurs in consistently low frequencies in Thule winter house excavations (e.g., Taylor and McGhee 1979), including those at Qariaraqyuk, raising the usual possibility that Dorset-Thule interaction may have occurred in the region. However, no large Late Dorset sites have been noted in the immediate area. Because Dorset groups did not hunt bowhead whales, southeast Somerset Island would not have been a very attractive area for settlement. Their mobile subsistence-settlement systems, apparently including snow house winter settlement on the sea ice (Maxwell 1985), bear a stronger resemblance to those of Modified Thule and Historic Inuit than to Classic Thule. It is thus noteworthy that a large Late Dorset site occurs adjacent to Modified Thule and Historic Inuit components along the char-rich outlet of Nudlukta Lake.

Earliest Classic Thule material, in the form of Sicco harpoon heads, occurs at Cape Garry (McCartney 1979b), PaJs-3 (Savelle, pers. comm., 1998), and Qariaraqyuk. Natchuk harpoon heads diagnostic of the initial migration have not been recovered, but neither has research been directed at identifying the earliest settlement. McGhee (1969/70, 1996) has proposed that the initial Thule expansion proceeded northward from Amundsen Gulf along the west coast of Victoria Island into Parry Channel to arrive at clearly early sites like M-1 and Maxwell Bay. However, the perennially ice-choked coasts of Viscount Melville Sound (Dyke et al.

1997:239) appear to have been virtually uninhabited prehistorically (McCartney 1979a), while Pioneering and early Classic Thule settlement definitely reached the western terminus of Coronation Gulf (Taylor 1963). Malerualik produced at least one Sicco-like Thule 3 (Mathiassen 1927, Part I:312), indicating relatively early Classic Thule settlement on King William Island contemporary with that on Coronation Gulf (McGhee 1972; Morrison 1983; Taylor 1972). Sicco or Sicco-like harpoon heads at Naujan (Schledermann 1979) place earliest Classic (or perhaps even Pioneering) groups even further to the southeast.

The distribution of these early harpoon head variants can be taken to suggest the equal or greater plausibility of a southern migration route around Victoria Island, as Maxwell (1985:255) suggested, and has the added benefit of bringing migrants past the Coronation Gulf copper sources which appear to have played such a prominent role in early Classic Thule interactions. Subsequent trade would thus have followed routes established during the initial migration. Exploratory northeastward movements would have passed along either the west coast of Boothia Peninsula to Peel Sound and Barrow Strait (or crossed east at Bellot Strait), or the east coast of Boothia to Prince Regent Inlet and Lancaster Sound (Figure 16). Given the evidence for whaling in the northern Gulf of Boothia and Prince Regent Inlet, the latter path appears more likely, but additional research will be necessary to resolve the dilemma.

Certainly by Classic Thule times, southeast Somerset Island was densely occupied by whaling communities (Taylor and McGhee 1979; McCartney 1979b; Savelle 1987; Savelle and McCartney 1988). Clusters of large winter villages occur



Figure 16. Possible Thule migration routes through Central Arctic

at Creswell Bay and Hazard Inlet, with the large village of Cape Garry mid-way between. The coasts within a radius of about 10 km of these permanent settlement loci are lined with dozens of temporary residential sites (consisting of three or more tent rings or *qarmat*), and thousands of caches (Figure 17; Savelle and McCartney 1988). A virtually continuous scatter of whale bone from bowhead flensing activities occurs on the beaches within these zones. At a radius of about 20 km, caches, temporary residential sites, and flensing locations fall off, and temporary field camps (consisting of only 1-2 tent rings) predominate. This systematic arrangement of functionally distinct site types suggests that large whaling communities had established zones of economic interest, logistical territories, within which harvesting operations were deployed (ibid.:50). The efficiency of this system is reflected in the greater overall whaling success, and greater selectivity for small individuals, at southeast Somerset sites than in any other part of the Central Arctic (Savelle and McCartney 1994).

No evidence of a Modified Thule occupation of the region has been previously reported (Savelle 1987; Savelle and McCartney 1988). Given the patterning in calibrated Thule ¹⁴C dates discussed above, this would place the abandonment of the area at about AD 1400, with little or no occupancy for the succeeding 400 years. As discussed below, a Thule 5 harpoon head from Qariaraqyuk, along with a late ¹⁴C date, suggests that Thule occupation may have persisted in some locales into the 16th century (i.e., beyond the AD 1500 terminus of late Classic Thule in Savelle and McCartney's chronological scheme [ibid.:44]). Savelle (1981) has thoroughly reviewed the evidence for protohistoric and historic use of this and neighboring

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Figure 17. Thule settlement systems on southeast Somerset Island (after Savelle and McCartney 1988:Figure 6). Note that foot survey did not cover the northern part of the study area.



- cache site
- + bowhead processing site

parts of the Central and High Arctic islands, concluding that no more than sporadic hunting and scavenging forays (the latter after European ships and caches) were made into these regions until the early 20th century. Rasmussen (1931) reported a small Netsilingmiut settlement on northern Boothia near Bellot Strait, but the failure of mid-19th century Franklin searchers' deliberate attempts to locate Inuit in this area (e.g., McLintock 1859) suggests that it may have been a later historic development. The small outpost camp (with satellites) of Kuvinaluk established at Creswell Bay has been occupied discontinuously since 1925 (Treude 1975; Kemp et al. 1977; Savelle 1984). The post at Fort Ross (1937-1948) also became a brief focus of regional settlement (Lyall 1979), but the area has been abandoned since 1967 (Kemp et al. 1977).

Survey and sampling strategy

Qariaraqyuk was visited by the author in 1989 during Savelle's excavation project in the area. It was selected for the research described here in 1991, and in 1992 a permit was obtained to conduct a non-intrusive site survey. Between June 14 and July 30 the locale was examined thoroughly over an area of approximately 30 ha, extending from the beach to the edge of the bluff overlooking the site, and from 250 m west of the winter house row to 180 m north of a small stream 380 m northeast of the house row. The location of every feature, whale bone, and artifact visible on the surface was recorded using a theodolite and stadia tacheometry. Topographic features were also mapped. Important cultural features were photographed and measured, and detailed sketch maps made of every winter house depression

(Figure 18). All whale bones were field identified as far as possible with the aid of skeletal element diagrams, their location within features sketched, and a large (740 m²) bone processing feature was precisely mapped at a scale of 1:50. The distribution of the 455 features is shown in Figure 19, and feature and bone counts are provided in Table 2. Some of the measurements and observations taken on the houses are listed in Table 3. Analyses of the whale bone data are reported in Chapter 6.

The observations on house depressions were used to devise a sampling strategy that would maximize both the contemporaneity of houses selected for excavation and their morphological variability (Whitridge 1994a). These characteristics are desirable because the research questions are aimed at capturing *synchronic* differentiation among house assemblages that is predicted to be correlated with various dwelling attributes (e.g., size, spatial complexity). The ideal sample would thus include contemporaneous houses representing a range of socially inflected architectural configurations, as well as a *karigi* to provide a basis for comparing gender differentiation in activities and use of space, if such was present.

While it was always possible to take the prescribed measurements, the process of recording some house attributes from a surface inspection alone, such as the number of sleeping platforms and the presence of extra rooms and niches, is hardly free from error. Surface observations proved to be reasonable predictors of the features revealed by excavation, but were often modified in their details, hence the following analysis provides only an approximate means of sorting out interhouse variability. Two of the supposed house depressions were too amorphous to record



Figure 18. Measurements taken on house depressions





Table 2.	Surface	finds	recorded	during
1992 sur	vey at Q	ariara	qyuk	

feature	<u>n</u>
burial	51
burial/cache	27
cache - boulder	35
cache - gravel	73
hearth	28
qarmat	8
tent ring - boulder	47
tent ring - gravel	23
winter house	57(59?)
feature total	349
bowhead whale bone	<u>n</u>
atlas	17
humerus	54
hyoid	41
mandible - distal	594
mandible - proximal	517
maxilla/premaxilla	344
phalanx	1
radius/ulna	27
rib (>50% complete)	421
rib fragment	290
scapula	113
skull base (>50% complete)	40
skull base fragment	31
sternabra	2
unidentified fragment	474
vertebra	297
vertebra - distal caudal	27
vertebral epiphysis	73
whale bone total	3363
isolated artifact	104

		room attached	niche attached	room	niche	shared	visible	-	no.		depth of	internal area	
house	no. sleeping	to main	to main	attached to	attached to	house	midden	no. bowhead	bowhead	bnuom	depression	excl. tunnel	tunnel
<u>no.</u>	platforms	compartment	compartment	tunnel	tunnel	mound	deposits	whale bones	crania	height (m)	(m)	(m²)	length (m)
1	1	-	-	-	-	-	-	3	0	0.10	0.20	8.56	1.98
2	1	-	-	-	-	-	-	1	0	0.10	0.20	5.40	1.64
3	1	-	+	-	-	-	-	4	0	0.10	0.30	9.17	2.18
4	1	-	-	-	-	-	-	5	0	0.05	0.10	5.44	1.73
5	2	+	-	-	+	-	-	141	1	0.35	0.45	13.19	3.08
6	2	+	+	-	+	-	+	138	1	0.35	0.60	15.87	3.99
7	1	-	-	-	-	-	-	12	0	0.05	0.20	10.26	2.49
9	1	-	-	-	-	-	-	13	0	0.10	0.35	5.17	2.04
10	1	-	-	-	-	-	-	82	1	0.25	0.45	9.02	3.63
11	1	-	-	-	-	-	-	3	0	0.10	0.15	8.48	2.78
12	1	-	+	-	-	-	-	57	3	0.25	0.50	12.14	3.13
13	0	-	-	-	-	+	+	98	8	0.40	0.60	22.01	3.09
14	2	-	-	-	-	+	+	88	0	0.35	0.45	16.04	4.77
15	1	-	+	-	-	-	-	8	1	0.05	0.25	7.81	2.27
16	1	-	+	-	+	-	-	75	1	0.15	0.30	11.93	3.54
17	1	-	-	-	-	-	-	1	0	0.05	0.20	4.63	2.06
18	1	-	+	-	-	-	-	3	0	0.10	0.15	8.16	2.54
20	1	-	+	-	+	-	-	62	2	0.25	0.50	11.90	3.46
21	1	-	+	-	-	-	-	29	0	0.15	0.45	10.56	3.94
22	1	-	+	-	+	-	-	80	2	0.30	0.50	9.06	3.54
23	2	-	-	-	-	+	-	76	2	0.45	0.65	13.76	3.91
24	1	-	+	-	-	+	-	41	3	0.35	0.45	12.90	2.58
25	1		+	-	+	+	-	34	1	0.40	0.50	13.03	3.16
26	1	-	+	-	-	-	+	133	0	0.40	0.50	15.03	3.97
27	1	-	-	+	+	-	-	18	3	0.45	0.30	13.16	4.87
28	1	-	-	-	-	-	-	6	0	0.20	0.25	8.58	2.31
29	1	-	+	-	+	-	-	11	0	0.35	0.40	8.59	3.46
30	1	-	-	-	-	-	-	2	0	0.10	0.15	10.19	1.81

Table 3.	Surface observations on h	nouse depressions used ir	n principal coordinates ana	alvsis of house "types"
			- printerpar sessiantates and	

and,	5	וווווחפת											
		room attached	niche attached	room	niche	shared	visible		ġ		depth of in	ternal area	
nouse no.	sleeping	to main	lo main	attached to	attached to	house	midden	no. bowhead	bowhead	mound	depression e	excl. tunnel	tunnel
.01 10		compartment	compartment	tunnel	tunnel	punom	deposits	whale bones	crania	height (m)	Ē	(m²) <u>i</u> e	ingth (m)
5		ı	ı	ı	+	·	ı	11	0	0.45	0.45	14.06	3.92
32	-	ı	+	·	ı	ı	T	17	-	0.45	0.45	18.04	3.15
33	-	I	+	ı	ı	+	ı	26	-	0.70	0.65	16.50	4.27
34	-	ı	ı	+	ı	+	ŧ	30	0	0.40	0.60	13.45	4.43
35	-	+	ı	ı	ı	ı	ł	0	0	0.30	0.35	8.58	3.51
36	-	,	•	ı	+	+	+	36	5	1.00	0.55	13.37	5.97
37	0	ı	•	ł	+	+	+	31	-	1.00	0.80	18.76	6.59
38	7	ı	ı	ı	+	+	+	34	ę	0.65	0.80	15.42	4.65
39		ı	÷	۰	ı	ı	ı	11	2	0.40	0.50	10.53	2.77
40		1	+		ı	+	+	24	0	0.70	06.0	16.09	5.04
41	0	ı	ı	ı	ı	+	+	15	9	1.00	0.90	24.02	4.54
42	-	ı	+	ı	•	+	+	12		0.65	0.55	14.46	4.58
43	-	ı	+	ı	ı	+	ı	5	0	09.0	09.0	7.90	3.06
44	-	ı	+	I	ı	t	+	34	2	1.00	1.00	14.84	5.17
45	-	ı	+	ı	•	+	ı	19	-	0.45	0.40	9.62	4.43
46		ı	+	ı	۰	+	+	38	-	0.50	0.80	12.06	3.91
47	.	ı	÷	ı	٠	+	ı	15	0	0.45	0.45	12.47	3.78
48	~~	ł	+	•	+	÷	+	26	2	0.50	0.85	12.02	3.79
49	-	I	+	,	ı	ı	1	2	0	0.15	0.15	6.52	2.65
50	•	ŀ	÷	,	+	ı	ı	2	0	0.15	0.45	7.72	3.37
51	ო	I	1	+	ı	ı	1	24	0	0.35	09.0	22.57	4.55
52	2	ł	ı	+	•	ı	ı	33	2	0.65	0.85	18.19	5.17
53	-	1.	ı	+	ı	+	+	17	~-	0.40	0.70	13.32	3.88
54	~	ı	•	+	+	+	t	6	-	0.40	0.55	11.61	3.42
55	-	÷	ı	,	ı	+	ı	12	~	0.30	0.55	13.87	2.49
56	0	ı	•	,	ı	+	ı	2	0	0.45	0.80	11.86	3.56
57	-	+	+	ı	ı	ı	١	154	-	0.45	0.65	15.00	3.64
58		ı	•	ı	•	·	ı	36	0	0.10	0.45	6.14	2.55
59	-	•	·	+	1	ı	ı	S	0	0.20	0.40	10.21	3.61

Table 3 Continued

properly, and are not considered secure identifications. The remaining 57 features are identified as winter houses, defined as depressions with an encircling berm and an entrance tunnel, and generally including visible stone and/or whale bone construction elements (this excludes probable *qarmat*, which lack a marked berm and/or tunnel). An additional four features were somewhat subjectively distinguished as probable *kariyit*, based on their apparent lack of a sleeping platform, multiple bowhead crania as structural elements, a simple circular plan, and/or their greater size and depth. In terms of the residential capacity of semi-subterranean dwellings, Qariaraqyuk would appear to be the largest recorded Thule winter village in the Canadian Arctic.

A matrix of Gower's similarity coefficients (Baxter 1994; Kovach 1990; Shennan 1997) was calculated for the remaining 53 features, scored on 13 multistate, presence/absence, continuous, and counts-type variables (Table 3). This was a means of circumventing the incommensurability of the data types. This matrix served as input for a principal coordinates analysis (Madsen 1988; Kovach 1990; Shennan 1997; see Engelstad [1988] for a somewhat similar analysis using multiple correspondence analysis), scores on the first six axes of which were used to cluster the houses using K-means analysis (Kintigh and Ammerman 1982; Kintigh 1990; previous cluster analyses of Thule houses have been based on excavated assemblages [Green 1975; McCartney and Scholtz 1977]). In retrospect, it may have been preferable to have explored methods for recoding the variables, and then conducted a principal components analysis directly on the transformed data matrix. This would have had the advantage of collapsing any highly intercorrelated

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variables. Six clusters clearly emerged as the optimal solution of the K-means analysis, and were treated as provisional house types, in addition to the *kariyit*. When these seven groups were examined in terms of the original variables, they proved to be well defined by significant departures from expected values on an average of four variables (Table 4).

House types are not randomly distributed across the site, but appear to rise and fall in frequency from east to west. In addition, some of the eastern houses are more deeply buried than the western ones and lack a full complement of superstructural whale bone, as if they had been scavenged by other site occupants (McCartney 1979c; Park 1997). It thus appeared that the site had expanded from east to west, with an undetermined number of eastern houses likely abandoned before at least some of the western houses were last refurbished.

To explore spatial patterning in the distribution of house types, the central x-y coordinates of the features (including *kariyit*) were subjected to a K-means pure locational clustering analysis. The resulting eight clusters were ordered from east to west by the x coordinate of the cluster centroid (Figure 20), and adjacent clusters combined to smooth the distribution. Graphing the frequencies of house types by smoothed clusters resulted in something resembling a seriation (Figure 21). Only *kariyit* exhibit poor spatial patterning, while type 5 violates the model of monotonic change. Various interpretations of this patterning are possible, but the one preferred here is that it represents in part the westward expansion of the site in concert with changing architectural styles. The extent to which this represented site growth, as opposed to sequential house occupations, must be determined by other means (see

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house	n	o. of platform	<u>s</u>	compa	rtment	tun	inel	shared	visible	no. whale	no. whal	mound	house	internal	tunnel
type	1	2	3	room	niche	room	niche	mound	midden	bones	crania	height	depth	area	length
1	+	-	-	-	+	-				-	-				
2	+	-	-	+	++	-	-	++	-	-	-	+	+	+	-
3	+	-	-	-	++	-	++	-	-	+	+	-	-	-	-
4	-	+	+	-		++	+	+	-	-	-	+	+	+	+
5		++	-	++	-	-	+	+	+	++	-	+	+	+	+
6	+	+	-	-	+	-	+	++	++	+	+	++	++	+	++
KARIGI	n/a	n/a	n/a	-	~	-	-	++	++	+	++	++	++	++	+

Table 4. Attributes of house "types" determined by K-means clustering of PCO results (++/+ = strong/moderate
positive expression,/- = strong/moderate negative expression)



Figure 20. K-means pure locational clusters used in seriation of house types (house numbers correspond to those used in Table 3 and subsequently)

Figure 21. Frequency of etic house types by smoothed cluster. Each row represents the aggregate composition of a pure locational cluster and its immediate neighbour(s), as if a three cluster window were being moved gradually from east to west across the house row (i.e. 8, 7+8, 6+7+8, 5+6+7, ... 2+3+4, 1+2+3, 1+2, 1).



Chapter 6).

Overlain on this pattern is likely also an element of social differentiation, since the type 1 house so common in the western neighbourhoods is the smallest type, suggesting minimal co-residential group size. It is possible that at its demographic peak the site attracted families with relatively few kin connections to the wealthier and more established households, who thus joined the lowest social rank in small, newly constructed houses at the outskirts of the community. Given these considerations, it was decided to concentrate excavation efforts on a spatially restricted portion of the site, since this appeared to maximize the potential for sampling contemporaneous households. The central portion of the site (clusters 5 and 6) included two kariyit and several large houses belonging to *upsiksui*, but also embraced some of the smaller house variants. Within this region six features representing six different house types were judgmentally selected for excavation, based on their state of preservation and ease of excavation (some features are flooded by seasonal seeps). The excavations are described below.

House excavations

In 1993 and 1994 the Resolute Hamlet Council permitted excavations at Qariaraqyuk. With a field crew varying between 3 and 7, Houses 35, 38 and 41 (along with midden deposits adjacent to the latter) were partially excavated between June 27 and August 12, 1993, and backfilled at the end of the season. Between July 8 and August 28, 1994, excavation of the latter features was completed, and Houses 29, 33, and 34 excavated. A 1x2 m test pit was also placed in front of House 6

(Figure 22). The 1994 crew numbered between seven and eight fieldworkers. House excavations proceeded by setting up a 1 m string grid over the area and mapping the depression and any projecting structural bone and stone. All excavation maps were at a scale of 1:20, and 20 cm baulks were left every 2 m to facilitate stratigraphic recording.

The modern vegetation mat was stripped as a layer with shovels and trowels and inspected, then excavation of the find-rich fill proceeded slowly by trowel without screening. Because the roof and wall deposits essentially consist of compact, saturated root mats, effective dry screening is often impossible. Wet-screening would also be arduous (Henshaw 1995), especially in light of the rarefied logistics of arctic fieldwork. Given the slow pace of excavation by trowel, particularly once frozen deposits were encountered at a depth of 10-20 cm below the base of the modern vegetation layer, it is felt that loss of small artifacts and faunal remains was negligible (few were encountered during backfilling). However, with sufficient time and resources, a controlled comparison of recovery rates using various methods would be useful. The position taken here is that the return on screening effort would likely be disadvantageous, although it has been successfully adopted at Low Arctic sites with somewhat different depositional conditions and logistics, to maximize recovery of fish bone and trade beads (e.g., Friesen 1995).

The near-surface deposits occurring in and around the house depressions consist mostly of prehistorically cut sod blocks deriving from roof collapse and slumping of the walls, along with assorted secondary refuse that probably originally littered the roof and margins of the dwelling exterior. Depending on the



abandonment sequence of the houses, some of the latter may derive from refuse disposal post-dating a dwelling's occupation (see McCartney 1979c and Stenton and Park 1994 for discussions of Thule house and assemblage formation processes, respectively).

The houses were excavated by natural stratigraphic layers, including additional arbitrary levels where thawing of permafrost deposits proceeded slowly. The uppermost cultural layer was designated Layer 1. When frozen deposits were reached, or a marked change in preservation of organics indicated recently frozen deposits, a Layer 2 was designated. While the latter differs from Layer 1 in the condition of organic finds, it can be considered merely "deep fill" that derives from the same sources. In some houses this deep fill was excavated as two layers. When a stratigraphic break was recorded in the fill, usually by encountering stone architectural features or deposits in contact with them, another layer was designated, and labelled according to the nature of the feature as inferred from its architectural context (floor, kitchen, tunnel, sleeping platform, bench, wall). In some houses the deposits in contact with jumbled platform, wall and floor elements were excavated in two layers.

When the house interior had been exposed, baulks were profiled and removed, architectural elements were disassembled, and excavation continued into subfeature deposits where this was not prevented by flooding, ice lenses, or other frozen deposits at the end of the final field season. Maps were produced of the surface of each layer, and the location of whale bones removed in excavating a layer recorded on separate composite bone maps. The House 6 midden test was excavated by

natural stratigraphic layers, but the more homogeneous midden deposits adjacent to House 41 were excavated in 20 cm arbitrary levels. The horizontal location of artifacts, large pieces of debitage, and unusual concentrations of organic material was recorded, but debitage (antler, baleen, wood, bone, diabase) and animal bone, as well as most other ecofactual material (muscle, hair, feathers, heather), was only provenienced by layer and unit. In some instances, very large concentrations of animal soft tissue or baleen were sampled rather than collected in their entirety, but the great bulk of the organic material was collected. Only mapped whale bones were not collected, but rather identified and left next to the house after backfilling (following McCartney 1979a). Summary results of the individual house and midden excavations are provided in Appendix 1.

Analysis of collections

The artifacts from Qariaraqyuk were identified to functional categories through comparison with the Canadian Museum of Civilization's Thule collections, and published examples in the archaeological and ethnographic literature (Appendix 2). Some specimens were measured, especially where this aided in identification (e.g., diameter of fragmentary shafts), and weighed. Slot dimensions were recorded for all slotted objects to determine blade or bit material (Chapter 7). A sample of hide artifacts was identified to taxonomic family through microscopic comparison of hairs with the CMC's reference collection and manuals. The Canadian Conservation Institute performed archaeometric analyses on copper and iron objects to distinguish native metals from Norse imports (Corbeil 1995, 1996; Corbeil and Powell 1995). All
specimens were coded according to material, gross functional stage (complete or unfinished, slightly damaged but reparable, badly damaged or fragmentary, discard from reworking), presence of carnivore gnawing, presence of heat alteration, and degree of weathering. Animal bone samples were counted, and sorted to remove artifacts, whale bone, and organic debitage. Organic debitage was identified to material and assigned to the categories listed in Table 5 (diabase debitage was only consistently collected in 1994, and is not considered in the following analyses). Charred bone and fat was weighed. Other organic samples (plant material, animal soft tissue) were assigned to gross functional and taxonomic categories.

Table 5. Hard organic debitage categories

WHALE BONE

- identifiable by coarse grain and/or characteristic structures

- may include some antler and ivory that could not be positively identified as such

SHAVING

- identifiable as thin fragment of coarse-grained bone, exhibiting either a marked curve or one or more feathered edges, or both; toolmarks usually present over much of surface

- antler shavings may be present in this category

- many shavings have fragmented since excavation and so are weighed rather than counted in ensuing analyses

CHIP

small fragments of whale bone, often with toolmarks, the condition of which is consistent with that of other forms of debitage (the latter generally being abundant in the same context)
identification to this category is less secure than others, and may include pieces of bone spalled off of house framework during dismantling, collapse or scavenging, but it is necessary to include large quantity of debris from bone working that does not clearly fall into one of the other categories

- many of the specimens in this category are fragments of shavings

- antler chips may sometimes be present in this category

PRIMARY DEBITAGE

- toolmarks present, but no smoothly adzed faces

- lacks curve and feathered edges typical of shaving
- normally includes cortex

SECONDARY DEBITAGE

- one smoothly adzed face

- cortex may be present

TERTIARY DEBITAGE

- more than one smoothly adzed face
- cortex rarely present

IVORY

- identifiable by absence of grain, transluscency, color, and occasional distinctive dental structures

CHIP/FRAGMENT

- small chip or flake lacking deliberately formed faces

OTHER DEBITAGE

- one or more formed faces

ANTLER

- identifiable by contrast between grainy cortex, homogeneous and transluscent subcortical tissue, and/or trabecular core

- color may also be distinctive

CHIP/SHAVING - as for whale bone and ivory

OTHER DEBITAGE - one or more formed faces

CHAPTER 6: SITE STRUCTURE

Introduction

The spatial organization of features and surface finds within a site, and sites within a region, represent key categories of data for investigating prehistoric economy and social relations. They are particularly germane to the Central Arctic Thule case because the slow rate of soil formation means that sites ranging from winter villages to single hearths are readily visible on the ground surface. Unlike much of the Western Arctic, where coastal erosion has destroyed substantial portions of the archaeological record (e.g., Larsen and Rainey 1948; Mason and Jordan 1993; Reinhardt 1993), the Central Arctic is still experiencing post-glacial isostatic emergence (Dyke et al. 1991), with the result that most prehistoric coastal sites are being safely uplifted away from the most dynamic erosional contexts. In addition, the major resource exploited by many Thule groups leaves a conspicuous archaeological trace, in the form of the whale bone that litters flensing beaches and residential sites. Even early Holocene whale skeletons (as well as other sea mammal remains and driftwood) are readily located by surface survey (Dyke, Hooper, and Savelle 1996). Savelle and McCartney (op. cit.) have amply demonstrated the potential of this surficial database for addressing key problems in Thule economy through regional scale analyses of site and whale bone distributions. Additional information on socioeconomic organization is contained in the intrasite feature distributions (e.g., Grier and Savelle 1994). The major obstacle to this line of approach is the difficulty of determining the age of surface finds and features (a problem largely avoided by Savelle and McCartney through the use of broad

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chronological subdivisions). Although various aspects of surface site structure can be used to develop arguments for the contemporaneity of features (see below), in the case at hand preliminary spatial analytic interpretations can be partially tested against the results of excavation. Evidence for the chronology of site and feature occupations is thus discussed first.

Dating

Eight samples from five of the houses and the test pit were submitted for ¹⁴C dating. The results are provided in Table 6. Calibration of the dates was explored using Oxcal v2.18 (Bronk Ramsey 1995). Simply summing (SUM function) the probability distributions of the calibrated dates provides the best estimate of the overall chronological distribution of events (Figure 23). The 1-sigma range represents an estimate of the period during which 68% of the events took place, namely AD 1160-1510 (the 95% interval is AD 1000-1650). Two of the samples were considered to date feature construction or last refurbishment, while five of the samples were expected to date the abandonment of their respective features. The probability distributions for the construction dates of Houses 38 and 41 are centered on the late 12th to late 13th centuries. If they are considered to date the same event (they may not) and combined (R_COMB function), the calibrated 1-sigma range is AD 1195-1270, suggesting the tested portion of the site was first occupied in the early to mid 13th century.

The sample from House 34 was expected to produce an abandonment date, but it appears that the dated heather may derive not from the sleeping platform but

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	label						uncorrected	¹³ C/ ¹² C	corrected		
	used						¹⁴ C age	ratio	^{1₄} C age	calibrated 1-sigma	calibrated 2-sigma
lab number	in text	material	house	unit	level	context	(BP)	(0/00)	(BP)	range (probability)	range (probability)
		caribou bone									
		(Rangifer				outside				AD 1420-1520 (.89)	
Beta-101515	H6	tarandus)	6	1,2	3	entrance tunnel	420 +/- 60	-25.0	420 +/- 60	AD 1600-1620 (.11)	AD 1400-1640 (1.00)
}		caribou bone								AD 1320-1340 (.07)	
		(Rangifer		12, 17,						AD 1390-1520 (.80)	
Beta-101514	H29	tarandus)	29	19, 23	2F	on paved floor	460 +/- 90	-25.0	460 +/- 90	AD 1590-1630 (.12)	AD 1290-1640 (1.00)
						amongst					
		heather				sleeping					
1		(Cassiope				platform					
Beta-104636	H33	tetragona)	33	22	3SP	collapse	320 +/- 50	-26.2	310 +/- 50	AD 1510-1650 (1.00)	AD 1450-1660 (1.00)
						amongst					
		heather				sleeping					
		(Cassiope				platform					
Beta-104637	H34	tetragona)	34	11	3SP	collapse	840 +/- 70	-26.6	810 +/- 70	AD 1160-1280 (1.00)	AD 1040-1290 (1.00)
						amongst east					
		heather				sleeping					
		(Cassiope				platform				AD 1310-1350 (.47)	
Beta-104638	H38-1	tetragona)	38	36	2SP	collapse	570 +/- 50	-26.5	550 +/- 50	AD 1380-1430 (.53)	AD 1200-1440 (1.00)
						beneath					
		. :				sleeping					
		heather				platform,					
		(Cassiope				overlain by					
Beta-104639	H38-2	tetragona)	38	29	_2SP	gravel	620 +/- 60	-26.2	600 +/- 60	AD 1290-1400 (1.00)	AD 1280-1420 (1.00)
1		•				between sod					
						blocks in					
		willow (Salix				exterior house				AD 1050-1080 (.13)	
Beta-104640	H38-3	sp.)	38	14	2W	wall	900 +/- 80	-29.8	830 +/- 80	AD 1120-1270 (.87)	AD 1020-1280 (1.00)
		caribou antler									
		(Rangifer				beneath paved					
Beta-104641	H41	tarandus)	41	25	SF	floor	700 +/- 60	-20.5	780 +/- 60	AD 1190-1280 (1.00)	AD 1040-1300 (1.00)

Table 6. ¹⁴C samples and results



Figure 23. Sum of all calibrated dates from Qariaraqyuk (SUM)

from wall insulation. Both Houses 34 and 38 contained heather in the space between interior wall slabs and exterior wall sods, which may have become mixed with sleeping platform slabs when the walls collapsed. The House 34 artifact assemblage certainly does not support an abandonment simultaneous with the construction of Houses 38 and 41 (see discussion of harpoon head and arrowhead styles below). If H34 is treated as a construction date and combined as above with H38-3 and H41, this narrows the 1-sigma range for first occupation of this area to AD 1205-1270 (Figure 24).

H33 is another problematic date. It was the only sample noted in the submission to the dating lab to be visibly contaminated by modern mold growth (mold formed on some organic materials even before removal of overlying sediments, due to thawing of the permafrost, and cannot be assumed to be absent from other heather samples). Although it was felt that this would be removed during pretreatment, it may not be coincidental that this was the only sample to produce a surprisingly late date (Figure 23). However, the distinctive House 33 harpoon head assemblage (discussed below) supports a late abandonment, and suggests that the site may indeed have been occupied, or perhaps episodically *re*occupied, into the 16th century.

The abandonment dates from Houses 6, 29, and 38 are more in line with the site's predominantly Classic Thule assemblage and Morrison's (1989) calibration results. The dates from Houses 6 and 29 are very similar, and the probability distributions of all three dates overlap at one standard deviation. Due to the shape of the calibration curve, the probability distribution for H38-3 is strongly, and



ambiguously, bimodal (Figure 25). This situation can be improved somewhat by incorporating the additional information provided by the earlier dates from House 38. Given the stratigraphic relationships between the samples, the three House 38 dates can be treated as a sequence (SEQ function), effectively truncating the probability distributions in the areas of overlap. The results of this operation are shown in Figure 26 and Table 7, and suggest that the H38-3 mode centered at about AD 1405 is a substantially better estimate of the age of the sample (hence abandonment of the feature) than the mode centered at AD 1330.

Nevertheless, the available dates still suggest that House 38 may have been abandoned before Houses 6, 29, and 33. The latter three dates are not significantly different at a 95% confidence level, and so can be provisionally combined to provide a rough estimate of the final abandonment date for the tested portion of the site (Figure 27). The probability distribution for the calibrated combined date of 371±35 BP is again bimodal, but weighted towards the AD 1450-1520 mode (71% of the 1sigma distribution). The latter estimate for the age of these samples (and site abandonment) can be considered an alternative to a more gradual abandonment beginning in the early 15th century and continuing as late as the 17th, and is much more consonant with the artifactual data. The bulk of the chronologically sensitive artifact types points towards a peak site occupation in Classic Thule times, with only a slight persistence into Modified Thule.

The Qariaraqyuk harpoon head collection is typical of most large Classic Thule assemblages in being dominated by Thule type 2's and 3's (Tables 8 and 9). The occasional examples of Nuwuks, type 4's, and single specimen of type 1 are also



Figure 25. Calibration of House 38 abandonment date (H38-1: 550±50BP)



Table 7. Adjusted estimates of H38 sample ages based on stratigraphic relationships

original	calibra	tion	treated	as seq	uence
H38-3	830+/-8	<u> </u>	<u> </u>	···· ,	
1-sigma	range		1-sigma	range	
1050	1080	(.13)	1050	1080	(.12)
1120	1270	(.87)	1120	1140	(.08)
			1160	1270	(.80)
2-sigma	range		2-sigma	range	
1020	1280	(1.00)	1030	1280	(1.00)

H38-2 600+/-60	
1-sigma range	1-sigma range
1290 1400 (1.00)	1285 1360 (1.00)
2-sigma range	2-sigma range
1280 1420 (1.00)	1280 1410 (1.00)

H38-1	550+/-5	0			
1-sigma	range		1-sigma	range	
1310	1350	(.47)	1330	1350	(.10)
1380	1430	(.53)	1380	1440	(.90)
2-sigma	range		2-sigma	range	
1290	1440	(1.00)	1310	1440	(1.00)



Figure 27. Calibration of combined abandonment dates for House 6, 29, and 33 (371±35BP)

Table 8. Distribution of harpoon head types

COUNTS

			Th	ule typ	oes			Sicco-				
nouse	context	1	2	3	4	5	Sicco	like 3	Clachan	Nuwuk	other	unio
29	fill		1							1		
	floor		1									
	total		2							1		
33	fill		1			1				1		
	floor									1		
	total		1			1				2		
34	fill		4	1	1			1				
	floor		2	2				1				
	total		6	3	1			2				_
35	ពី			1								
	floor		1		1							
	total		1	1	1							
38	fill		5	2	1		1	_				2
	floor		1		1			2			1	1
	total		6	2	2		1	2			1	
41	fill	1	9	3			1	2		1		4
	floor		3	1								
	sub-floor								1			
	upper midden								1			1
	lower midden		2					1	•			
	total	1	14	4			1	3	2	1		
ouse	context	1	2	<u>3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 </u>	4	5	Sicco	like 3	Clachan	Nuwuk	other	unic
29	fill		50			-				50		
	floor		100									n/a
	total		67									n/a n/a
33	ពីរ		φ.							33		n/a n/a n/a
			33			33				<u>33</u> 33		n/a n/a n/a n/a
	floor		33	<u> </u>		33				33 33 100		n/a n/a n/a n/a n/a
	floor total		33 25			33 25		<u>, , ,</u>		33 33 100 50		n/a n/a n/a n/a n/a n/a
34	floor total fill		33 25 57	14	14	33 25	<u> </u>	14		33 33 100 50		n/a n/a n/a n/a n/a n/a
34	floor total fill floor		33 25 57 40	14 40	14	33 25		14 20		33 33 100 50		n/a n/a n/a n/a n/a n/a n/a
34	floor total fill floor total		33 25 57 40 50	14 40 25	14	33 25		14 20 17		33 33 100 50		n/a n/a n/a n/a n/a n/a n/a
34	floor total fill floor total fill		33 25 57 40 50	14 40 25 100	14	33 25		14 20 17		33 33 100 50		n/a n/a n/a n/a n/a n/a n/a n/a
34	floor total fill floor total fill floor		33 25 57 40 50 50	14 40 25 100	14 8 50	33 25		14 20 17		33 33 100 50		n/a n/a n/a n/a n/a n/a n/a n/a
34	floor total fill floor total fill floor total		33 25 57 40 50 50 33	14 40 25 100 33	14 8 50 33	33 25		14 20 17		33 33 100 50		n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38	floor total fill floor total fill floor total		33 25 57 40 50 50 33 56	14 40 25 100 33 22	14 8 50 33 11	33 25	11	14 20 17		33 33 100 50		n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38	floor total fill floor total fill floor total fill floor		33 25 57 40 50 50 33 56 20	14 40 25 100 33 22	14 8 50 33 11 20	33 25	11	14 20 17 40		33 33 100 50	20	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38	floor total fill floor total fill floor total fill floor total		33 25 57 40 50 50 33 56 20 43	14 40 25 100 33 22 14	14 8 50 33 11 20 14	33 25	11	14 20 17 40 14		33 33 100 50	20	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38 41	floor total fill floor total fill floor total fill floor total	6	50 57 40 50 50 33 56 20 43 53	14 40 25 100 33 22 14 18	14 8 50 33 11 20 14	33 25	11 7 6	14 20 17 40 14 12		33 33 100 50	20 7	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38 41	floor total fill floor total fill floor total fill floor total fill	6	50 50 50 50 50 33 56 20 43 53 75	14 40 25 100 33 22 14 18 25	14 8 50 33 11 20 14	33 25	11 7 6	14 20 17 40 14 12		33 33 100 50	20 7	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38 41	floor total fill floor total fill floor total fill floor totai fill floor sub-floor	6	33 25 57 40 50 50 33 56 20 43 53 75	14 40 25 100 33 22 14 18 25	14 8 50 33 11 20 14	33 25	11 7 6	14 20 17 40 14 12	100	33 33 100 50	20 7	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38 41	floor total fill floor total fill floor total fill floor totai fill floor sub-floor upper midden	6	33 25 57 40 50 50 33 56 20 43 53 75	14 40 25 100 33 22 14 18 25	14 8 50 33 11 20 14	33 25	11 7 6	14 20 17 40 14 12	100	33 33 100 50	20 7	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38 41	floor total fill floor total fill floor total fill floor totai fill floor sub-floor upper midden ower midden	6	33 33 25 57 40 50 50 50 33 56 20 43 53 75 67	14 40 25 100 33 22 14 18 25	14 8 50 33 11 20 14	33 25	11 7 6	14 20 17 40 14 12 33	100	33 33 100 50	20 7	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
34 35 38 41	floor total fill floor total fill floor total fill floor totai fill floor sub-floor upper midden ower midden iotal	6	33 33 25 57 40 51 52 53 54	14 40 25 100 33 22 14 18 25 15	14 8 50 33 11 20 14	33 25	11 7 6 4	14 20 17 40 14 12 33 12	100 100 8	33 33 100 50	20 7	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a

Table 9. Distribution of harpoon head attributes

COUNTS

	LASHIN	G		DECO	RATIVE E	LEMEN	TS			DECORA	ľ. +/-	SPUR FC	DRM		RIVET	
				•		vest	other					bi-/tri-	complex			
	lashing	lashing	lashing	raised	Y-	side	incised	other	no	some	no	furcated	faceted	simple	rivet r	io rivet
house context	holes	slots	grooves	line	motif	slots	lines	dec	dec	dec	dec	spur	spur	spur	hole	hole
29 fill		1						2		1	1	1	1			1
floor		1			1					1			1			
total		2			1			2		2	1	1	2			1
33 fill	1								2		2	1			2	
floor							1			1		1		1	1	
total	1						1		2	1	2	2		1	3	
34 fill	1	3					1	2	4	3	4		1	2	2	1
floor	2	2			1	1			2	2	2		2	1	3	1
total	3	5			1	1	1	2	6	5	6		3	3	5	2
35 fill	1					1				1				1	1	
floor									1		1			1		1
total	1					1			1	1	1			2	1	1
38 fill	2	4	1	1	3	1	1	1	4	5	4		1	5	1	4
floor	1	2				1		1	2	2	2		2	2		2
total	3	6	1	1	3	2	1	2	. 6	7	5		3	7	1	6
41 fill	4	8	1	1	3		2	1	6	6	6		5	7	4	4
floor	2	1			1		1			2			1	2		1
sub-floor		1					1			1					1	
upper midd	l. [.]														1	
lower midd		2					1			1			1	1		1
total	6	12	1	1	4		5	; 1	6	9	6		7	10	7	6
TOTAL	14	25	2	2	9	4	8	7	21	25	21	3	15	23	17	16

Table 9. Continued

PARTIAL ROW PERCENTAGES

	LASHING		DECOF	RATIVE	LEMEN	TS			DECORAT. +/- SPUR F			UR FORM			•		
							vest	other			<u>. </u>		bi-/tri-	complex			
		lashing l	ashing	lashing	raised	Y-	side	incised	other	no	some	по	furcated	faceted	simple	rivet r	no rivet
house	context	holes	slots	grooves	line	motif	slots	lines	dec	dec	dec	dec	spur	spur	spur	hole	hole
29	fill		100					_	100		50	50	50	50			100
	floor		100			100					100			100			
	totai		100			33			67		67	33	33	67			100
33	i fill	100								100		100	100			100	
	floor							100			100		50		50	100	
	total	100						33		67	33	67	67		33	100	
34	fill	25	75	_				14	29	57	43	57		33	67	67	33
	floor	50	50			25	25			50	50	50		67	33	75	25
	total	38	63			9	9	9	18	55	45	55		50	50	71	29
	5 fill	100					100				100				100	100	
	floor									100		100			100		100
	total	100					50			50	50	50			100	50	50
38	3 fill	29	57	14	9	27	9	9	9	36	56	44		17	83	20	80
	floor	33	67				25		25	50	50	50		50	50		100
	total	30	60	10	7	20	13	7	13	40	58	42		30	70	14	86
41	fill	31	62	8	8	23		15	8	46	50	50		42	58	50	50
	floor	67	33			50		50			100			33	67		100
	sub-floor		100					100			100					100	
	upper midd															100	
	lower midd.		100					100			100			50	50		100
	total	32	63	5	6	24		29	6	35	60	40		41	59	54	46
	TOTAL	34	61	5	4	18	8	16	14	41	54	46	7	37	56	52	48

not unusual. Nuwuks dominate Late Prehistoric and Historic assemblages in the western and west-central regions, and were common ethnographically in the east (Mathiassen 1927, Part II:21), but in fact occur regularly in relatively early Classic Thule assemblages throughout the Canadian Arctic (e.g., Booth Island [Morrison 1990], Clachan [Morrison 1983], Deblicquy [Taylor 1981], Brooman Point [McGhee 1984a], Lake [Collins 1951], M1 [Collins 1952], PaJs-13 [Habu and Savelle 1994], Nunguvik House 42 [Mary-Rousseliere 1979], Naujan [Mathiassen 1927]). Two harpoon heads with raised line decoration (one complete, one only a spur fragment) are classed as Sicco, and point to an earliest Classic Thule component. Several faceted Thule 3's with a waisted or shouldered plan, and often possessing vestigial side slots, appear to be stylistically (and temporally) intermediate between Siccos and typical Thule 3's. Identical specimens occur at the above sites (except Deblicquy), as well as Co-Op, and Malerualik (Mathiassen 1927). Two Clachans further suggest contemporaneity and interaction with the Coronation and Amundsen Gulf groups participating in Morrison's 13th-14th century Clachan phase, but as discussed above they occur at several sites in the Central and High Arctic, hinting at a broader Classic Thule interaction sphere.

Thule 5's are generally considered diagnostic of Modified Thule. The Qariaraqyuk specimen is not quite as flat as typical Modified Thule and Historic examples, and seems related in design to the Nuwuks, most of which have a similar constriction in the line hole area, and two of which similarly possess a divided spur (one bifurcated, one trifurcated). Variants of this type were common historically in the Eastern Arctic, and continue in use to the present, but are rare or absent in Classic Thule

assemblages. The scarcity of this type at Qariaraqyuk (2% of the harpoon head assemblage) suggests only a minor Modified Thule component, and favors the interpretation of the radiometric dates that places site abandonment in the mid 15th to early 16th centuries.

Small sample sizes make comparisons of house assemblages difficult, but there appear to be no substantial differences in type frequencies between the large collections from Houses 34, 38, and 41. The occurrence of two Nuwuks and the Thule 5 in House 33 is remarkable in light of the rarity of these types in the overall assemblage, and tends to support a relatively late occupation for this feature. Unfortunately, the lack of an earlier bracketing date, and the small sample size, prevent any firm inferences regarding the timing of house construction for this or the other western features (6, 29). The relative frequency of chronologically sensitive harpoon head attributes is also similar for the large collections. However, early abandonment of House 34 is cast into further question by relative frequencies of lashing holes, no decoration, and rivet holes (all considered late attributes) somewhat greater than the sitewide averages. In the assemblage as a whole, lashing slots and the presence of decoration predominate over lashing holes and no decoration. Rivet holes occur in about half the specimens, but interhouse variation is difficult to disentangle from chance variations in the proportions of end-bladed harpoon head types.

Park (1994) has strongly criticized the validity of the conventional harpoon head chronology. His analysis demonstrates that individual Thule sites and features are indeed poorly dated and tend to contain a mixture of types and attributes, but this

implies long-term occupancy as much as the absence of temporal stylistic trends. He does not adequately refute the interpretation of drilled lashing and rivet holes as later attributes, and his analysis supports the view that decoration is an "early" attribute.

Lashing slots are consistently present on the stratigraphically early (Stanford 1976) Alaskan-derived Natchuk and Sicco types, but appear to have been progressively rejected, along with extraneous decoration, during Classic Thule times on the corresponding eastern harpoon head variants (Thule 2's, Sicco-like Thule 3's, and Thule 3's). Lashing holes are thus moderately common in Classic Thule components, but are ubiquitous on Modified Thule and Historic open-socketed harpoon heads (e.g., Mathiassen 1927; Sabo 1991; Stenton 1987). Confusion arises because lashing holes apparently did not immediately replace lashing slots. and so the two attributes co-occur in most Classic Thule assemblages. Their value as a chronological marker is thus greatest on early and late Thule sites. It still appears possible (v. Ford 1959) that lashing holes were an eastern Classic Thule innovation that eventually spread to Alaska (the single "Early Thule" specimen from Walakpa could date anywhere between roughly AD 900 and 1400 [Stanford 1976:20, 90]). Much more research is required on Thule artifact chronologies, and cross-dating of the Alaskan and Canadian sequences, to determine the nature of this and other potential technological borrowings.

Similar problems and potentials relate to the chronological use of arrowhead tang attributes (see review in Turcy 1990). A tang with projecting spurs appears to have been a relatively early Eastern Thule innovation, given its much wider distribution

during Classic Thule times in the Eastern than Western Arctic. These projections are not "lashing knobs" as Turcy suggests, but rather function as a simple screw, effectively threading the hole that is created as the arrowhead is twisted into the shaft. This appears to be a real (if minor) technical improvement rather than merely a stylistic flourish. The Western Thule-style bulb, conical knob, or collar is thus diagnostically early in the east, but seems to have persisted later in Alaska and perhaps the western and west-central Canadian Arctic (Morrison 1983). These early/western variants occur in moderate numbers at Qariaraqvuk (Table 10). pointing to the relatively early occupation of the tested portion of the site. A seriation of the various excavation contexts (Table 11) suggests the sequence collared-bulbed-symmetric spurs-asymmetric spurs at Qariaraqyuk, with the other variants too rare or undiagnostic to order securely. The symmetric-asymmetric spur sequence is confirmed by stratigraphic relationships in House 41, but the relative rarity of the former (18% of the assemblage) suggests that it was a brief moment in arrowhead tang design, at least at this site. Plain conical tangs are common in Birnirk assemblages (Stanford 1976) but persisted into historic times in Alaska (Mathiassen 1927, Part II:46) and may be ambiguous temporal indicators unless correlated with other arrowhead attributes (e.g., sloping shoulders). Scarfed tangs appear to be a late development (Taylor and McGhee 1979:76-77), and continued into historic times in the Eastern Arctic (Mathiassen 1927, Part II:46). Their scarcity at Qariaraqyuk, relative to their abundance in Modified Thule assemblages from northern Baffin Island (ibid.), militates against a substantial Modified Thule component here.

	COUNTS	3						ROW PE	RCENT	AGES				
			symm	assym	single	conical	scarfed			symm	assym	single	conical	scarfed
house context	collared	bulbed	spurs	spurs	spur	plain	plain	collared	bulbed	spurs	spurs	spur	plain	plain
29 fill			1	1					_	50	50			
floor				3							100			
total			1	4						20	80			
33 fill														
floor				2							100			
total				2							100			
34 fill			1	1		1				33	33		33	
floor			1	1						50	50			
total			2	2		1				40	40		20	
35 fill		1		1					50		50			
floor				1							100			
total		1		2	_				33	_	67			
38 fill	1	2	: 1					25	50	25				
floor		1	1	3			1		17	17	50			17
total	1	3	2	3			1	10	30	20	30			10
41 fill		5	2	12	1				25	10	60	5		
floor				2		1					67		33	
sub-floor			2							100				
surface midd	l.		1	3	1					25	75			
upper midd.	. 1		1	7	' 1	l		10	ŀ	10	70	10		
lower midd.	1		1	2	2			25		25	50			
total	2	5	5 7	26	5 2	? 1	<u> </u>	5	12	16	60	5	2	
SITE TOTA	L 3	9) 12	: 39) 2	2 2	! 1	4	13	18	57	3	3	1

Table 10. Distribution of arrowhead tang types

		COUNTS	6						ROW PE	RCENT	AGES				
				symm	assym	single	conical	scarfed			symm	assym	single	conical	scarfed
house	context	collared	bulbed	spurs	spurs	spur	plain	plain	collared	bulbed	spurs	spurs	spur	plain	plain
38	fill	1	2	1						50	25				
41	sub-floor			2							100				
41	lower midden	1		1	2				25		25	50			
35	fill		1		1					50		50			
41	upper midden	1		1	7	1			10		10	70	10		
41	fill		5	2	12	1				25	10	60	5		
38	floor		1	1	3			1		17	17	50			17
34	fill			1	1		1				33	33		33	
29	fill			1	1						50	50			
34	floor			1	1						50	50			
41	surface midden			1	3						25	75			
41	floor				2		1					67		33	
29	floor				3							100			
33	floor				2							100			
35	floor				1							100			

Table 11. Seriation of contexts based on frequency of arrowhead tang types

A noteworthy feature of this seriation is the tendency for fill assemblages to be earlier than their respective floor assemblages (i.e., in Houses 29, 35, 38, 41; House 33 did not produce any arrowhead tangs in the fill, and the House 34 ordering is ambiguous). This suggests that refuse accumulated on and around the exterior of the houses for some period of time *before* they were abandoned, rather than deriving primarily from use of abandoned house depressions as discard areas (cf. Stenton and Park 1994). Sheehan (1990:252) and Newell (1987) provide similar interpretations of refuse assemblages at Utgiagivk, and indeed this is supported by historic photographs of occupied sod houses, which show roofs in use for storage (items being placed both on racks and in direct contact with roof sods), and as activity areas for adults, children, and dogs (e.g., Fitzhugh and Kaplan 1982:251-252; Crowell 1988:197; VanStone 1989:45). All of the floop assemblages and that from the surface of the karigi midden are comparably late, with the possible exception of House 38's. Nevertheless, the latter assemblage is dominated by the asymmetric spur variant, and includes the only (presumably late) scarfed tang. Small sample sizes make conclusive statements about house contemporaneity difficult to sustain. The houses that appear in the earlier part of the sequence (35, 38, and 41) may well have been first occupied before those in the later part (29, 33, 34). based on the disappearance of the western tang variants, but the results do not indicate any significant hiatus between their respective abandonments (asymmetric spurs constitute 50-100% of all floor assemblages). House 34 appears to fall in about the middle of the sequence, not at the beginning as the ¹⁴C date might suggest, but again sample sizes are far from adequate.

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In summary, feature construction appears to have begun around AD 1200. Houses towards the western end of the site may have been constructed later than those in the central portion, but this is not conclusively established. The former, however, do appear to have been abandoned slightly later than those in the central portion, in the mid to late 15th century (and perhaps 16th century) as opposed to the early 15th century. The greater accumulation of refuse in Houses 34, 38, and 41 suggests that these houses were occupied for a longer period than 29, 33, and 35 (and probably 6). Furthermore, on the architectural evidence, 29 and 35 probably did not witness the sort of recurrent, winter-long occupation of Houses 33, 34, 38 and 41. The seriation of arrowhead tangs, and to a lesser extent harpoon heads, points to substantial overlap in house occupations, probably during at least the 14th century, and likely the 13th and early 15th as well. A tentative model of house occupation combining the radiometric and typological data discussed above is presented in Table 12. Although these data cannot demonstrate which features, if any, were actually occupied simultaneously (the only refit between contexts was a lance head, fragments of which occurred in the interior tunnel mouth area and the exterior upper midden level of House 41), they are not inconsistent with substantial contemporaneity during the noted period. This position is bolstered by site structural data discussed in the following sections.

A use life is implied for several of the excavated features (especially Houses 34, 38, 41) of as much as 200 years. While this is much greater than the estimated use life of semi-subterranean dwellings in warmer environments (e.g., 10-15 years for Southwestern pit houses [Cameron 1990]; by contrast, Hayden [1997] infers

	estimated	estimated
	construction	abandonment
house	date AD	date AD
6	?	1500
29	1250	1450
33	1300	1500
34	1200	1400
35	1250	1400
38	1200	1400
41	1200	1450
SITE	1150	1500

Table 12. Model of house occupations

(rounded to nearest 50 years)

centuries-long use and refurbishment of pit house sites on the Fraser Plateau), it should be noted that the key structural elements of Thule houses are not perishable under local environmental conditions. Using *in situ* materials, McGhee (1984a:21) has created a perfectly functional reconstruction of an excavated Thule house with minimal effort, adding only lashing and a covering to the whale bone superstructure. Thule groups likely maintained their houses in essentially the same fashion, through regular removal of floor refuse and occasional repair of the roof framework and replacement of its covering.

Site structure - test implications

a. The North Alaskan mode of whaling organization will be expressed in the demographic scale of winter aggregations, and present where these populations reach or exceed a size threshold corresponding to at least one whaling crew's worth of male labor.

McCartney (1979a) coordinated a massive inventory of Thule winter sites in the 1970s. Refining some of the latter site size estimates with Savelle's (1989) more recent regional survey data, the number of houses at 271 winter sites has been assembled, as shown in Figure 28 (an earlier version of this analysis was presented in Whitridge 1994a). What is most striking about the distribution is the presence of distinct modes at 2, 5, 9, 15 and 21 houses, which hint at an underlying determinant of winter settlement size that favors particular scales of aggregation (after 2, the modes fall approximately at multiples of 5). Assuming an average of seven or eight persons per dwelling (Foote 1965:224; Burch 1981:14), and a mean ratio of one



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hunter to every three or four dependants (Binford 1991; Taylor 1974), these modes represent settlements consisting of between three and 42 hunters, assuming complete intrasite contemporaneity (Table 13).

From another perspective, the four large modes represent increments of 6-12 hunters. This range corresponds guite closely to the size of a whaling boat crew. Foote (1965:227) collated early 19th century Euro-American observations of the number of people encountered travelling in 65 Yupik and Inupiat umiat. The average number of persons was 7.0, which matches some ethnographic estimates of typical whaling crew size (Rainey 1947), and is within the size range of whaling crews depicted in prehistoric Thule engravings (e.g., McGhee 1984a:76). However most Thule whaling scenes show the *umiak* in profile, frequently with three paddlers and a harpooner, and sometimes a boat-steerer, visible (Maxwell 1985; Figure 29). If the paddlers were paired per normal seating in an *umiak*, then this conventional depiction would actually represent a boat crew of 7-8. Many ethnographic estimates in fact average slightly higher than Rainey's, in the range of 6-10 persons, with eight persons the most often cited figure (Spencer 1959; Vanstone 1962a; Nelson 1969; Worl 1980; Burch 1981; Lowenstein 1993). Converting the demographic estimates for the site size modes into seven and eight hunter increments (Tables 13 and 14) confirms a fairly systematic progression between the larger modes; settlement sizes correspond approximately to increments of boatloads of hunters.

The complicating factor in this analysis is the unknown proportion of houses that may have been unoccupied at any given time at any given site. As discussed above, Park and McGhee have inferred relatively low occupancy rates for some

NUMBER OF HUNTERS

	1 hunter per	4 dependants	1 hunter per	3 dependants	
	7 persons	8 persons	7 persons	8 persons	
n houses	per dwelling	per dwelling	per dwelling	per dwelling	mean
2	2.8	3.2	3.5	4.0	3.4
5	7.0	8.0	8.8	10.0	8.4
9	12.6	14.4	15.8	18.0	15.2
15	21.0	24.0	26.3	30.0	25.3
21	29.4	33.6	36.8	42.0	35.4

NUMBER OF 7 HUNTER INCREMENTS

	1 hunter per	4 dependants	1 hunter per	3 dependants	
	7 persons	8 persons	7 persons	8 persons	
n houses	per dwelling	per dwelling	per dwelling	per dwelling	mean
2	0.4	0.5	0.5	0.6	0.5
5	1.0	1.1	1.3	1.4	1.2
9	1.8	2.1	2.3	2.6	2.2
15	3.0	3.4	3.8	4.3	3.6
21	4.2	4.8	5.3	6.0	5.1

NUMBER OF 8 HUNTER INCREMENTS

	1 hunter per	4 dependants	1 hunter per 3 dependants		
	7 persons	8 persons	7 persons	8 persons	
n houses	per dwelling	per dwelling	per dwelling	per dwelling	mean
2	0.4	0.4	0.4	0.5	0.4
5	0.9	1.0	1.1	1.3	1.1
9	1.6	1.8	2.0	2.3	1.9
15	2.6	3.0	3.3	3.8	3.2
21	3.7	4.2	4.6	5.3	4.4

Figure 29. Whaling scene incised on snow knife fragment from Lake site (after Maxwell 1985:268). If the three individuals in the center represent paired paddlers, then a boat crew of eight is depicted.



Table 14. Mean number of boat crew increments represented by settlement modes at various occupancy rates

MEAN NUMBER OF INCREMENTS						
	100%	80%	50%	33%		
n houses	occupancy	occupancy	occupancy	occupancy		
2	0.5	0.4	0.2	0.2		
5	1.1	0.9	0.6	0.4		
9	2.0	1.6	1.0	0.7		
15	3.4	2.7	1.7	1.1		
21	4.7	3.8	2.4	1.6		

MEAN NUMBER OF INCREMENTS

large High Arctic sites. However, there is ethnographic evidence that old houses were normally reoccupied before new houses were constructed, since ownership was based on usufruct (e.g., Burch 1988; see discussion in Savelle et al. n.d.). As Stefansson (1919:167) observed in this regard for the western Canadian Arctic: "This [practice] makes the number of house ruins in a place a better index than otherwise of its former population." Testimony by Greenland and Caribou Inuit elders further indicates that "Inuit who reoccupied a site would use preexisting tent rings or other dwelling features, rather than building new ones" (Friesen and Stewart 1994:348). Although occupancy rates would undergo a period of decline if settlements were abandoned gradually, there are grounds for supposing that the number of houses is a reasonable index of *maximum* site population. The larger Thule winter site modes correspond most closely to step-like increments of 7-8 hunters at an average occupancy rate of 80% (Table 14; Savelle 1987).

That settlement size should be intimately related to the nature of whaling organization is assumed by most researchers (e.g., McCartney 1980; McGhee 1969/70, 1984a), and indicated by the strong correlation between village population and number of whaling crews in a sample of early 20th century Chukotkan whaling villages (Figure 30, based on data in Bogoslovskaya et al. 1982). Stefansson (1919) also reported that the size of Mackenzie Inuit villages was denoted by the number of "whaling boats" that could be mustered. Although McGhee (1974:10-11) interprets this somewhat vague statement as referring to kayaks used in beluga hunting, elsewhere in the monograph it appears that Stefansson's "whales" are bowheads, since one of his informants remarked that his father was once first to harpoon a



Figure 30. Settlement population versus number of whaling boat crews for early 20th century Chukotka (Bogoslovskaya et al. 1982)

whale (Stefansson 1919:162), and that the latter had acted as a boat-steerer in whale hunting (ibid.:168), both of which references are much more applicable to bowhead than beluga whaling (Stefansson also clearly refers to belugas as "whitefish" [ibid.:164]).

Savelle and Wenzel (1996) have provided excellent archaeological support for this model by demonstrating that clusters of *qarmat* similar in size to the single crew settlement mode adduced here occur at the ends of paths radiating out from a *karigi* at PaJs-4. This appears to be the actual summer/fall settlement that was occupied by the residents of Qariaraqyuk during the whaling season. Not only does settlement size appear to have been controlled by whaling crew organization, but the spatial arrangement of dwellings within whaling settlements was as well.

The evidence from settlement modes and internal organization thus supports the argument that whaling crew organization was present at Qariaraqyuk (if anywhere; it appears to be the largest Thule winter village in the Eastern Arctic). With at least 53 residential dwellings, and substantial contemporaneity among them during at least the 14th century, Qariaraqyuk could potentially have mustered 9-10 crews (at a peak occupancy rate of 80%; six crews if maximum occupancy was only 50%). Such a large number of crews would have created a competitive intracommunity dynamic amongst *umialik* factions. The presence nearby (at PaJs-3 and PaJs-13) of other moderately large winter villages represents an additional level of close intercommunity interaction, since these settlements appear to be contemporaneous with Qariaraqyuk. At a regional level, the Hazard Inlet groups would have participated in a complex social network encompassing the large and equally

successful whaling centers at Cape Garry and Creswell Bay (Savelle 1990).

b. House-like features functioning as men's workshops and the sites of whaling preparations and ceremonial (i.e., kariyit) will be present in whaling villages.

Communal non-residential structures (i.e., houses lacking sleeping platforms) have been reported at a number of Canadian Thule sites. McCartney (1977:167) reports a possible "dance house" with a carefully paved circular floor surrounded by a stone bench from Kamarvik. The small artifact assemblage was composed predominantly of types associated with male activities. He notes the close similarity of this feature to one at M-2 (Collins 1955:25), which produced bone shavings (presumably abundant, since Collins does not remark on this for other features) in the adjacent midden. A more heavily constructed version of these features, with a circular floor and bench uprights, was excavated at Cape Garry (McCartney 1979b:288). It had eight bowhead crania built into the walls, serving the dual function of wall elements and roof supports, as inferred for House 41 at Qariaraqyuk. The PaJs-13 karigi was similarly composed of a large paved floor and the remains of an encircling bench, and included seven bowhead crania in the wall construction, and an additional six in the entrance tunnel (Habu and Savelle 1994). Habu and Savelle suggest that a layer of grease, baleen, and skin between the base of the walls and the gravel or flagstone floor may have had symbolic significance, separating the whale (i.e., bone superstructure) from the land (ibid.:15). The artifact assemblage was dominated by manufacturing debris (68.2%), and heavy manufacturing tools such as adzes and stone picks were noticeably common.

Women's tools comprised only 0.2% of the assemblage.

Savelle (1987) has also identified *kariyit* at several Central Arctic sites on the basis of their surface appearance, and has excavated warm weather (i.e., whaling season) *kariyit* in the Hazard Inlet area that have not yet been published. McCullough (1989) excavated four possible *kariyit* at the Skraeling Island site. Two of them had paved floors, one rectangular with a central pit containing a cache of tools, the other circular with bench uprights along part of the wall and a central pit containing refuse. Both produced unusually large quantities of manufacturing debris from men's activities. The artifact assemblages from the two features with only partially paved floors were quite small and undistinctive. Each of the four structures was adjacent to 1-3 dwellings, and formed part of a discrete house group. Similar arrangements of houses and *kariyit* occur at Thule sites in Greenland, although the *karigi* appears more often to have been slightly set back from, or to the side of, the associated house group (Gullov 1988).

McCartney (1977:48) reports a probable *karigi*, unexcavated, at Silumiut, and McGhee (pers. comm., 1995) a probable *karigi* at M-1, on the basis of numerous bowhead crania in the walls. A late prehistoric *karigi* excavated by Sheehan (1990, 1997) at Utqiagvik is the only such structure from North Alaska that has been thoroughly described in the literature. It had a paired lamp and meat pit close to the entrance but no hearth, a planked "dance floor," a rear bench, and was the only structure at the site to use exclusively whale bone in the framework (including at least one cranium). Ritual deposits occurred beneath the floor, and the artifact and faunal assemblage produced evidence of ceremonial activity, feasting, and men's
manufacturing tasks, all of which are consistent with ethnographic accounts of *karigi* usage in that area.

Many of the features of the Thule kariyit are replicated in House 41, including the large, circular, paved floor surrounded by remnants of a bench, an organic layer underlying the bench, a central pit, and multiple bowhead crania in the wall (and probably roof) construction. A small passage may have connected the karigi to the adjacent House 42, but this was not definitively established. The artifact assemblage is also highly diagnostic of karigi function. The House 41 assemblage, and especially that from its midden, is overwhelmingly dominated by manufacturing refuse and tools associated with traditionally male activities. This contrasts with the abundant evidence for women's manufacturing activities (hide processing and clothing manufacture) from the floors of the dwellings (see Chapter 8). The absence of kariai kitchens, even at Skraeling Island where these features are ubiquitous architectural elements of dwellings, represents a further aspect of gender segregation, and confirms the North Alaskan ethnographic evidence that food was prepared elsewhere. While the lack of sleeping platforms and substantial hearths suggests these karivit did not normally function as men's or youths' residences or sweatbaths, as in the Yupik area, they do appear to have been predominantly men's workshops.

Evidence for ritual or festival activities is less abundant, although the large open floors would clearly have been ideal for communal aggregations, dances, and ritual performances. The preferential use of bowhead crania for *karigi* as opposed to dwelling construction suggests a symbolic whaling association in line with Habu and

Savelle's interpretation of the baleen layer in the wall/bench area. The central pits likely also had ceremonial significance, as may the predominance of a circular plan. For historic North Alaska, Lowenstein (1993:109) refers to a hollow in the center of the *karigi* floor in which meat was cut up, and in which ritual carvings were piled, during the fall whaling ceremonies. The two well-preserved *kariyit* at Skraeling Island (McCullough 1989) produced the bulk of the objects associated with gaming at that site, as did House 41 for Qariaraqyuk. These include antler, baleen, or wood plaques usually interpreted as markers in gambling games (but alternately as bow cable stops), as well as parts of the ring and pin game (*ajagaq*). One of the Skraeling Island *kariyit* produced an exceptionally diverse assemblage of ornaments, including a possible labret, which suggests community occasions at which dress was relatively elaborate. Ornaments of all varieties (both women's and men's) are also abundant in the House 41 assemblage.

Objects with a convincing ritual association are rare in the total site assemblage. An exquisitely made female figurine occurred inside a lump of pink, clayey sand on the exterior House 41 mound. Female figurines are related to fertility magic in an Alaskan tale (Nelson 1983:497). An ivory zoomorphic pendant that appears to depict an ermine also occurred on the mound. Lowenstein (1992:149) reports that North Alaskan shamans possessed familiars (*kikituks*) carved from ivory or wood in the shape of a mythic ermine. Alternatively, a whaling-ermine association is suggested by the use of an ermine tail as an amulet attached to the *umiak* (Spencer 1959:339), and by the wearing of ermine skins by *umialit* to commemorate successful whale hunts (ibid.). The ermine was also considered a powerful and

dangerous creature in the Eastern Arctic (Rasmussen 1931:268), "the penetrating one" along with the marmot and lemming in Netsilingmiut shaman language (ibid.:312). Ivory chains, variously linked to whaling ritual by their attachment to the wooden vessel used by the *umialik*'s wife to give the dead whale a drink of water (Rousselot et al. 1988:169) or as part of an *umialik*'s dancing paraphernalia (Rainey 1947:250), are more common in the house assemblages, but one occurred on the floor of the *karigi*. Whale tail figurines or pendants such as those attached to this same vessel or worn on the brow band of an *umialik* or harpooner (Spencer 1959:339) occurred only in House 38. A possible amulet box and drum rim fragment occurred in the *karigi* fill, but these are not absolutely secure identifications.

Perhaps the clearest evidence for whaling ritual and preparations in the House 41 assemblage is the relative abundance of bowhead phalanges and whaling gear. In North Alaska the whale's flippers were considered the choicest portion of the carcass, and were typically allotted to the *umialik* whose boat crew first planted a harpoon in the whale (Spencer 1959:345-346; Worl 1980; Blackman 1989; Foote 1992; Lowenstein 1993). Cooked pieces of flipper were distributed by the *umialik* and his wife in the *karigi* (Worl 1980:319) or from their home (Spencer 1959:347) during festivities at the end of the whaling season. One of the distal phalanges was also considered a powerful whaling amulet (Spencer 1959:346).

Finally, whaling-related equipment itself is abundant in the *karigi* assemblage. This includes heavy lance heads, heavy fixed foreshafts, and the mouthpieces, stoppers, inflation tubes, and bars used with sealskin floats. This direct evidence of whaling gear maintenance and specialized whale consumption, together with whale

symbolism, ritual paraphernalia, evidence of community ceremonial and gaming, and the marked predominance of men's manufacturing, suggest that House 41 was used in essentially the same manner as ethnographically described North Alaskan *kariyit*, and contrasts with the gender-neutral dance houses of the Historic Canadian Inuit.

c. Internal site organization (including symbolic structure and the proliferation of functionally differentiated spaces) will be most fully developed at large whaling villages.

The principle outlined by Whitelaw (1991), that large, permanent, and simultaneous population aggregations should be more highly organized than small, temporary, and sequential ones, has been applied to good effect by Savelle (1987) and Grier (Grier and Savelle 1994) in comparisons of site structure at whaling and non-whaling sites, and large and small whaling sites. The tendency for winter houses to be regularly arranged in one or more rows at large sites in the core whaling area is consistent with contemporaneous house occupations by a large number of people. Qariaraqyuk fits this pattern well. The eastern 28 houses occur in a single row (with the occasional house set back from the others), while the western 29 houses tend to fall into two rows that are somewhat less regularly arranged. However, the houses are aligned in such a way that hypothetical "sightlines" projecting out from the exterior tunnel mouth in the direction of tunnel orientation rarely intersect other houses (Figure 31 illustrates 10° x 100 meter arcs). Only 14% of the sightlines substantially intersect other house mounds, and even the clusters of tent rings and caches close to the beach are only intersected by a single

sightline (from the easternmost house in the row). In fact, the "obstructing" houses are at lower elevations (with the exception of House 36 with respect to House 35), and in any case are semi-subterranean, and thus would only have projected above the surface as low mounds. The only potential obstructions to vision would have been storage racks that may have been built over the houses. Visibility, however, is hardly improved by orienting the tunnel away from such features, since one has to exit the tunnel to see outside.

A downslope orientation would have facilitated house and tunnel construction, but this does not explain why houses were so rarely built in front of each other. It appears rather that the houses were symbolically aligned towards, and in effect defined, a large, unoccupied open space in front of the house row which may have been the scene of community ceremonial and games (Figure 32, D). North Alaskan whaling festivals were often held outdoors in warm weather, next to the host *karigi* or in an area traditionally reserved for a particular *karigi*'s use. These and other festivals (as well as more casual recreation) often made use of a large open area (*manigzaq*) analogous to this space at Qariaraqyuk, such as for playing a soccer-like game (Spencer 1959:350; Burch 1981:47). This also recalls a Netsilingmiut afterworld where "the houses stand in long rows...and round about the houses the snow is trampled hard with the many footprints of happy, ball-playing people" (Rasmussen 1931:315).

Other spatially differentiated regions in the immediate vicinity of the house row (C) include the four clusters of warm weather dwellings, hearths, caches, and the occasional burial (A), a path running behind the main house row with an arm





Figure 32. Major elements of Qariaraqyuk site structure. A: warm weather activity areas (qarmat, tent rings, hearths, caches); B: whale bone processing area; C: winter house row; D: common space; E: paths; F: sheet midden; G: cemeteries



climbing the outcrop to the top of the bluffs (E), a cemetery with scores of (mostly unmapped) burial cairns on the talus slope northwest of the site and on top of the bluffs to the north (G), a sheet midden between the path and the talus slope (F), and a bone processing area at the western edge of the settlement (B). The latter has been the site of historic or recent bone scavenging, judging by some cleanly cut proximal mandibles, and may merely be due to the removal and processing of bone for sled runners or carving. Although no evidence was noted of recent removal of structural whale bone from houses, such as that in evidence at nearby sites like PaJs-4, features and artifacts associated with a cluster of sawn proximal mandibles a couple of kilometers west of the site suggest that some scavenging may have occurred long enough ago (i.e., early to mid-20th century) to erase any obvious traces. Alternatively, given associated Thule artifacts and the fact that some mandibles were chopped rather than sawn, bone scatter B) might relate primarily to processing and/or caching of elements that dates to around the time that the site was abandoned. Savelle (1989, 1997) reports an untouched cache of bowhead mandibles next to the Thule winter village at Batty Bay.

The village of Qariaraqyuk is not merely a group of dwellings, occupied, abandoned, and forgotten, but a material representation of corporeal, social, and cosmological order on the model of the house (Whitridge 1997). The house consists of three main levels: a sunken entrance tunnel in which equipment and animal products were stored (and which often housed dogs), a general activity area (the house floor) in the middle, and a raised sleeping platform to the rear (Figure 12). Qariaraqyuk, like some other Thule winter villages, is itself structured along similar

lines, with an area of tent rings and caches close to the beach, the main house row along a raised beach in the middle, and a cemetery on the talus slopes and bluffs above the village (Figure 32). Within Thule conceptual space an elevated area at the rear is reserved for bodies at rest, whether sleeping or dead, high status or sacred (Figure 33), and is paralleled in the use of heather both to line graves (Hansen et al. 1991:156) and as a sleeping platform cover. Further, a whaler from St. Lawrence Island recalls: "The stature that whalers have in their community, before death, decides where on the mountain they shall lay" (Jolles 1995b:343). In the middle, at an intermediate elevation, is a place for living people, for daily human activity. At the front, and lower down, is a place for animals and animal products.

Language provides the links between social and cosmological order on the one hand, and the physical space of dwellings and villages on the other. Fortescue (1988) demonstrates that the terms for referring to cardinal directions in both Inuit and Yupik dialects ultimately derive from sets of opposing terms for the front, back, left, and right walls of the winter house. For example at Barrow, the term for the direction 'inland', *kilungnaq*, is derived from the root *killu*, which means the back of the house. The house is in effect a model of the world. Fortescue (ibid.:23) further notes that these spatial oppositions are so integral to the Inuit and Yupik worldview that they appear also in the semantic domains of the body and the boat (e.g., Alaskan Yupik *kian*, from the stem *kig*- referring to 'outside', and meaning 'rear of house' and 'upper part of body', and Siberian Yupik *kiwan*, meaning 'rear of house' and 'rear of boat').

This structural relationship between houses, boats, and bodies is further

Figure 33. Structural homologies between the organization and symbolic marking of settlement and dwelling space.



expressed in the Inuit term for uterus, illiaq, and the word ilumiulerpaa, which has the semantic senses of impregnating a woman, entering a house, and loading a boat (Nuttal 1992). Both of these words are formed from the root *illu* ('house'), and recall a remarkable drawing by Leah Idlaug of an Iglulingmiut woman's (Igallijug's) memory of being inside her mother's uterus, depicted as the interior of a snow house (reproduced in Saladin d'Anglure 1977). The entrance is a vagina, outside of which is a dog. On the left (when one is facing the entrance from the rear of the snow house/uterus) is the man's side, with a blue-tinted roof and a men's knife, harpoon shaft, and harpoon head with line sitting on the bench. At the right, beneath an orange-tinted roof, is the woman's side, with lamp, drying rack, ulu and skin scraper. Blood drips from the edges of both benches. The colors of the halves of the snow house correspond to those observed normally on the sides that are sunward (red/orange) or in shadow (white/blue), and thus invoke additional gender symbolism (in a widely occurring Inuit myth the sun and moon originated from a sister and brother, respectively, who committed incest [e.g., Oosten 1983]). The house emerges as a core metaphor that opens out onto the world, and folds in onto primal bodily experience.

It is thus not coincidental that there are parallels in the symbolic marking of bodily positions within houses and boats. In North Alaska the *umialik* was normally the helmsman (occupying the rear of the *umiak*), the rear of the house was the privileged place in which adult men and favored guests slept, and the rear of the *karigi* was reserved for *umialit* and senior men, while orphans and the poor sat near the door (Spencer 1959). There was an explicit hierarchy of locations within

structures, the superordinate ones being those furthest from the entrance, in elevated, commanding positions. Spatial practice is thus given ideological force by the web of symbolic associations that envelops the built environment. As Moore (1994:84) notes: "The social practices and activities carried out in symbolically constructed space act as a mnemonic for dominant sets of conceptual and social relations." This spatial metaphorization of the social order extends from the layout of the house to that of the community as a whole.

d. House groups or upsiksui (corresponding to kin-based factions that provided the core of a whaling crew) may be present and associated with kariyit.

Twenty-two (39%) of the semi-subterranean houses at Qariaraqyuk occur within a house group, consisting of 2-4 houses with a shared mound or continuous berm. Their appearance is very similar to the tight house clusters found at Skraeling Island (McCullough 1989), Learmonth (Taylor and McGhee 1979), Porden Point (Park 1989), Silumiut (McCartney 1977), Igluligardjuk (ibid.), and sites in Greenland (Gullov 1988). Judging from site plans, these probably occur at other (perhaps most) large Thule sites (e.g., Deblicquy, Malerualik, Naujan, Nunguvik), but are rarely remarked upon. Given that ethnoarchaeological and ethnohistoric research has indicated that spatial proximity is a useful proxy measure of social proximity at Inuit sites (Binford 1991; Burch 1981; Stevenson 1997; Whitelaw 1991), this sort of clustering of houses may contain important clues to scales of intracommunity social aggregation.

Savelle and Wenzel (1996) interpreted the house groups at PaJs-4 as the spatial signatures of *ilagiit* (extended family groups), by analogy with ethnographic

settlement plans from Baffin Island. In North Alaska the members of an extended family group or "local family" also referred to each other as *ilagiit* ('family'), these occasionally developing into large corporate groups termed *amilraq* (Burch 1975, 1981). The local family was the fundamental social, economic, and settlement unit, and only a few large villages, such as Tikiraq, were occupied by unrelated local families. Each normally occupied a cluster of 2-9 adjacent dwellings that were connected to each other by tunnels, often including a *karigi*, and provided the core membership of the whaling crew organization. These house groups were termed *upsiksui* and were individually named, as though they constituted an entire settlement (Burch 1981:45).

Seven house groups at Qariaraqyuk are closely analogous to the *upsiksui* expected to be associated with whaling-related extended family groupings (Figure 34). They are concentrated in the eastern part of the settlement and, like Burch's ethnohistoric examples and the Skraeling Island groups, often appear to include a *karigi* in their midst, as confirmed for the House 40-44 group. In fact, all of the supposed *kariyit* at the site occur within *upsiksui*.

Unlike the North Alaskan case, these compounds only rarely appeared to be connected by passageways (possibly including Houses 41-42), and did not share common entrance tunnels, although groups of 2-3 houses with shared tunnels or connecting passages occur at other Thule sites (e.g., Igluligardjuk, Naujan). It is possible that the scarcity of wood limited the structural complexity of Thule dwellings in the Central Arctic. One architectural alternative to the Western Thule maze of passages and rooms (e.g., Giddings and Anderson 1986; Larsen and Rainey 1948)





appears to have been the construction of bilobate or trilobate dwellings sharing both a common tunnel and a central floor. These are more common than shared mound house groups on Classic Thule sites, and an estimated six bilobate houses and one trilobate house occurred at Qariaraqyuk (Figure 35).

The occurrence of house groups and multiplatform dwellings indicates that distinct social subdivisions, probably kin-based, existed within the community. In Burch's terminology, the multiplatform dwellings perhaps correspond to an *ilagiit*-type organization, and the *upsiksui* (which sometimes include the latter) to the more elaborate *amilraq* organization. Merely plotting roofed house area (including tunnel and kitchen) suggests clinal variation in the size, and by extension labor capacity, of individual dwellings (Figure 36). When the roofed areas of *upsiksui* are combined a bimodal pattern emerges (Figure 37), which is probably a more accurate depiction of intracommunity socioeconomic differentiation. *Upsiksui* housed large pools of potential labor that would have been deployed in the procurement (through harvesting and trade) and conversion (through manufacturing and trade) of whale and other animal products, providing the mechanism for profound differences in power and wealth to emerge among the site's residents. *Upsiksui* can thus be thought of as the spatial signature of kin-based economic factions within the community.

e. Whaling success will vary with winter site size, corresponding to the number of whaling crews.

Whaling success at Qariaraqyuk is evinced by the extensive scatter of whale







Figure 36. Estimated roofed area of Qariaraqyuk dwellings



Figure 37. Estimated roofed area of Qariaraqyuk dwellings and house groups (upsiksui)

bone on the site surface. Close to 3400 specimens were mapped in 1992 (Table 2), and produced an MNI of 261 on right proximal mandibles. This is particularly remarkable given that the site is not located adjacent to flensing beaches. The mouth of Hazard Inlet appears to have been too shallow and narrow, and the inlet's attractions too few, to have admitted bowhead whales with any regularity (if ever). However, abundant evidence for flensing activities occurs on the nearby shores of Prince Regent Inlet, where a large *qarmat* settlement (PaJs-4) with a comparable number of dwellings to Qariaraqyuk is located (Savelle 1987, 1989). This appears to have been the principal whaling village occupied by the winter residents of the latter village, and perhaps other local winter settlements. Thousands of kilograms of whale bone were hauled to Qariaraqyuk over a minimum distance of 3 km from the Prince Regent Inlet beaches, and much of it probably much further, given the vast scatter of whale bone along the coast north of Hazard Inlet (Savelle and McCartney 1994).

Even in Alaska where driftwood was relatively abundant, bowhead mandibles were highly prized as construction elements for houses, *kariyit*, and scaffolds (Foote 1992; Lowenstein 1992; Sheehan 1990). Since they would have been still more valuable in the driftwood-poor Central Arctic (with an important additional use for sled runners), the mandibles transported to Qariaraqyuk may represent precisely the share from successful whale hunts to which its occupants were entitled. Taking into account bones processed elsewhere (e.g., distal mandibles separated from their proximal portions at the flensing locale), buried elements (which may be nearly as abundant as those on the surface [McCartney 1979a]), and the scavenging that has occurred since site abandonment, the total number of whales harvested by site

residents might easily be double that observed on the site surface. This would amount to an average of about two whales per year over the peak period of site occupation (ca. AD 1200-1450).

Savelle and McCartney's (1994) data indicate that other villages on southeast Somerset Island were comparably successful whalers, although the mandible count for Qariarqyuk is the highest in the region. Many of these sites possess more bowhead crania, but this may be due to their greater proximity to flensing areas. Twenty-nine percent of the 510 crania, but only 7% of the 1361 proximal mandibles, occur on the beaches between Bellot Strait and Creswell Bay, rather than in direct association with residential locales. Mandible frequencies are thus the better archaeological index of community whaling success, as well as regional harvest rates.

Osteometric estimates of whale length based on the mandible sample indicate that selective harvesting of the preferred smallest individuals (see McCartney 1995) was greater at Qariaraqyuk than at any other site in the Central Arctic (Savelle and McCartney 1994:299-301), even though all groups in the Hazard Inlet area, at least, would have had access to the same bowhead population at the same time of year. This supports the position that the larger size of the Qariaraqyuk community was expressed in a larger scale mobilization of whaling crews, and ultimately in a heightened ability to procure the most desirable prey.

f. Consumption of prized whale portions will vary within sites, corresponding to the location of kariyit and whaling households.

217

The surface whale bone assemblage at Thule sites provides a potentially valuable means of monitoring intrasite variability in whaling participation, since it does not necessitate costly excavation (Whitridge 1994b). North Alaskan ethnographic evidence indicates that bowheads were frequently flensed on the fast ice, rather than close to shore as appears to have been the case on southeast Somerset. The bulky crania were thus frequently formally disposed of in the water, to return the soul of the whale and "give the crabs their share" (Rainey 1947:261). Mandibles were consistently retained for their symbolic and structural properties (op. cit.), the vertebrae sometimes being abandoned to whomever wanted them once the flesh had been removed (Foote 1992:30). However, the prized flipper and tail portions (Figure 38), potentially including distal limb bones and phalanges, and distal caudal vertebrae, respectively, were returned to the village as part of the share of the successful *umialik*, or other individuals near the top of the sharing hierarchy (e.g., the boat owner if different from the boat captain; the harpooner; the captain, owner or harpooner of the first assisting crew). Although not as highly ranked a share, the tongue also contains skeletal riders, the hyoids, that were likely incidentally returned to the village.

Some of the same considerations apply to Central Arctic Thule bone use, especially the value of mandibles, and the potential for small elements to be transported as riders with prized carcass portions. In addition, whale bone represented one of the most important house construction and manufacturing media (Savelle 1997). Winter house frameworks were built entirely from whale bones if available, and mandibles and maxillae/premaxillae were the preferred materials for

Figure 38. Proposed relationship between traditional carcass divisions at Point Hope and bowhead skeletal structure. Divisions follow Foote (1992), except as noted for alternate versions of the flipper unit, for which VanStone's (1962a) scheme makes the most anatomical sense.



sled runners (and probably scaffolds) wherever wood was scarce. Smaller elements, mainly ribs and scapulae, had numerous uses in the production of harvesting, manufacturing, and domestic equipment. Some of the latter items were made from ivory or antler, but ivory is relatively scarce in southeast Somerset assemblages. For symbolic reasons outlined by McGhee (1977), antler was often preferred for certain implements associated with terrestrial harvesting, while sea mammal materials (i.e., ivory or whale bone) were preferred for marine harvesting gear.

Transport of a variety of whale elements to residential sites is thus expectedly greater in parts of the Central Arctic than in areas rich in wood and/or ivory, and can be considered to have occurred in at least three distinct contexts: house construction, artifact manufacture, and transport of the smallest elements as riders in conventional butchery units. While most households may have had access to basic construction and manufacturing materials, the distribution of "prestige" carcass portions across the site should reflect differences in the degree of participation in whaling, and perhaps the loci of communal feasting if such occurred.

To explore spatial patterning in the surface whale bone, recorded elements were grouped into 16 major categories, partly dependent on sample size (Table 2, Figure 39). The single phalanx and two sternabrae were excluded, leaving 3360 elements at 687 locations. Over half of the whale bones were directly associated with winter houses, and were recorded on sketch maps rather than point provenienced. It was thus decided to analyze the distributions in terms of grid counts. The survey area was divided into 5x5 m units, 567 of which contained whale bone. Although a

simplification of the individual bone plots, this still represents a large amount of spatial data.

In the hope of extracting patterns of covariation among element classes, and hence reducing the dataset to a more manageable size, the grid counts for the 16 variables were used as input for a principal components analysis (Dunteman 1989; Baxter 1994; Shennan 1997). The initial analysis produced five components with eigenvalues greater than 1.00, representing precisely two thirds of the cumulative variance in the dataset, and these were rotated to simplify the structure of the variable loadings (Table 15). A loading of .40 was used as a conventional cutoff in retaining variables for interpretation of the components. Grid unit scores on each component were smoothed and contoured in Surfer for Windows using the 'inverse distance to a power' (squared, in this case) method (Figures 40-44; elements with loadings greater than or equal to .40 are indicated on the skeletal diagrams accompanying the maps).

The first component groups the elements that were most abundant at Qariaraqyuk, including several fragmentary bone classes (Figure 40). Elements in this group are among the most useful in the bowhead skeleton for house construction and artifact manufacture. The inclusion here of the most heavily fragmented categories (distal mandible, maxilla/ premaxilla, rib fragment, unidentified) indicates that many are the byproduct of manufacturing or, perhaps more likely, bone scavenging activities. Grid units with high scores on this component are found in the vicinity of the winter houses, both in a few of the houses with very high bone counts, and in a large cluster to the northwest of the house row.





_	PC 1	PC 2	PC 3	PC 4	PC 5
eigenvalue	5.83	1.50	1.27	1.04	1.01
% variance explained	36.5	9.4	8.0	6.6	6.3
cumulative % variance	36.5	45.8	53.8	60.3	66.6
variable	loading (after varimax rotation)				
atlas	0.11	0.62	0.07	-0.02	-0.03
humerus	0.08	0.28	0.02	0.54	-0.34
hyoid	0.19	0.06	0.75	0.08	0.04
mandible - distal	0.84	0.39	0.07	-0.07	-0.01
mandible - proximal	0.65	0.62	0.03	-0.16	0.00
maxilla/premaxilla	0.60	0.55	0.31	-0.29	-0.10
radius/ulna	0.08	0.07	0.76	0.13	-0.06
rib	0.52	0.54	0.39	-0.21	-0.12
rib fragment	0.71	0.07	0.16	0.21	-0.04
scapula	0.73	0.28	0.24	-0.02	0.00
skull base	0.12	0.77	-0.18	0.10	0.11
skull base fragment	0.03	0.67	0.19	0.24	0.03
unidentified fragment	0.82	-0.12	-0.01	0.20	0.01
vertebra	0.38	0.57	0.32	-0.23	-0.15
vertebra - distal caudal	0.06	-0.06	0.15	0.68	0.10
vertebral epiphysis	-0.02	0.06	-0.02	-0.01	0.93

Table 15. Results of principal components analysis of whale bone distribution (567 grid units, 16 variables)

The latter cluster is interpreted on other grounds as a specialized bone processing area that relates to abandonment and/or post-abandonment events (see above), hence this component can be considered an index of whale bone scavenging.

The second component loads on a slightly different suite of elements, including some of the "useful" elements in the first component. However vertebrae and skull bases are also included in this group, while distal mandibles fall just below the .40 cutoff. High scores on the second component occur exclusively in close association with winter houses, and so this component would appear to be a sort of signature of winter house construction (Figure 41). In fact, the six elements grouped under this component correspond to the six most highly ranked elements in Savelle's (1997) architectural utility index. That proximal mandibles are strongly associated with this component, but not distal mandibles, probably reflects scavenging of the latter for later house or sled construction.

The third component begins to pick up the hypothesized pattern of transport of small, irregularly-shaped elements in larger butchery units (Figure 42). It loads only on hyoids and the combined radius/ulna category. Units with high scores are scattered amongst the winter houses, and towards the eastern end of the survey area, but the major concentration occurs in the sheet midden behind the eastern part of the house row.

The fourth component loads on humeri and caudal vertebrae (Figure 43). There is an extensive scatter of high-scoring units in the eastern sheet midden, and a few very high scoring units at the western end of the house row. Interestingly, these elements are strongly associated with an area of temporary warm weather



Figure 40. Contour plot of PC 1 scores



occupation southwest of the house row, and to a lesser extent in the northeast part of the survey area.

The last component loads only on vertebral epiphyses (Figure 44). Grid units with high scores occur at the margins of the winter house row, in or adjacent to some of the clusters of warm weather features, and at the western edge of the survey area. Since one of the few ethnographic and archaeological identifications of bowhead epiphysis use is for spinning tops, and since epiphyses appear to be distributed independently of all other element classes, it is conceivable that this component monitors children's play activities on the periphery of the major residential loci.

Components three and four match expectations for the transport of small elements in the most highly prized butchery units. The slight differences in the distribution of humeri and caudal vertebrae, versus hyoids and radii/ulnae, may reflect the seasonal and spatial context in which particular parts were consumed. The carcass portion that contained humeri may have sometimes been processed and/or partly consumed at the end of the whaling season, in fall, when the tents and *qarmat* at Qariaraqyuk were occupied. The tail may also have been consumed frequently during the fall, and perhaps spring as well, as it was in North Alaska during the "Slush Ice" and "Whale Tail" feasts hosted by successful *umialit* at these seasons (Rainey 1947; Worl 1980; Foote 1992). Tongues and flippers appear to have been consumed predominantly in winter, and hence discarded in the midden next to the winter house row rather than in the vicinity of warm weather dwellings.

To obtain a simpler picture of the robustness of this patterning in the "prestige element" distributions, the four classes were combined, and their frequencies







evaluated with binomial probabilities (Figure 45). This procedure determines the probability of finding as many or more than the observed number of specimens in a particular grid unit, given grid unit sample size and the fact that prestige elements account for only 4.4% of the surface whale bone assemblage. The results reveal the strength of the cluster in the eastern sheet midden, associated with *upsiksuis* and *kariyit*, and suggest that the high scores on components three and four associated with some dwellings, particularly towards the western end of the house row, may be due to high overall bone counts, and not unusually high frequencies of these elements. Secondary clusters emerge in the vicinity of the southwestern tent ring and *qarmat* group, and in the northeastern part of the survey area, both on the strength of relatively high frequencies of caudal vertebrae and humeri. When humeri are excluded, the sheet midden clearly stands out as the major area of prestige element deposition in the western half of the survey area, with a few small clusters persisting in the eastern half (Figure 46).

The results of these analyses are consistent with the proposition that consumption of prized carcass portions was not evenly distributed across the village. The refuse from prestige consumption was disproportionately discarded in a midden adjacent to the largest *upsiksui* and *kariyit*, presumably because *umialit* and other ranking whalers (e.g., harpooners) tended to reside in this area, or communal consumption occurred here. It appears, in fact, that both are the case.








CHAPTER 7: INTERHOUSEHOLD DIFFERENTIATION

Introduction

Given the evidence from radiometric dating, typological comparisons, analyses of site structure, and ethnographic analogy, there appears to have been substantial overlap in house occupations, although construction and abandonment dates vary. Variability among houses, based on location, architecture, and assemblage composition, can thus be interpreted in terms of the sort of interhousehold social and economic differentiation that would have characterized the community during the peak period of site occupation. Following a consideration of the nature of the artifact assemblages, variability among the dwellings (Houses 29, 33, 34, 35, and 38) is assessed with respect to participation in whaling. The identification of "whaling households" and "non-whaling households" provides the framework against which architectural complexity, village location, resource consumption, ornament usage, and ritual involvement are evaluated,

Origin of house assemblages

Since refuse accumulated on and around the house mounds before abandonment, the fill assemblages are assumed to relate primarily to the respective house occupations in most cases. A comparison of the *karigi* fill and midden assemblages (Table 16) across seven debitage types reveals a strong correlation (Pearson's r=.85), suggesting that the fill assemblage from house depressions is essentially the same as midden refuse. The much greater quantity of hard organic debitage from all *karigi* contexts, compared to dwellings, further indicates that the

	WHALE E	BONE		IVOR	Y	ANTLER		
-				flake/		shaving/		
CONTEXT	primary	second.	tertiary	chip	other	chip	other	TOTAL
HOUSE 6	40							
midden	13	31	11					35
HOUSE 29								
fill	56	23	27				6	112
floor	12	9	9				4	34
TOTAL	68	32	36				10	146
HOUSE 33								
fill	121	265	236	1	1		9	633
floor	11	2	6				3	22
TOTAL	132	267	242	1	1		12	655
HOUSE 34								
fill	65	17	8				4	94
floor	17	5	7				12	41
TOTAL	82	22	15				16	135
	100	212	179		4		1	502
floor	100	312	1/0				, I	J92 Q
TOTAL	106	313	179		1		1	0
IOTAL	100	0.0						000
HOUSE 38								
fill	167	130	93	1	5	5	21	422
floor	67	63	29				9	168
TOTAL	234	193	122	1	5	5	30	590
HOUSE 41								
fill	553	812	501	23	23	59	144	2115
floor	97	50	61		6	1	47	262
midden	922	4593	1825	73	63	759	647	8882
TOTAL	1572	5455	2387	96	92	.819	838	11259
OITE								
SILE	0007	6000	2000	00	00	004	007	49490
IUIAL	2207	0293	2992	90	99	ö24	907	13420

Table 16. Debitage frequency by house and material

character of the fill is most consistent with a derivation from activities within the *karigi* itself. Similar patterns obtain for dwellings 29, 34, and 38. The major exception is House 35, where the quantity of debitage in the fill is much greater than would be expected. Some of this may be intrusive, due to the house's location behind the main house row, and its close proximity to the sheet midden to the north. Additionally, its floor assemblage is very small, so House 35 finds can only be compared provisionally with the others. The House 34 debitage values appear to be skewed by a large cluster in one unit, essentially a single dumping episode, that accounts for 56% of the whale bone debitage in the fill. Although house fill and floor assemblages generally appear to be intimately related, formation processes were undoubtedly complex, and so finds are tabulated separately in ensuing analyses.

Another complicating factor is the much greater total refuse accumulation in some features than in others, probably reflecting differences in the duration of use (Varien and Mills 1997). This necessitates a reliance on relative frequencies, but raises the problem of what values should be used as a standard in such comparisons. Because formation processes vary substantially between floor and fill contexts, entire categories of artifacts are missing or rare in fill assemblages, notably ones made of soft organic materials such as baleen or hide. This is only partially a consequence of decomposition. Such refuse discarded outdoors sometimes survives in a desiccated state close to the surface, but the bulk of this material was probably consumed by dogs, given that carnivore modification was observed on 18.7% of the bone, antler and ivory artifacts. The safest course seems to be to make intra-assemblage comparisons as far as possible amongst categories of finds

with similar preservational potential, or to restrict analyses to well-preserved floor assemblages where the most perishable artifact classes figure prominently.

Test implications

a. House assemblages will be differentiated by degree of participation in whaling, reflected in the relative abundance of whaling gear and prized whale portions.

A total of 721 artifacts were assigned to seven categories of harvesting gear (Table 17; Appendix 2 provides contextual information not contained in this and subsequent summary artifact tables), four of which relate predominantly to sea mammal hunting, and the others to terrestrial (bow and arrow) hunting, fishing, and bird hunting (the collection of three items from House 6 is included in site totals, but excluded from the following discussions). The only relatively common items of harvesting gear that may be underrepresented in fill assemblages are arrow and harpoon shafts. However, the fill and floor harvesting assemblages derived from a particular dwelling tend to be similar in size (the fill:floor artifact ratio is close to unity), and thus the combined artifact assemblage for any dwelling should not be skewed by the preservational differences between these context categories. Because of the larger fill:floor artifact ratio for the *karigi*, these items could be slightly underestimated for that feature, but this appears to be of minor consequence.

The miscellaneous sealing category consists of generic elements of harpoon technology used in all types of small sea mammal harvesting, including fragmentary foreshafts that could not be assigned to a narrower functional category. Ice hunting implements are those used historically by Central Inuit groups in association with

			ł	IOUSE				
ARTIFACT CATEGORY	6	29	33	34	35	38	41	SITE
	COUNTS							
whaling		2	8	5		17	33	65
miscellaneous open water	1	5	6	5	4	9	69	99
ice hunting		5	3	4	1	23	47	83
miscellaneous sealing		6	8	16	4	37	68	139
bow and arrow		11	10	17	5	37	96	176
fishing	1	11	4	10	2	24	59	111
bird/small game hunting	1	7	6	6	1	16	11	48
TOTAL	3	47	45	63	17	163	383	721
	COLUMN	PERCEN	ITAGES					
whaling	0.0	4.3	17.8	7.9	0.0	10.4	8.6	9.0
miscellaneous open water	33.3	10.6	13.3	7.9	23.5	5.5	18.0	13.7
ice hunting	0.0	10.6	6.7	6.3	5.9	14.1	12.3	11.5
miscellaneous sealing	0.0	12.8	17.8	25.4	23.5	22.7	17.8	19.3
bow and arrow	0.0	23.4	22.2	27.0	29.4	22.7	25.1	24.4
fishing	33.3	23.4	8.9	15.9	11.8	14.7	15.4	15.4
bird/small game hunting	33.3	14.9	13.3	9.5	5.9	9.8	2.9	6.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 17. Frequency of harvesting gear by house

breathing hole sealing.

The open water sealing category includes moveable foreshafts and the socket pieces into which they fit, as well as various elements of darting and lancing gear, some of which may relate to harvesting birds and caribou in water. Given the scarcity of caribou in the assemblage from this and neighboring sites (Whitridge 1992), and of situations suitable for caribou kayak hunting in the region, a sea mammal hunting interpretation of the small lances seems most appropriate. This is further suggested by a Netsilingmiut myth that refers to a time in the distant past when "the salt sea was open in winter too" and "people hunted seals with kayaks" (Rasmussen 1931:365). The extent of open water sealing (and open water sea mammal hunting more generally) is an important point of contrast between Classic Thule and Historic Inuit groups in the Central Arctic (e.g., Morrison 1983). Since small lances are fairly abundant at Qariaraqyuk, the generic darting gear is best placed with open water sealing gear also, though it would have occasionally been used for bird hunting.

The bow and arrow parts and paraphernalia included in the terrestrial hunting category relate mainly to caribou, bear, and muskox hunting, but are equally associated with interpersonal violence, as well as small game hunting and even fishing. Items exclusively associated with the latter two activities are placed in separate categories.

The category of whaling gear includes a few particularly large harpoon foreshafts (and one harpoon shaft), large lance heads, various working parts of sealskin floats, and boat parts and paraphernalia (the only whaling harpoon head recorded at

Qariaraqyuk occurred on the surface, in a tent ring at the easternmost edge of the site). Some of these items could have been used for hunting large pinnipeds (especially walrus), or small whales, but both taxa are exceedingly rare in the faunal assemblage from this and neighboring sites.

The equipment related to skin boats includes well-made whale bone slats that are much lighter than sled cross-pieces, and have slots and drilled holes to facilitate assembly that are inconsistent with the deliberately flexible construction of sleds. Stout wooden pieces with gouged lashing holes, lashing wear, and/or assembly dowels are interpreted as *umiak* frame elements. A few splices or reinforcement pieces are very well made and highly polished, and consistent with published examples of items used in boat assembly or repair (e.g., Nelson 1983:227-228). Three implements of ivory or dense sea mammal bone have a conical tip and high polish, and are identical to ethnographic specimens identified by VanStone (1980:45, 114) as thong stretchers, for adjusting boat and sled lashings. The yaavutag is a much larger instrument for tightening umiak lashings (Braund 1988:62, 98). Finally, the thin, flaring scrapers of antler were used to remove the ice accumulation from skin boats. Large skin boats were used for open water transportation in non-whaling contexts but, in the absence of abundant whaling lance and harpoon equipment, the associated items are included here since they constitute part of the prerequisite gear for whaling.

Terrestrial hunting items are evenly distributed amongst the total dwelling and *karigi* assemblages, varying narrowly around an average of 24% of all harvesting gear (Table 17). This large average value may reflect (1) the multiple uses of bow

240

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and arrow gear (i.e., for hunting terrestrial mammals, polar bears, birds, and fish, and for interpersonal combat), and/or (2) the greater fragility of certain elements of this gear, especially the often repaired arrow shafts and arrowhead tangs. Equipment for harvesting small-bodied game is much more variable. Fishing gear ranges from 9-23%, and that for birds/small game from 3-15%. The sea mammal hunting categories combined represent over half of the harvesting assemblage, with much of this falling in the generic sealing category. Ice hunting gear occurs fairly consistently at 6-14% of house assemblages, while open water sealing gear ranges as high as 24%.

Whaling/boating gear makes up 9% of the site assemblage, and up to 18% of house assemblages. Its absence form the small House 35 collection could easily be due to sampling error, so it must be allowed that all households potentially participated in whaling to some degree. However, whaling gear frequencies in Houses 38 (10%) and especially 33 (18%) are higher than the average for dwellings (8%), and suggest a more active involvement in this enterprise by some households. It is underrepresented in House 29 (4%), that assemblage producing unusually high proportions of fishing and bird/small game hunting gear (a combined total of 38%, versus a sitewide average of 22%). This is more than three times the effect that might be expected of an assemblage with this little whaling gear due to harvesting gear proportions being a closed sum (i.e., whaling gear is depressed by 5% but fishing/small game gear is inflated by 16%).

This suggests that the economic strategies of House 29's occupants were fundamentally different from those of the large whaling households. If they participated less actively in whaling (i.e., provided fewer members to boat crews), they would have received less of a share from the whale harvest, and would have had to make up resource shortfalls by other means if they were to hold any standing in the community. This may have normally necessitated moving to another harvesting location for much of the winter (including out onto the sea ice), which would account for the feature's apparent lack of a sod roof. Similar considerations apply to the lightly constructed House 35. This reduced emphasis on sedentary winter settlement is analogous to that practiced by Modified Thule and Historic groups with little or no access to bowheads. It thus appears that the prevailing Modified Thule-Historic Inuit economic pattern may have existed as a variant household harvesting tactic within economically diverse Classic Thule communities.

Consumption of whale products, as reflected in the incidence of skeletal riders with little manufacturing utility, provides another indication of whaling participation. Humeri are not included here because they were sometimes used in the houses as small, portable blocks or platforms (one on the floor of House 38 had a lump of clay resting on it, perhaps with the intended purpose of shaping the clay into lamp walls), and as minor construction elements (Savelle 1997). The proximal epiphysis was occasionally used as a lamp or drip basin. Humeri were probably not regularly incorporated into the flipper butchery unit itself (ibid.), although this occurred at least occasionally, as indicated by the occurrence of an articulated humerus, radius and ulna in the tunnel of House 34. The humerus may also have traveled with the adjacent, and relatively highly ranked, *silvik* carcass portion (Figure 38; Foote 1992:31-32).

The phalanges that were rarely observed on the site surface are the most abundant small bowhead element in the house assemblages (Table 18). Ethnographically in North Alaska, the distal flipper was the portion most closely linked with the credited umialik's share, and was often the first butchery unit removed (Spencer 1959:345-346). Even before butchery commenced, a piece of a flipper was taken directly from the kill to the umialik's house to announce the successful hunt to his wife, so that she could ritually greet the whale (Foote 1992:28; Spencer 1959:344). The incidence of phalanges in an assemblage thus probably reflects social proximity to an umialik, and/or a locus of whaling ritual (Lowenstein [1993:183] notes: "Slices of flipper are fragrant and hard to chew. They have ritual prominence and are eaten in small quantities."). The more proximal limb bones are also wellrepresented, but the figure is somewhat inflated by summing counts for radial/ulnar epiphyses and diaphyses. This proximal portion of the flippers sometimes went to senior members of the credited crew (Worl 1980). Caudal vertebrae are fairly common, and hyoids relatively rare, in the dwelling and karigi assemblages. In North Alaska the tail normally belonged to the credited *umialik*, but was distributed amongst the community at whaling feasts (Worl 1980; Foote 1992; Lowenstein 1993). Recently the tongue has belonged to boat crews assigned relatively little credit for a kill (Foote 1992; Worl 1980), but the traditional division at Point Hope allotted the tongue and other internal organs (and all the most useful bones) to the credited umialik (Lowenstein 1993:161).

The various riders have been quantified as a ratio to the total count of noncetacean animal bones recovered from a context (multiplied by 10,000 in Table 18).

			H	HOUSE				
_	6	29	33	34	35	38	41	SITE
ELEMENT COUNT								
phalanx		2	4	4	4	30	51	95
caudal vertebra	1	3	4	6	5	26	15	60
radius/ulna		2	8	10	9	40	9	78
hyoid		2	2	2	3	7	2	18
TOTAL	1	9	18	22	21	103	77	251
NON-CETACEAN FAUNAL REMAINS	2653	4938	3524	5235	6955	37279	24582	85166
PRESTIGE WHALE BONE INDEX (10,00	00*n/non-	cetacean	faunal re	emains)				
phalanx	0	4	11	8	6	8	21	11
caudal vertebra	4	6	11	11	7	7	6	7
radius/ulna	0	4	23	19	13	11	4	9
hyoid	0	4	6	4	4	2	1	2
TOTAL	4	18	51	42	30	28	31	29

Table 18. Frequency of prestige whale bone elements by house

This is a somewhat imprecise measure as it does not take into account fragmentation of the animal bones. This may affect the large House 38 fill assemblage most severely because of the frequent occurrence of small bone fragments there, leading to an underestimation of prestige whale bone frequencies. However, it seems preferable to a comparison with total whale bone counts, since most of the whale bones in the house assemblages relate not to food consumption but to artifact manufacture and house construction, and abundances are further controlled by the extent of post-abandonment scavenging of structural whale bone. Using the above index, the patterning in element consumption corresponds fairly well to the incidence of whaling gear. The principal exception is House 35, which comes third in rank abundance among the dwellings but lacked whaling gear. This may be due either to the small artifact assemblage, or a spurious overrepresentation of prized whale bone related to disposal of feasting refuse north of the house row. A more speculative scenario might account for the whale bone and odd location of House 35 by having its occupants as visitors of occupants of the House 36-38 upsiksui, perhaps to participate in ceremonial activities. Houses 33 and 34 have particularly high relative frequencies of prestige bone, while House 38 and the karigi fall close to the site average. The karigi assemblage is notable for the high values for phalanges, particularly in the floor assemblage.

In general, those dwellings with average or above average values for whaling gear have average or above average values for prestige bone. This group of "whaling households" includes Houses 33, 34, and 38, with House 33 the clear leader on both indices. House 29 has below average values on both indices, while

House 35, somewhat problematically, is near the mean for prized whale bone, but lacks whaling gear. The latter are provisionally considered "non-whaling households" (implying reduced participation in, rather than categorical exclusion from, whaling by the dwelling's occupants over the use life of the feature). As expected, the *karigi* assemblage resembles the "whaling households" on these indices, with an emphasis on the ritually charged flipper portion. This confirms the impression from the analysis of surface whale bone that a region of the site centered on House 41 was the principal locus of ceremonial whale consumption.

b. Whaling participation will be correlated with house size and organizational complexity.

Interior house areas are presented in Table 19. These estimates are complicated by the restricted size of the House 33 and 34 excavation areas, and by incomplete excavation of House 33, but reasonably accurate values for the latter features could be obtained. The whaling-linked houses noted above are substantially larger than the non-whaling houses, in terms of both the main compartment and total roofed area. House 33 also predictably emerges as the most spacious dwelling, particularly in terms of the total interior living space, although House 38 may have been able to accommodate as many people on its dual sleeping platforms. The short tunnel and open floor area of House 33 were probably less fuel efficient than either a long narrow tunnel, like that of House 34, or a bilobate living area, like that of House 38, perhaps reflecting reduced constraints on fuel consumption. An open room with maximum floor space may have been desirable for hosting gatherings (e.g.,

		living	tunnel	kitchen	TOTAL
		area	area	area	AREA
_	house	(m²)	(m²)	(m²)	(m²)
	29	10.5	3.5	0.0	14.0
	33	19.5	3.5	3.0	26.0
	34	14.5	5. 5	3.0	23.0
	35	6.5	2.0	2.5	11.0
	38	15.5	6.0	2.5	24.0

Table 19. Roofed area of dwellings

commensal meals), and for floor-related activities such as hide preparation. A single, large sleeping platform represents a simpler, but perhaps more hierarchical, household organization than multiple small platforms, since the elevated, privileged space is unique and unambiguous.

Architectural complexity appeared to be greatest for the fully excavated, and wellpreserved, House 38, but comparison is difficult with House 33 because its floor was only partially exposed (Table 20). All three whaling Houses (33, 34, 38) had sod roofs and separate kitchens entered through a short tunnel leading off a paved main compartment. They all had heavy slab sleeping platforms containing floor-level storage compartments, and Houses 34 and 38 at least had bins built of slabs and boulders resting on the main floor. A probable blubber storage pit was present in a gap in the pavement adjacent to the House 34 meat bin. House 38 had storage alcoves and shelves in the main tunnel, and a shelf along the west wall of the living area. The wall construction of 33 and 34 was not revealed, but was probably similar to the interior vertical slabs and exterior stacked sod blocks of House 38. The main entrance tunnels and short kitchen tunnels had well-defined interior mouths formed from vertical uprights and lintels, but whereas the main tunnels were lined in many places by vertical slabs or stacked boulders, the kitchen tunnel walls were poorly defined. All three kitchens included bowhead skull bases in their walls, although the House 34 elements were fragmentary and displaced, perhaps from postoccupational scavenging. Women were thus symbolically linked to whaling at their iconic domestic activity locus.

The heavy construction and spatial differentiation of rooms and features within

			bowhead skull base	9		bowhead			storage						
		entrance	over		kitchen	skull base		other	stone slab			food			
	entrance	tunnel	exterior	separate	tunnel	in kitchen	kitchen	lamp	sleeping	beneath	paved	wali	storage		
house	tunnel	lintel	entrance	kitchen	lintel	wall	platform	stand	platform	platform	floor	shelf	bin		
29	+	-	-	-	n/a	n/a	n/a	+	-	-	+	-	+		
33	+	+	-	+	+	+	-	?	+	+	+	?	?		
34	+	+	-	+	+	+	-	?	partial	?	+	?	+		
35	+	+	-	+	-	-	-	-	-	-	partial	-	-		
38	+	+	+	+	+	+	+	++	++	+	+	+	+		

Table 20. Architectural features of dwellings

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these whaling households contrasts with the relative architectural simplicity of Houses 29 and 35. House 29 lacked a separate kitchen, while House 35 had only a small area of paved floor, and neither appeared to have had a sod roof, sub-platform storage area, or tunnel alcoves. These structures were clearly intended for occupations of relatively brief duration, and indicate that reduced participation in whaling was associated with heightened residential mobility, and hence a deemphasis on durable interhousehold social ties. Furthermore, the greater frequency of detached kitchens in the whaling households suggests a greater differentiation and compartmentalization of women's and men's domains. This is consistent with the importance of detaching male interests and labor from the household precisely to form such durable associations (i.e., whaling crews). It also frees up interior space for women's work groups, which represent a private, but not socially or economically insignificant, reflection of the public aggregations of men in the *karigi*. Individuals raised in such a household space would have been socialized from childhood into a regionalized, heterarchical organization of male and female labor.

c. Whaling participation will be correlated with location in village, including occurrence in upsikui (if present), proximity to kariyit, and perhaps proximity to other upsiksui/whaling households.

All of the whaling households occur within shared mound house groups or *upsiksui*. House 38 occurs in a three-house group that includes an apparent *karigi* in the center. Houses 33 and 34 form a distinct house pair. As discussed above, such groups are interpreted as the spatial reification of *ilagiit* (extended family)

organization and carry the implication of heightened intragroup labor capacity and coordination. Since the whaling crew membership was most straightforwardly drawn from a kin-based following, the largest such groups would have been best able to muster a boat crew without the added complication of establishing fictive kinship ties with the members of unrelated households.

The House 33-34 group is situated at the western end of a string of *upsiksui*, which might be considered the primary whaling "neighborhood," and so may not have occupied as prominent or longstanding a role in the social and economic life of the community as groups situated further east. There are no spatial clues as to the *karigi* with which its occupants may have been associated. This group is also at the margin of the surface sheet midden containing refuse from the consumption of prestige whale portions. House 38 is somewhat more centrally situated, is directly adjacent both to the midden and a probable *karigi* (House 37), and is close to the site's largest *upsiksui* (Houses 40-43). If House 37 is in fact a *karigi*, then it was presumably owned by the residents of House 36 or 38. If it was a dwelling, then members of the House 36-38 house group may have been associated with the nearby House 41 *karigi*.

Both of the non-whaling households are freestanding. A number of small houses occur in the vicinity of House 29, and it is as distant from a *karigi* as any dwelling in the village. House 35 is anomalously set back from the main house row, and appears to represent a later, and perhaps temporary, addition to one of the nearby *upsiksui* social groups (either 33-34 or 36-38). Freestanding houses occurring in the vicinity of other *upsiksui* (e.g., 39 to 40-43, 49 to 45-48) might be interpreted in the

same way. None of these can be considered truly peripheral to the core of the community, in the manner of the small houses at the southwest end of the house row (1-4, 9-11), and indeed both 29 and 35 produced some evidence of whaling participation. However, their occupants may not have had as great a claim to the group's resources and labor as the actual members of *upsiksui*. While Houses 33 and 34 are not as spatially integrated into the social and ritual core of the community as House 38, all of the whaling households are associated with *upsiksui*-based labor groups, which may have been the basic prerequisite for whaling leadership as in North Alaska.

d. Whaling participation will be correlated with heightened consumption of locally rare or exotic materials.

Trade is argued to have been critical to the maintenance of Thule whaling economies. In successful years, the bowhead harvest would have generated food, fuel, and baleen that probably exceeded the needs of even a large whaling village. Trade provided the means of converting the whaling surplus into other valued commodities. Some of these may have been important or even essential for the basic material well-being of the community, including wood and caribou hides, but most of the trade items that have left an archaeological trace were luxury goods, or goods that could be replaced by local materials. The categorization of metals is somewhat ambiguous. They were put mainly to utilitarian purposes, and probably greatly facilitated certain manufacturing tasks, but all Thule groups could and did utilize locally available slate and other stone (as well as bone, ivory, and baleen in some cases) for producing tool blades and bits. Steatite was similarly prized for its functional qualities, but lamps and pots were regularly made out of a variety of local substitutes (Savelle and McCartney 1989). Even caribou hides could be replaced by fox and polar bear skins, but these were considered decidedly inferior for various reasons (Stenton 1991).

The acquisition of materials with highly regarded functional or aesthetic properties appears to have been primarily a means of marking wealth. The prospect of accumulating such goods provided an incentive for aspiring *umialit* to undertake the material risks (including outlays of goods and materials and lost opportunity costs) associated with whaling. Receipt of gifts of such goods outside the whaling season was one of the rewards expected by whaling crew members, and the display or consumption of such goods by wealthy individuals marked (indeed, helped produce) their status and thus made them attractive social partners capable of assembling whaling crews.

There is no absolute standard against which to gauge the value of particular materials. Historically, conventional exchange rates existed in any given region, but these were highly variable from year to year with the sporadic influx of European commodities. The value of Thule goods was probably locally determined by some combination of rarity, usefulness, and cultural models of what constituted a desirable thing. The latter can best be inferred from the lengths to which people went to acquire them, especially the distance over which they were traded, and perhaps from their prominence in myth and oral history. The locally scarce and exotic commodities present in the Qariaraqyuk assemblage, and their probable sources, are shown in

Table 21 and Figure 47, along with some of the things that may have moved against them. Their occurrence in house assemblages is tabulated in Table 22 by material class (hard organic, "soft" or particularly perishable organic, and inorganic), to control for preservational factors. The relative frequencies of hard and perishable organic materials are consistently reversed for fill and floor contexts, while inorganics are usually slightly more abundant in fill contexts.

Scarce materials include walrus and muskox products, both of which species are relatively rare in the study area. Bearded seal are abundant, but their hides would have been so highly prized for *umiak* covers (see e.g., Bogojavlensky 1969 on competitive access to walrus hides) that these can be considered a scarce commodity, relative to probable demand. Soft carving stone ("soapstone") occurs south of Creswell Bay and on Boothia Peninsula (McCartney and Savelle 1989), but may also be present in the shield rocks of the western part of Somerset Island. However, it is uncertain whether preferred varieties of steatite would have been locally available. Wood (or bark) is not included here as a scarce material, though it is quite possible that it was traded in Thule times as it was historically (Savelle 1985). Because it is so common in house assemblages (34% of the site total of perishable organic artifacts), it is felt that its relative frequency among "soft organics" is proximately determined by the more variable occurrence of animal flesh and hide, rather than by access to wood *per se.* Exotic goods include nephrite, amber, metals of both native and Norse extraction, and a single possible non-metal Norse artifact.

All houses contain some scarce and exotic materials. Interestingly, locally scarce materials are relatively more abundant in non-whaling than whaling households,

Table 21. Probable imports and exports at Qariaraqyuk

IMPORT NEAREST ABUNDANT SOURCE

EXOTIC	
amber	northern Ellesmere Island, Mackenzie Delta
nephrite	Alaska
native copper	Coronation Gulf, Victoria Island
meteoritic iron	northwest Greenland
Norse goods	Ellesemere/northwest Greenland
beaver tooth	Keewatin, Mackenzie Delta
SCARCE	
ivory	Barrow Strait/Lancaster Sound
muskox horn/tooth	Bathurst/Ellesemere Islands, Keewatin
walrus/bearded seal hides	Barrow Strait/Lancaster Sound
caribou hides	Keewatin
wood	Keewatin

EXPORT DIRECTION OF TRADE

SURPLUS		
baleen	south	
whale oil	south	
whale bone	south	
maktak	south	
fox skins	south	
polar bear skins	south	
manufactured goods	north/south	

MIDDLEMAN

native copper	north	
meteoritic iron	south	
Norse goods	south	
wood	north	
ivory	south	
caribou hides	north	





Table 22. Frequency of materials by house

			- r	HOUSE				
	6	29	33	34	35	38	41	SITE
HARD ORGANIC - COUNTS		-				-		50
antler/bone/ivory/whale bone		2	3	6	1	9	31	52
antler		44	49	55	25	148	619	940
bone	1	9	8	16	3	39	38	114
ivory		13	9	8	5	39	62	130
shell	•	1	•••	00	07	400	650	1464
whale bone	6	93	88	96	3/	192	220	F104
bear tooth (utilized)		6	3	2	3	10	21	
beaver tooth (utilized)				1		0	4	16
caribou tooth (utilized)				4		2	4 2	10
dog tooth (utilized)			~	•	4	24	20	71
fox tooth (utilized)		2	ю	8	2	34	20	11
muskox tooth (utilized)		470	100	100	- 27	492	1459	2561
	/	1/2	100	190	11	400	1400	2501
SOFT ORGANIC - COUNTS		45	22	61	0	106	145	458
baleen		15	33	1	0	190	143	400
bark			4	é		12	5	20
birdskin		1	2	0	1	34	12	62
feather		4	~ ~	470	1	111	95	A15
fiesh	1	10	20	1/0	4	40	7	70
fur		1	0	0	1	49	2	35
heather		1	4	14	1	209	20	458
hide		22	20	73	4	300	29	430
horn		1			1	47	2	45
gut		1	3	17	2	17		40
sinew		2	11	25	2	81	с 1	120
sphagnum			2	2		1	405	0
wood		42	74	121	26	208	423	2605
	1	100	189	511	44	1035	725	2005
INORGANIC - COUNTS					4	2	1	5
amber					1	2	1	3
chert				1		о		
clay		•		-	4	20	25	75
copper		2			ן ב	10	43	82
diabase	4	9	1	0	5	12	40	
dolostone		2		1			I	4
gneiss		1		•		~	10	22
iron		2	3	3		4	13	23
limestone		3	-	3	4	(()	5	120
mica	2	3			1	00	50	24
misc ground stone	1	9	2	1	4	40	3	24
misc stone		10		0	I	13	4	34
nephrite						2		
phyllite							27	101
pottery		3	1	14	1	55	21	101
pyrite					2		2	2
quartz		1	1					
quartzite		2	-	4	•	1		0 27
sandstone	1	1	2	(3	14	9	3/
sandstone - Norse?		1						1
schist		3						3
shale		1				-		1
siltstone				1	-	1	-	2
slate	1	1		4	2	13	6	27
soapstone		4	2	3	2	1	3	15
	9	58	19	70	19	234	201	610

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Table 22. Continued

			۲	IOUSE				
	6	29	33	34	35	38	41	SITE
HARD ORGANIC - COLUMN %								
antler/bone/ivory/whale bone	0	1	2	3	1	2	2	2
antler	0	26	30	28	32	31	42	37
bone	14	5	5	8	4	8	3	4
ivory	0	8	5	4	6	8	4	5
shell	0	1	0	0	0	0	0	0
whale bone	86	54	53	48	48	40	45	45
bear tooth (utilized)	0	3	2	1	4	2	2	2
beaver tooth (utilized)	0	0	0	1	0	0	0	0
caribou tooth (utilized)	0	0	0	2	0	2	0	1
dog tooth (utilized)	0	0	0	0	0	0	0	0
fox tooth (utilized)	0	1	4	4	1	7	1	3
muskox tooth (utilized)	0	1	0	1	3	0	0	0
	100	100	100	100	100	100	100	100
SOFT ORGANIC - COLUMN %	_					40		40
baleen	0	15	17	12	18	19	20	18
bark	0	0	0	0	0	0	1	0
birdskin	0	1	1	1	0	1	0	1
feather	0	4	1	2	2	3	2	2
flesh	100	10	15	34	y	11	12	10
fur	0	1	3	1	2	5	1	3
heather	0	1	2	3	0	1	0	1
hide	0	22	13	14	2	30	4	18
horn	0	1	0	0	2	0	0	U
gut	0	1	2	3	0	2	1	2
sinew	0	2	6	5	5	8	1	5
sphagnum	0	0	1	0	0	0	0	0
wood	0	42	39	24	59	20	59	34
	100	100	100	100	100	100	100	100
INORGANIC - COLUMN %		_		•	-		0	
amber	0	0	0	U	5	1	0	0.8
chert	0	0	0	1	0	2	0	1.2
clay	0	0	0	10	0	12	17	1.3
copper	0	3	0	10	5	13	21	12.3
diabase	44	16	5	11	20	5	21	13.4
dolostone	0	3	0	1	0	0	0	0.7
gneiss	0	2	0	0	0	0	U	2.0
iron	0	3	16	4	0	1	0	3.0
limestone	0	5	0	4	Ū,	3	25	2.0
mica	22	5	37	10	5	20	25	21.3
misc ground stone	11	16	11	1	U E	5	2	5.5
misc stone	0	1/	0	9	5	1	2	0.2
nephrite	0	0	U	0	0	0	ő	0.3
phyllite	0	0	0	- 0	5	24	12	16.6
pottery	0	5	5	20	5	24	13	10.0
pyrite	0	0	0	0		0	1	0.3
quartz	0	2	5	0	0.	0		1.2
quartzite	0	3	0	6	10	6	1	6.1
sandstone	11	2	11	10	10	0	4	0.1
sandstone - Norse?	0	2	0	0	0	0	U A	U.Z
schist	0	5	0	U	U	0	0	0.0
shale	0	2	0	U	U	0	0	0.2
siltstone	0	0	0	1	0	0	U	0.3
slate	11	2	0	6	11	6	3	4.4
soapstone	0	7	11	4	11		100	2.5
	100	100	100	100	100	100	100	100.0

while the reverse is true of locally exotic items. Households with limited access to the most prized resources may have deliberately sought out the more readily accessible preciosities. These could have been acquired through trade with neighboring groups, or directly through hunting and gathering trips to adjacent regions, while exotics were most likely obtained only in trade. The scarce materials were used primarily for utilitarian objects, although muskox incisors were displayed as pendants, and many of the bodily ornaments (combs, buttons, beads, brow bands, bracelets, pendants) in all house assemblages were made out of ivory. Many of the exotic materials occur as ornaments, including amber and nephrite beads, and copper bracelets and brow bands. Metal was also extensively used for tool blades and bits, and the single beaver tooth and one of the nephrite specimens were used as bits. The possible Norse game piece may have been an ornament, amulet or toy. The proportion of inorganic exotics for the whaling households is 43% greater on average than that for the non-whalers, indicating fairly substantial disparities in wealth. However, none of the households was excluded from trade, and strategies were available for locally generating certain alternate markers of material difference or wealth.

Compared to other Classic Thule sites outside the Coronation Gulf area (Morrison 1987), metal objects are notably abundant at Qariaraqyuk, which is consistent with its exceptional size and whaling success. However, McCartney (1988, 1991) has demonstrated that metal was highly curated by prehistoric Inuit groups, and its use more often indicated by thin-slotted tools than actual metal finds (see also Blaylock 1980). Many of the Qariaraqyuk finds were in fact small copper fragments that

occurred on or under the floors of Houses 38 and 41, or traces of metal remaining in blade slots (and identified by x-ray spectrometry). Slotted tool hafts or handles were discarded at a much higher rate than the metal they contained, so an analysis of slot widths that can establish the proportion of metal-bladed tools may provide a more robust index of household metal consumption than that derived above from relative frequencies of inorganic materials, subject to sample sizes. A further advantage of this approach is that it allows the discrimination of metal usage amongst identified tool types. Whereas only 33 of the 98 metal pieces from Qariaraqyuk could be identified to a functional class narrower than "blade," a total of 226 identifiable hafts had measurable blade or bit sockets.

Slot widths considered diagnostic of metal blades are reported to be about 1 mm (Collins 1937:145-146; Larsen and Rainey 1948:82; McCartney 1988:59, 1991:30), or sometimes 1-2 mm (McCartney 1977, 1988:59; Blaylock 1980:171), these variant estimates likely due in part to slot width modes varying among functionally distinct tool classes. Maximum and minimum widths for the Qariaraqyuk slots were recorded to the nearest .05 mm, and an average value calculated. Patterning turned out to be strongest for the maximum slot width, apparently due both to the design of slots and post-depositional deformation resulting in the prongs actually touching at some point along the slot. However, many tools appear to have intentionally held blades that were thicker than at least the distal portion of the manufactured slot, the blades being inserted by prying the prongs apart or by driving the wedge-shaped stem of a ground stone blade into a narrow slot, to more effectively hold the blade in place.

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easily noted on the enclosed slots of knives. Boas (1964:110) describes another technique of fitting a blade into a slot that involves heating the handle so that the slot expands, inserting the blade, and allowing the contraction of the slot on cooling to hold the blade more firmly. All of these methods result in blade slots that may actually be narrower (distally), before insertion and after removal of the blade, than the blade itself. A somewhat less efficient alternative, and one sometimes observed on Classic Thule knives, is to drive packing material (wood chips, hide, baleen) into a slot that is wider than the blade, in order to secure the latter.

It is thus possible that narrow slots could have held relatively thick blades, and that wide slots could have held relatively thin blades. In fact, combined thickness measurements on 45 copper blades from Qariaraqyuk and other Thule sites (Franklin et al. 1981) have a distinct left-skewed mode at about .4 mm, which is thinner than the vast majority of slots (Figure 48). A combination of techniques may have been necessary to secure such thin blades. However, any strong bimodal patterning in slot widths can be assumed to reflect a tendency to manufacture narrow slots for thinner (i.e., metal) blades, and wider slots for thicker (stone, or very rarely bone) blades, since very narrow slots could not hold most stone blades, and relatively wide slots would be inefficient for holding metal blades.

The width distributions from Qariaraqyuk are consistently bimodal for all tool types, although the actual modal widths are not identical. The tool types can be grouped based on similar modes, as shown for men's composite, end-slotted, and side-slotted knives in Figure 49. Each exhibits modes, albeit of different shapes and sizes, at about 1.0 and 1.9 mm. Ulus fit into this knife group, while end-slotted



Figure 48. Thickness distribution of Thule and Inuit copper blades (n=45)

arrowheads, lance heads, and harpoon heads are grouped together, as are gravers, drill chucks, and adzes (Figure 50). A prediction of the intended blade material for each specimen can thus be produced by assigning each slot to one or the other mode, based on splitting the distribution at the midpoint between them: 1.45 mm for knives, 1.60 mm for projectiles, and 3.65 mm for heavy manufacturing tools. Overall, 42.5% of the slotted tools fall towards the thin mode in their respective class, and can tentatively be considered metal-bladed (Table 23). The relative frequency of thin-slotted tools by house ranges from 11 to 81%. House 33 produced a much higher value than the other features (81%), with the exception of House 35 (75%), which had a poor sample of only four measurable slots. House 38 was above the site average for the proportion of metal-bladed tools, and House 34 close to average. House 29 had substantially fewer thin-slotted tools than the rest. The results are shown graphically in Figures 51 and 52 for the two commoner tool classes, and a summary presented in Figure 53. Aside from the problematic House 35 sample, the results confirm the direct evidence from the frequencies of metal finds that the whaling households had heightened access to this important commodity.

e. Whaling participation will be correlated with heightened consumption of material symbols of social rank.

The incorporation of precious materials into utilitarian objects for which local substitutes were also in use can itself be considered a symbol of wealth and rank. It establishes a separate material dimension of difference, the significance of which



Figure 49. Slot width distributions for men's knife classes



Figure 50. Slot widths for major artifact classes

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								HOUS	E.								TOTAL
	6		29		33		34		35		38		41		SITE		%
ARTIFACT TYPE	metal	stone	metal	stone	metal	stone	metal	stone	metal	stone	metal	stone	metal	stone	metal	stone	METAI
arrowhead				1	2		1						1		4	1	80.0
harpoon head			1	1	2	1	4	5	2		4	3	4	4	17	14	54.8
lance head			1		6						1	1	2	5	10	6	62.5
men's knife - end-slotted				7	2	2	1	3		1	1	7	9	31	13	51	20.3
men's knife - side-slotted		1		2	8	1	2	2			6	1	14	8	30	14	68.2
composite knife							1	1			3		••	12	4	12	23.5
ulu				5	1		1	4				1	1	14	2	24	20.0
graver/drill chuck		1		_	1	1					1		2	2		24	50.0
adze head					·		1		1		•	1	0	с С	4	4	50.0
τοται	- ñ			16	22	E	14	15	<u>'</u>	4	40			2		3	78.6
				10	22	э	11	15	3	1	16	14	42	79	96	130	42.5
HOUSE %	n/a	n/a	11.1	88.9	81.5	18.5	42.3	57.7	75.0	25.0	53.3	46.7	34.7	65.2	42.5	57.5	

Table 23. Blade/bit material by house, based on analysis of slot widths



Figure 51. All knife slot widths by house







Figure 53. Proportion of thin-slotted artifacts by house
would have been apparent to all members of the community. This message would have been continually reiterated in the course of daily activities carried out in the communal context of the *karigi*. It is thus tempting to see the decline in the decoration, and overall design complexity, of utilitarian objects from early to later Classic Thule as a shift in communicative media related to the increasing adoption of metal. For example, relatively ornate Birnirk and Pioneering Thule harpoon heads provided a medium in which individuals practically demonstrated their competence at an emblematic male task through the production of technically challenging designs, and the skillful manipulation of an array of stylistic motifs.

The spread of remarkably homogeneous harpoon head (and other artifact) styles in Classic Thule times, characterized by a sparse, Shaker-like design aesthetic, deemphasized individual creativity and manufacturing ability, since the design code was relatively simple and thus easily acquired and reproduced. The loss of decorative elements, the simplification of spur shape, the shift from complex hexagonal to ovoid cross-sections, and the abandonment of lashing slots for the more easily produced lashing holes, are all part of this pattern. This decline in the information content of artifact design and craftsmanship was accompanied by a shift in the symbolic content of blade material. Blades were no longer made exclusively out of local stone, but might be made out of a material acquired at great expense from a distant region. The homogenization and "democratization" of design accentuated the differentiation and hierarchization of materials, defining a new microarena of symbolic competition. Social competence came to be marked by wealth in prized materials rather than by virtuosity in the performance of everyday

manufacturing tasks.

In addition to this tacit marking of social difference by the utilitarian deployment of exotic metals, bodily adornment provides an important medium for conveying messages related to social rank. Clothing that was new and finely made, especially of scarce types of animal hides, was a widespread status marker in Inuit societies. The taxonomic identity of hide specimens can potentially be determined by microscopic examination of hair, biochemical analyses of collagens (Ammitzbøll et al. 1989), or DNA analysis. A small subset of undepilated hide specimens from Qariaraqyuk was identified to family from *in situ* hairs, but this cannot be considered a representative sample of the hide assemblages. Nevertheless, as anecdotal evidence, it is interesting that the ratio of caribou to seal specimens was consistently higher for the whaling households than for House 29 (House 29: 1:6, House 33: 2:1, House 34: 2:1, House 38: 3:0, House 41: 0:1). This hint of household differences in consumption of scarce caribou hides awaits confirmation by systematic analysis of all hide pieces, and must allow for the possibility of differences in the seasonality of house use and abandonment.

Various ornaments worn on the body or sewn onto clothing make up 5.9% of the sitewide assemblage of hard organic materials (of which 64% are drilled animal teeth), .1% of soft organics, and 2.5% of inorganic specimens (mica, some of which may have been used for bodily adornment, accounts for an additional 21.3% of inorganic specimens; Table 24). Hard organic ornament frequencies are very high for House 38, moderately high for 34 and 35, and relatively low for 29, 33, and 41. Inorganic ornaments are high for 35 and 38, moderate for 34, and low to absent for

the rest (sample size for soft organic specimens is wholly inadequate). One of the whaling households (38) ranks highest for these classes, and produced all three of the copper ornaments, suggesting the fairly deliberate display of wealth. However, the overall results do not conform closely to the patterns observed for other indicators of wealth and whaling participation. In particular, a fragmentary ivory specimen identified as a possible labret from House 29 suggests that all households may have had access to various media of personal display. The consistent occurrence of drilled animal tooth pendants indicates that these, at least, were a ubiquitous type of adornment, probably in the form of necklaces or clothing decoration. Unfortunately, sample sizes for the other ornament types are too small to discern any marked patterning in consumption of "jewelry."

A final class of finds that may bear on status display consists of numerous mica fragments. The largest and thickest cut specimens are similar in size and shape to one from northern Greenland that has a sewn skin border, and that Holtved (1944, Part I:275-276) identifies as a mirror (see also McCullough 1989:225-226). Indeed, the Qariaraqyuk specimens are still perfectly functional in this regard. Somewhat smaller pieces are considered mirror fragments, although it is possible that they were attached to clothing (Morrrison 1983:165) or other articles. In addition, all houses produced small mica flakes that presumably derive from the production, use, or discard of mica objects. The relative abundance (as a proportion of inorganic finds) of mica in house assemblages is substantially greater for the whaling than non-whaling households (means of 24% versus 5%), and mica is also very common in the *karigi*. As clothing inlays, the mica distribution conforms to expectations of

Table 24. Ornament frequency by house and material

				HOUSE				
ARTIFACT TYPE/MATERIAL	6	29	33	34	35	38	41	SITE
ALL HARD ORGANIC ARTIFACTS	7	172	166	198	77	483	1458	2561
ALL SOFT ORGANIC ARTIFACTS	1	100	189	511	44	1035	725	2605
ALL INORGANIC ARTIFACTS	9	58	19	70	19	234	201	610
had - ivor							1	4
bead - hone		•				2	1	4
bracelet - antier					1	Ű		1
brow band - ivory					•	1		1
brow band - antier/whale hone				1	1	1	3	, 6
button - ivory				•	•	•	5	5
ceremonial knife - wb/baleen				1			Ũ	1
comb - ivorv			1	4		5	3	13
figurine - whale tail - ivory				•		1	•	1
labret - ivorv		1				1		2
pendant - fox canine		1	5	5		18	18	47
pendant - bear canine			1	-			2	3
pendant - hear incisor/premolar		1				2	-	3
pendant - caribou incisor				4		8	4	16
pendant - dog tooth						2	2	4
pendant - ermine efficy - ivory						-	1	1
pendant - fox incisor/premolar		1	1		1	16	2	21
pendant - chain - ivory		2			•	3	1	6
pendant - dron - ivory		~			1	6	2	9
pendant - moliusc valve		1				•	-	1
nendant - muskox incisor					2			2
TOTAL	0	8	8	15	6	69	45	151
% HARD ORGANIC	0.0	4.7	4.8	7.6	7.8	14.3	3.1	5.9
caribou incisor amulet						1		<u> </u>
hair stick - wood			1					1
TOTAL	0	0	<u>_</u>	0	0	1	0	
% SOFT ORGANIC	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.1
INORGANIC (EXCLUDING MICA)					<u>.</u>		<u> </u>	
bead - stone				1		1		2
bead - amber					1	3	1	5
bracelet ~ copper/nide						1		1
brow band - copper						2		2
figurine - whale tail - stone						1		1
pendant - stone						<u> </u>		4
	1	0	0	2	- 1 	20	10	15
% INORGANIC	11.1	0.0	0.0	2.9	5.5	3.0	1.0	2.5
INORGANIC (MICA ONLY)								
mica fragment	2	3	7	4	1	47	45	109
mica mirror				3		13	5	21
TOTAL	2	3	7	7	1	60	50	130
% INORGANIC	22.2	5.2	36.8	10.0	5.3	25.6	24.9	21.3

greater investment in personal adornment among whaling households, and along with polished copper, stone, amber, and ivory jewelry would have spectacularly bathed their wearers in reflected light on occasions of elaborate dress. However, the more compelling identification as mirrors raises a number of interesting possibilities.

Functionally, mirrors would have facilitated personal attention to facial decoration, hair styles, and head ornaments. North Alaskan *umialit*, harpooners, crewmen, and *umialit*'s wives painted their faces with graphite or soot during a whale hunt (Spencer 1959:340, 344), and *umialit*, at least, painted their faces for ceremonial performances (Foote 1992:171). Feather headdresses identical to one recovered at the Lake site (Collins 1951) were worn by *umialit* on ceremonial occasions (Foote 1992:167). The occurrence of mirrors in a house assemblage may thus be a correlate of the performance of important ritual roles that required elaborate dress and adornments.

More provocatively, the metaphor of gazing overly much at one's reflection gives us the psychoanalytic term narcissism, and the notion of an excessive concern over self image and social gratification. In Lacan's (1977) schema of the formation of subjectivity, all individuals pass through a "mirror stage" at around two or three years of age, during which they come to identify their external reflection with their inner self. This is a fundamental misrecognition, the simplicity and wholeness of the mirror image obscuring the real fragmentation and multiplicity of subjective experience, and ushers in the realm of "the imaginary," of the fictively singular ego. "Lacan takes the mirror image as the model of the ego function itself, the category which enables the subject to operate as 'I''' (Rose 1982:30-31). Although commentators sometimes take Lacan's original formulation metaphorically (there need not be a physical mirror), the metaphoric association between the mirror and the sense of self is a strong one, and recurs in numerous variants in psychoanalytic thought. The profusion of mirrors in whaling households may thus be linked reflexively to the cultivation of singular, ego-centric identities: narcissistic selves seek out mirrors, and a habituation to mirror usage promotes the development of a sense of individual autonomy and entitlement. These are precisely the sorts of qualities that one would expect to be associated with socially dominant individuals, notably those who pursued the *umialik* career trajectory (likely also including the spouses of aspiring *umialit*).

f. Whaling participation will be correlated with heightened consumption of ritual paraphernalia and access to ritual spaces.

An association between whaling households and *kariyit* has been noted above, and is implied by the consistent occurrence of *kariyit* in *upsiksui*. With their deep tunnels, large floors, and well-built sleeping platforms, these dwellings conform most closely to the ideal symbolic structure that provides a model for corporeal and community space. The incorporation of whale crania in the kitchen wall and sometimes over the exterior tunnel mouth represents a further ritual investment of the house with cosmic symbolism. To the extent that mirrors were associated with self-adornment for ritual performances, their association with whaling households also meets expectations.

Unfortunately, as is typical for Thule assemblages, relatively few artifacts could be

linked to ritual or magical practices. A small number of finds were identified as possible amulets (based on examples in Rasmussen 1931; Jenness 1946; Holtved 1944), including an articulated set of caribou incisors, two composite hide objects made out of the skin of several different species, unmodified quartz crystals, bear claws, and a fossil. A small wooden object was identified as an amulet box fragment. Two whale tail figurines, an ivory female figurine, an ermine effigy pendant and six ivory chains were also considered to have probable magical or ritual significance (all but the female figurine are included in the tabulation of ornaments above). A non-functional knife of whale bone with a decorative baleen grip (also included above) was likely an item of ceremonial dress (e.g., Birket-Smith 1945), and drum rims and handles are related to ritual and festive performances.

In order to improve the small sample of ritually associated objects, items linked to gaming are also included here. Though not specifically ritual in character, they are associated with communal gatherings. *Ajagaq* was a competitive *karigi* game, and the antler, whale bone, and baleen plaques identified as gaming pieces are most abundant in the *karigi* assemblage. These items may monitor the general level of household participation in *karigi*-centered community activities.

Even with these additions, sample sizes are very small, involving a total of only 68 artifacts (Table 25). The average proportion of magical, ritual, or community-related objects across the three preservational classes is highest for House 33, but this is based on a weak high value for the handful of inorganic specimens. The stronger pattern is the consistent occurrence of high relative abundances in House 29, as well as the moderately strong representation of these items in the large House 38

			F	IOUSE				
ARTIFACT TYPE/MATERIAL	6	29	33	34	35	38	41	SITE
ALL HARD ORGANIC	7	172	166	198	77	483	1458	2561
ALL SOFT ORGANIC	1	100	189	511	44	1035	725	2605
ALL INORGANIC	9	58	19	70	19	234	201	610
HARD ORGANIC								
ajagaq		1					2	3
ajagaq pin		1	1			1	3	6
bear claw			1			3	3	7
ceremonial knife				1				1
figurine - female							1	1
figurine - whale tail						1		1
gaming piece		1			2	4	15	22
pendant - ermine effigy							1	1
pendant - chain		2				3	1	6
TOTAL	0	5	2	1	2	12	26	48
% HARD ORGANIC	0.0	2.9	1.2	0.5	2.6	2.5	1.8	1.9
SOFT ORGANIC								
amulet			1	1		1		3
amulet box				1			1	2
bear claw								0
caribou incisor amulet						1		1
drum handle						1		1
drum rim		1				1		2
gaming piece				1		1	3	5
TOTAL	0	1	1	3	0	5	4	14
% SOFT ORGANIC	0.0	1.0	0.5	0.6	0.0	0.5	0.6	0.5
INORGANIC								
figurine - whale tail						1		1
fossil							1	1
quartz crystal		1	1				2	4
TOTAL	0	1	1	0	0	1	3	6
% INORGANIC	0.0	1.7	5.3	0.0	0.0	0.4	1.5	1.0
AVERAGE %	0.0	1.9	2.3	0.4	0.9	1.1	1.3	1.1

Table 25. Ritual/community artifact frequency by house and material

assemblage (and the karigi).

It is difficult to draw firm conclusions from these data, beyond the suggestion that this artifactual dimension of ritual activity may have varied independently of household wealth and whaling participation. In most Inuit societies shamanism was an avenue potentially open to any individual (female or male, rich or poor) who demonstrated the aptitude and inclination (Oosten 1981). The "wealthy" occupants of Houses 33 and 34 may have deferred some ritual functions to such professional shamans while those of House 38 did not, or sample sizes may be inadequate to pick up ritual activity by the former.

Regardless, the non-whaling House 29 appears to have been involved in ritual activity, or at least the manufacture of ritual paraphernalia, especially by virtue of the occurrence of two ivory chains. In North Alaska, the wooden vessel used by the *umialik's* wife to give the whale a drink of water, to which such chains were sometimes attached, was made by a specialist according to strict ritual precepts (Rainey 1947:245). The creation of an amulet was also often commissioned from a shaman or an elderly individual (Spencer 1959:282-283). Although *umialit* were normally ritual specialists, and not infrequently shamans, shamans and other ritualists were not necessarily *umialit*. Certain forms of ritual activity may thus have provided opportunities for non-whaling households to accumulate cultural capital.

CHAPTER 8: GENDER DIFFERENTIATION

Introduction

Patterns of differentiation analogous to those among households are posited to have informed relations between women and men. Following an overview of the traditional gendered division of labor and space, and associated patterns of material culture production and use, gendered activities are evaluated with respect to the consumption of roofed space, access to rare and exotic materials, use of ornaments, and participation in ritual. As discussed below, these analyses begin from historic Inuit analogies, but also adopt independent patterns in the spatial distribution of artifacts and organic finds that are anchored to the most cross-culturally secure features of the Inuit GDOL, especially women's association with clothing manufacture. Gendered artifacts and spaces are also compared across dwellings, to explore the possibility of a women's status hierarchy that parallels other forms of interhousehold differentiation.

Categories of gendered activity

The basic organization of labor, and of technology into distinct tool types and classes, was historically very homogeneous across the Inuit world. Giffen (1930) reviewed 241 ethnographic and ethnohistoric sources for her analysis of Inuit gender roles, and of the 281 activities she coded for degree of gender participation 85% were characterized by agreement across a number of cases (a case being a particular group or locality), with no more than one or rarely two exceptions. The remaining activities were represented by two or fewer sources for which a gender

attribution could be recorded. Three quarters of the activities in her sample were performed predominantly or exclusively by either women or men. They sometimes performed each other's tasks (e.g., some women hunted seals or caribou, and men carried a sewing kit for repairing their clothing), but social identities were closely bound up with the competent execution of one's conventional gender roles.

There was something of a double standard with respect to participation in the other gender's activities, with men's performance of women's roles only loosely controlled, while the reverse could bring disaster on the community:

Their exclusion from men's activities was expressed symbolically through taboos which prohibited women from touching men's sea hunting implements during menses. Men were similarly barred from undertaking women's work although there were no explicit prohibitions from doing so. Ridicule was the major device used to maintain the male side of the gender-related work boundaries" (Guemple 1986:13).

The gendered division of labor was not only rigidly drawn for many categories of daily activity in Inuit societies, but highly differentiated with respect to the material culture employed by women and men. Even where men and women performed the same activity, they tended to do so with different tools or techniques (Giffen 1930). Where nets were present, they were used mainly by men for fishing, while women used hook and line. Women used an ulu for butchering animals, while men used a different style of flensing knife for the identical task. Historically, women more often took snuff while men smoked their tobacco. There were even differences in the linguistic expressions used by men and women, although one linguist who noted this fact did not record the latter's because "men only laugh about them" (Peck, cited in Guemple 1986:12; see also Savoie 1971:147 for the Mackenzie Inuit). When men

and women participated in the same category of activity, such as boat construction or caribou hunting, they tended to be responsible for discrete segments of a production sequence (men made the frame, women made and attached the skin cover; women drove the caribou, men killed them), each employing different tools and techniques. The tools most closely associated with women and men had the status of gender icons that occur repeatedly in myth and ritual, and included the lamp and ulu for women, and the men's knife and harpoon for men (e.g., Saladin d'Anglure 1984:496; Oakes and Riewe 1995:22). Marriages were informally marked in some areas by each spouse making and giving the other a set of objects appropriate to their abilities and the other's roles: the woman gave her husband a set of clothing (essential gear for hunting), and the man provided his wife with a set of cooking and sewing utensils (Guemple 1986:16).

This differentiation of practice and its associated material culture appears to have been very stable in historic times. For North Alaska Bodenhorn (1990:59) notes "When I asked questions about women's or men's work [between 1980 and 1986] and looked at what activities seemed classified by gender, they reflected almost exactly the division of labor as set out by 19th century ethnographers." These have also been stable over the past millennium, as reflected in the close resemblance between Thule and ethnographic material culture. This allowed Mathiassen (1927a, b) to first specifically identify scores of functional types based on his familiarity with contemporary analogues.

While it is possible that gender task allocations changed while technology did not, this is unlikely based on the cross-cultural homogeneity noted above, and

osteological evidence for strong continuity in women's and men's habitual activities. For example, the mature female interments from Qilakitsoq exhibit patterns of dental loss, attrition and damage consistent with the Inuit techniques of softening skins, and two individuals exhibited a highly distinctive pattern of dental wear associated with the preparation of sinew thread, indicating the persistence from Thule to historic times of women's association with sewing (Pedersen and Jacobsen 1989). The habitual male and female activities identified by Merbs (1983) based on sex differences in activity-induced pathologies in a historic sample from northwest Hudson Bay are closely paralleled in the patterns of development of muscle attachment sites observed by Hawkey (1988; Hawkey and Merbs 1995) in a Thule skeletal series from the same region. It is thus feasible to divide Thule material culture into functional classes closely associated with women's or men's activities, based on the ethnographic division of labor (Table 26), although the gender affiliation of some functional classes must be considered either neutral (used by both women and men) or uncertain.

The most readily identified class of women's tools recovered at Qariaraqyuk is that associated with hide processing and clothing manufacture, since these activities were universally associated with women among historic Inuit societies (Giffen 1930; Meade 1990; Oakes 1991; Rankin and Labreche 1991; Issenman 1997a, b). This includes awls, needles, thimbles, needle case paraphernalia, and various types of scrapers. Ulus are included here, although they were also used for butchering game. In a preliminary analysis, spherical or oblong pebbles (and a single rectanguloid chipped chert or limestone block), were further associated with sewing

Table 26. Artifact categories used in CA of gender regionalization

artifact category	constituent types
female manufacturing	awi, scraper, needle, threading needle, burnisher, utilized pebble/block, needle case, thimble holder, thimble, needle case toode, it's cutting board
castoff - undepilated	
castoff - depilated	
castoff - fur	
castoff - gut	
clay	
clothing	clothing fragment, leather-hide patch, stitched birdskin
sinew	
male heavy manufacturing	adze head, adze blade, adze handle, diabase pick, wedge
male light manufacturing	baleen shave, end/side/composite knife, knife blade, engraving tool/bit, dnil mouthpiece, dnil bow, dnil spindle, drill chuck, dnil bit, hand dnil, graver/bit, marlinspike, punch
male provisional manufacturing	wb/a/i core, preform, blank, diabase core, metal debitage, peg/dowl, reinforcement piece, rivet, misc
refuse	shafts, shim, plug
tool maintenance	abrader, utilized bear canine, utilized muskox postcanine
house maintenance	pick head/handle, mattock head/handle, snow shovel, misc. structural element of house
domestic maintenance	lamp, lamp stand, pottery, pyrite, fire drill, wick trimmer, drying rack, snow beater, tinder, tinder bag, grass, sphagnum, whisk "yessel" bag/bucket handle, bag, unstitched birdskin, excelsion
food preparation	blubber pounder, maul head/handle, hammerstone, pot, meat/pot hook, pot thpod
food consumption	meat dish, serving tray, composite baleen/wood vessel, marrow spatula, dipper, ladle, spoon
transportation	trace buckle, swivel, harness, whip handle, sled shoe, sled runner, sled cross-piece, snow knife, snow
bow and arrow	arowhead, arrow shaft, feather setter, feather cutting board, sinew twister, bow, bow brace, bow
misc marine mammal hunting	misc foreshaft, moveable foreshaft, finger rest, tension piece, seal drag, seal indicator, cord fastener.
mise manife manifest norming	sealing stool, seal scratcher, wound pin, socket piece, harpoon end blade, harpoon head, harpoon
	shaft, ice pick, line stopper, allati hook, dart butt piece, dart head, float bar, aflation tube, float mouthpiece, mouthpiece stopper, hoat book, hoat part lice scraper, those stretcher.
	yaavutak, high finish splice, lance heads, whaling foreshaft
fishing	fish lure, fish lure tinkler, fish arrowhead, fish arrow shaft, fish harpoon head, fish needle, fish spear
bird/amall agenc bupting	bird dart prond, leister baro, gorge/baro bird dart prond, bird dart shaft, gull hook, bola weight, bird arrowhead, snare, wolf killer, sling handle
community	ajagaq, ajagaq pin, gaming piece, drum handle, drum rim
ornament	bracelet, brow band, bead, comb, hair stick, button, labret, ceremonial knife
pendant - tooth	driled/grooved dog, muskox, canbou, fox tooth
pendant - other	drop pendant, pierced moliusc shell, ground stone pendant, chain pendant, zoomorphic pendant
amulet	quartz crystal, composite hide object, amulet box, figurine, bear claw, fossil
female toy	doli, lamp
male toy	arrow, bow, dart, foreshaft, harpoon head, harpoon shaft, kayak, umiak, leister prong, paddle, sling, lance
neutral toy	bullroarer, top, top spindle, inserted bones. Norse draughstman
cordage/fastener	thong, braided sinew cord, baleen line, toggle, buckle
knotted baleen	
Dorset lithic	tool, utilized flake, unmodified flake, debitage, core
whale bone shaving	
whale bone debitage - primary	
whale bone debitage - secondary	
whale bone debitage - tertiary	
ivory debitage	
antler debitage	
mica	
feather	
fur	
flesh	
miscellaneous animal tissue	

refuse on some house floors, and probably had a function related to sewing or cutting patterns.

Refuse from clothing manufacture takes the form of clothing elements (patches, boot soles), fragments of sewn hide or birdskin with sinew stitching or ripped out seams, castoffs from patterns, patches of cut fur, and strands of sinew (sometimes knotted at one end). Items related to domestic maintenance are also probably associated with women, and include lamps made of stone, or stone and pottery, the wooden sticks used to trim the lamp wick, blocks of sphagnum that provided wick material (among other functions), pyrite and wooden drill shafts used for starting fires, racks that were hung over a lamp to dry out clothing, snow beaters used to remove snow from outdoor garments, unstitched birdskins and balls of feathers used for hand cleaning, a complete bird wing that may have served as a whisk, and miscellaneous bags and bag or bucket handles. Pots, mauls, meat or pot hooks, and a whale rib tripod are grouped separately as food preparation items.

Items associated with men's activities include equipment used for terrestrial and marine hunting, tools for carving and drilling wood and hard organic materials, as well as heavier implements for splitting and adzing whale bone and pecking stone. Provisional or *de facto* refuse from these activities consists of cores, blanks, and preforms in various materials, metal fragments, and small articles used for fastening composite pieces (pegs, rivets, reinforcement pieces). Debitage from various stages of bone, antler and ivory reduction is sufficiently abundant that it is tabulated separately. Men may have been most closely associated with sled parts and associated transportation equipment, although traditionally women often cared for

dogs and handled sleds.

Women and men cooperated in house construction, so items related to structural maintenance and construction of the house (mattocks, picks, shovels) may be associated with either, though likely more with men. Other potential crossover categories include fishing and small game hunting gear, items used for tool maintenance (abraders, muskox and polar bear tooth blade sharpeners), and utensils used for food consumption, including composite baleen and wood vessels, serving trays, marrow spatulas, and ladles or dippers. Cordage made of baleen, braided sinew, or leather was grouped with miscellaneous buckles and toggles into a general category of cordage and fasteners. A number of tool fragments (including dozens of broken shafts) could not be assigned to a functional category.

Ornaments were divided into drilled animal teeth, other pendants, and various items of jewelry or clothing decoration (sample sizes were too small to warrant the separation of men's and women's jewelry). Items identified as amulets were noted above, and a category of "community" artifacts includes game and drum parts. Female toys consist of wooden human figurines (dolls) and a miniature lamp, and male toys included miniature versions of various items of boating and harvesting equipment. Gender neutral toys include assemblies of animal bones (bird radii or ulnae inserted in humeri, fox vertebrae strung on fox ribs), top parts, and a toothed baleen bullroarer.

Test implications

a. Women's and men's use of space will be architecturally differentiated and highly

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regionalized, as reflected in the presence of kitchens, male-dominated kariyit, and a general segregation of the tools and refuse from gendered activities.

The existence of structures and features associated with women and men has been noted above. Four of the five dwellings had discrete kitchen wings, and the sixth (House 29) had a probable cooking area next to the tunnel mouth. The *karigi* produced abundant evidence for the manufacture of bone, antler, ivory, and stone objects. Since food preparation was conventionally a female task, while men worked in hard organic and inorganic materials, this implies a segregation of dwelling and community space into domains of gendered activity. Both women and men utilized dwelling spaces, but these were minimally subdivided into cooking and non-cooking loci. Women and men both likely participated in *karigi* activities, but the vast bulk of the refuse is associated with men's manufacturing tasks. Architecture thus delineated physical settings for regionalized gender activities. To explore in more detail the practical use that was made of this spatial structure, patterning in the occurrence of the above functional artifact classes was examined.

Associations and dissociations between gendered tools and refuse and specific architectural features provide a key testing ground for the hypothesized regionalization of gendered activities. They also provide an opportunity to note spatial linkages between artifact categories of uncertain affiliation and more securely gendered categories, and thus generate fresh insights into gendered practice. The main obstacle to this analysis is the differential preservation of manufacturing refuse associated with male and female activities. While polemics against the notion that women's activities have reduced archaeological visibility have appeared in the gender literature (e.g., Conkey and Gero 1991), this is unambiguously true of the traditional lnuit task division, and indeed of many other cases in which women's production included perishable hides, textiles, or plant foods. Only 6% of the castoffs, clothing fragments, and sinew that represent refuse from sewing activities occur in fill contexts, suggesting women's manufacturing refuse is seriously underrepresented in the total artifact assemblage.

To examine inter- and intrahouse variation in preservation, finds from every unitlevel context were tabulated by material type. To improve sample sizes, the assemblages from adjacent levels within a unit were combined separately for floor and fill contexts (Table 27 provides the scheme for combining levels by house). A correspondence analysis (Bolviken et al. 1982; Weller and Romney 1990; Baxter 1994: papers in Madsen 1988) was performed on 41 material types across all 571 enlarged unit-level contexts that produced two or more finds (Table 28, Figure 54). The first axis, accounting for 14% of inertia (i.e., variability within the dataset), separates all soft organic materials except horn and wood from other finds, and can be considered a preservational dimension. Hard organic materials occur as a tight cluster within the scatter of well-preserved materials. The proximity of copper to the soft organic materials is probably a curational effect, related to the abundance of copper fragments in subfloor loss contexts, stratigraphically beneath, but adjacent to, floor deposits. The grouping of abundant wood finds, and a handful of horn specimens, with the hard organic and inorganic materials indicates that these survived better than other soft organic materials in most depositional situations, and suggests that horn was indeed a scarce material type, rather than a victim of

house	fill	floor
29	surface sod+L1	L2; L3
33	surface sod+L1+L2	L3; L4
34	surface sod+L1+L2	L3; L4&L5
35	surface sod+L1	L2; L3&L4
38	surface sod+L1; L2	L2+&SF
41	surface sod+L1; L2	L2+&SF

Table 27.Scheme for combining unit-levelsfor correspondence analyses

Table 28.	Material	categories	used
in CA of p	reservatio	onal bias	

amber animal tooth antler baleen bark bird skin bone bone/antler/ivory chert clay copper diabase feather flesh fur gneiss grass gut heather hide horn

human hair human tooth iron ivory limestone/dolostone mica miscellaneous stone nephrite pottery pyrite quartz quartzite sandstone schist shell sinew slate/shale/siltstone sphagnum whale bone wood



Figure 54. Column plot of CA on material classes (571 contexts, 41 variables)



taphonomic deletion. The second axis (10% of inertia) separates sinew, hide, bird skin, and clay from animal flesh and sphagnum. The former are related to women's manufacturing activities, and the latter probably to food preparation or storage and lamp maintenance. Fill contexts cluster strongly with the hard organic and inorganic finds, and floor contexts with perishable organic materials (Figure 55).

The major implication of this patterning is that, as anticipated, floor contexts cannot be compared directly with fill contexts with respect to perishable material classes. This means that an assessment of the regionalization of men's and women's activities must either ignore the refuse from clothing manufacture (among other things), or confine itself to floor contexts where preservational factors can effectively be held equal. The problem with the former course is that an unknown, but potentially large, proportion of women's manufacturing tools and other gender diagnostic artifacts (e.g., stone pots and lamps) were probably discarded as refuse from men's tool manufacturing or repair activities, rather than in use-related context. Sewing refuse (whether primary or secondary) represents the find category that can most confidently be considered to have been *proximately* generated by women's activities. It is thus essential for "anchoring" an analysis that includes categories for which either the discard context or the gender affiliation is uncertain. It was therefore decided to confine the analysis of the spatial distribution of functional artifact categories to floor contexts.

A total of 239 unit-level contexts produced two or more specimens belonging to one or more of the 44 artifact and organic find categories listed in Table 26. Samples of feathers, heather, gut, muscular tissue ("flesh"), and miscellaneous



Figure 55. Row plot of CA on material classes (571 contexts, 41 variables)

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animal tissue were included in this analysis, even where a specific functional identification was impossible. The latter three categories probably relate to processing, consumption, and storage of food and hides, heather to sleeping platform covers, and feathers to either artifact manufacture (e.g., fletching, sewing bird skin) or carcass processing. Castoffs from sewing were distinguished according to material type (i.e., hide with hair present or removed, cut fur, cut gut), as were antler, ivory, and whale bone debitage (the latter divided into four categories based on reduction stage). Whale bone shavings are fragile and thus not easily counted, so dry weights were recorded, and then assigned to weight classes at logarithmic intervals ranging from 1 to 11 (Table 29).

The variable or column plot for the first two axes is shown in Figure 56. These axes accounted for only 15% of inertia, but given the large number of variables and sparseness of the data matrix, these results do not seem unreasonable. Diagnostics are provided in Table 30, and a plot of eigenvalues in Figure 57. The first axis distinguishes clothing manufacturing refuse from bone, antler, and ivory debitage. The second axis distinguishes items related to food preparation, as well as some toys, from all else, but especially from several classes of ornaments and sewing refuse. There is strong gender-related patterning in the distribution of variables within this bivariate space. Scheitlin's (1980) earlier attempt to ascertain gendered patterns of spatial usage in Thule houses (based on clustering within find classes as measured by nearest neighbor analysis) was unsuccessful perhaps partly because it did not include such refuse categories in the analysis, nor did it search for patterns of association *amongst* find classes such as recovered by the

assigned	weight	log ¹⁰
value	(gm)	weight (gm)
0	0	n/a
1	<= 0.1	<= -1.000
2	0.2 - 0.3	-0.9990.500
3	0.4 - 1.0	-0.499 - 0.000
4	1.1 - 3.1	0.001 - 0.500
5	3.2 - 10.0	0.501 - 1.000
6	10.1 - 31.6	1.001 - 1.500
7	31.7 - 100.0	1.501 - 2.000
8	100.1 - 316.2	2.001 - 2.500
9	316.3 - 1000.0	2.501 - 3.000
10	1000.1 - 3162.2	3.001 - 3.500
11	3162.3 - 10000.0	3.501 - 4.000

Table 29. Whalebone shaving weight classes



	coordinate	coordinate			relative
artifact category	axis 1	axis 2	mass	quality	inertia
female manufacturing	0.00	-0.55	0.03	0.07	0.02
castoff - undepilated	1.68	-0.56	0.06	0.74	0.05
castoff - depilated	1.22	-0.48	0.04	0.50	0.02
castoff - fur	0.45	0.13	0.00	0.01	0.01
castoff - out	1.12	-0.02	0.00	0.07	0.01
clay	1.18	-0.57	0.00	0.06	0.01
clothing	1.17	-0.64	0.02	0.42	0.02
sinew	1.14	0.03	0.01	0.37	0.01
male heavy manufacturing	-0.43	0.10	0.02	0.03	0.02
male light manufacturing	-0.35	-0.03	0.03	0.03	0.02
male provisional manufacturing refuse	-0.51	-0,19	0.05	0.14	0.02
tool maintenance	-0.56	-0.28	0.01	0.03	0.02
house maintenance	-0.46	-0.10	0.01	0.02	0.02
domestic maintenance	-0.05	0.09	0.07	0.01	0.02
food preparation	-0.12	0.88	0.01	0.04	0.03
food consumption	-0.35	-0.22	0.01	0.01	0.02
transportation	-0.42	0.01	0.02	0.04	0.02
bow and arrow	-0.48	-0.40	0.02	0.07	0.02
sea mammal hunting	-0.46	0.16	0.04	0.09	0.02
fishing	-0.22	-0.35	0.01	0.01	0.03
hird/small game bunting	-0.45	-0.08	0.00	0.01	0.02
community	-0.81	-0.68	0.00	0.05	0.02
ornament	-0.07	-0.02	0.01	0.00	0.02
pendant - tooth	-0.76	-0.89	0.01	0.06	0.04
pendant - other	0.08	-0.54	0.00	0.01	0.02
amulet	-0.18	-0.85	0.00	0.01	0.04
female toy	-0.63	0.71	0.00	0.02	0.04
male toy	-0.48	0.17	0.02	0.04	0.02
peutral toy	0.06	0.54	0.00	0.01	0.02
cordage/fastener	0.51	-0.44	0.02	0.12	0.02
knotted baleen	-0.02	-0.02	0.07	0.00	0.03
Dorset lithic	-0.27	-0.18	0.02	0.02	0.02
whale hone shaving	-0.95	-0.42	0.02	0.12	0.04
whale bone debitage - primary	-0.73	-0.20	0.07	0.29	0.03
whale bone debitage - secondary	-0.37	-0.16	0.04	0.06	0.02
whale hone debitage - tertiary	-0.71	-0.22	0.04	0.18	0.02
ivory debitage	-1.14	-0.25	0.00	0.04	0.01
antler debitage	-0.69	0.01	0.02	0.08	0.03
mica	0.48	-0.66	0.01	0.09	0.02
feather	0.28	-0.21	0.02	0.03	0.02
fur	-0.01	0.13	0.01	0.00	0.02
flesh	0.41	1.48	0.10	0.90	0.05
miscellaneous animal tissue	0.30	0.50	0.03	0.12	0.02
heather	-0.31	-0.03	0.01	0.01	0.02
EIGENVALUE	0.463	0.313			
% OF INERTIA	9.0	6.1			

Table 30. Results of CA on functional artifact categories

Table 30. Continued

	inertia	cosine ²	inertia	cosine ²
artifact category	axis1	axis1	axis2	axis2
female manufacturing	0.00	0.00	0.03	0.07
castoff - undepilated	0.37	0.67	0.06	0.08
castoff - depilated	0.11	0.43	0.03	0.07
castoff - fur	0.00	0.01	0.00	0.00
castoff - gut	0.01	0.07	0.00	0.00
clay	0.01	0.05	0.00	0.01
clothing	0.06	0.32	0.03	0.10
sinew	0.04	0.37	0.00	0.00
male heavy manufacturing	0.01	0.03	0.00	0.00
male light manufacturing	0.01	0.03	0.00	0.00
male provisional manufacturing refuse	0.03	0.13	0.01	0.02
tool maintenance	0.01	0.02	0.00	0.01
house maintenance	0.00	0.02	0.00	0.00
domestic maintenance	0.00	0.00	0.00	0.01
food preparation	0.00	0.00	0.02	0.04
food consumption	0.00	0.01	0.00	0.00
transortation	0.01	0.04	0.00	0.00
how and arrow	0.01	0.04	0.01	0.03
sea mammal bunting	0.02	0.08	0.00	0.01
fishing	0.00	0.00	0.00	0.01
hird/small game bunting	0.00	0.01	0.00	0.00
community	0.00	0.03	0.01	0.02
commont	0.01	0.00	0.00	0.00
	0.00	0.00	0.02	0.04
pendant - tooth	0.01	0.00	0.00	0.01
pendant - other	0.00	0.00	0.00	0.01
amulet	0.00	0.00	0.01	0.01
	0.00	0.04	0.00	0.00
male loy	0.01	0.04	0.00	0.00
	0.00	0.00	0.00	0.05
cordage/fastener	0.01	0.07	0.01	0.00
	0.00	0.00	0.00	0.00
Dorset lithic	0.00	0.01	0.00	0.01
whale bone shaving	0.04	0.10	0.01	0.02
whale bone debitage - primary	0.08	0.27	0.01	0.02
whale bone debitage - secondary	0.01	0.05	0.00	0.01
whale bone debitage - tertiary	0.04	0.16	0.01	0.02
ivory debitage	0.01	0.04	0.00	0.00
antier debitage	0.03	0.08	0.00	0.00
mica	0.01	0.03	0.02	0.00
feather	0.00	0.02	0.00	0.01
fur	0.00	0.00	0.00	0.00
flesh	0.04	0.06	0.67	0.84
miscellaneous animal tissue	0.01	0.03	0.02	0.09
heather	0.00	0.01	0.00	0.00



Figure 57. Eigenvalues for CA on functional artifact classes

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CA column plot.

A cluster of categories related to sewing occurs at the bottom right of Figure 56. and includes raw clay. Pottery was fairly abundant at Qariaragyuk, but the only functionally identified pottery objects were the sides of composite pottery and stone lamps. Clay was presumably kept on hand by women to make and/or repair such lamps. This is also the implication of the lump of clay found in an accessible compartment beneath a kitchen hearth platform in House 38. However, the close association between clay and sewing refuse raises the possibility of other uses. Holtved (1967:138-139) reports that fox skins were sometimes cleaned by rubbing them with dried clay, which soaks up any grease and can easily be beaten off. Dry clay may also have been used as a light-colored powder, in the way that chalk and avpsum were used to lighten caribou skins in North Alaska so that they would resemble the prized Siberian reindeer hides (Murdoch 1988:110). Finally, an important stage in hide processing, following initial scraping, is to wet the skin and store it in a damp state. This stimulates a biochemical reaction that breaks down the ground substance, and in contemporary practice is aided by adding flour, baking powder or salt to the water (Oakes 1991:110). It is possible that clay served this additional function at Qariaragyuk.

Another group of female-related objects in the right central portion of the plot includes some items likely related to clothing manufacture (cut fur patches, miscellaneous fur, feathers), as well as cordage/fasteners (the sinew and leather cordage probably manufactured by women, and the buckles and toggles perhaps attached to clothing). Mica, ornaments, miscellaneous pendants, amulets, domestic

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maintenance items, female manufacturing equipment, and knotted baleen also occur in this cluster. The ornaments were presumably mostly worn by women (as ethnographic usage of beads, brow bands, bracelets, and many varieties of pendants tends to suggest), and others attached by women to clothing worn by men or both genders. The occurrence of mica here is consistent with some of it having being used for clothing inlays, although its general association with elaborate dress, and with community-related objects on the second axis, is also consistent with mirror usage. Amulets were often attached to clothing ethnographically (Rasmussen 1931), perhaps accounting for their presence in this group.

Domestic maintenance equipment, mostly related to lamps, falls at the edge of this cluster, as expected for a category traditionally associated with women. It should be noted, however, that it occurs quite close to the axis intersection, which suggests a relatively even distribution across contexts. This is sensible given the necessity of having lamps for light and heat in all inhabited spaces. Knotted baleen, interpreted as lashing material for whale bone house frameworks, occurs closer to the axis intersection than any other category. Since it would have been deposited wherever the superstructure was dismantled, this even distribution across all roofed contexts is unsurprising.

A third group related to predominantly female activities is separated from the above group on the second axis, and consists of samples of flesh (muscle) and unidentified animal tissue, food preparation utensils, and probably female and gender-neutral toys. The distance of this food storage and preparation cluster from most sewing-related categories suggests a spatial separation of these activities, the

latter probably occurring mainly on the house floor and sleeping platform and the former in the kitchen and tunnel. The association of dolls and gender neutral toys with food preparation on the second axis suggests that children, and especially girls, were involved somehow with this activity. Food preparation requires less physical strength and technical expertise than sewing and hide processing (food was generally boiled or eaten raw or fermented), so it is possible that girls began to acquire this practical competence at a relatively young age (i.e., while they were still playing with toys). An alternative interpretation of this pattern is that girls merely frequented the locations that were used for food storage and preparation, but this has similar implications for childhood gender role socialization.

A tight cluster of variables in the left central portion of the plot consists mostly of male manufacturing and harvesting equipment. Heather occurs in this group, suggesting a male association with the sleeping platform and its storage compartments, which is confirmed by the row plot coded according to architectural context (Figure 58). Transportation, house maintenance/construction, and tool maintenance, all of "uncertain" gender affiliation *a priori*, are linked here to clearly male activities such as terrestrial and sea mammal hunting and tools for working wood and hard organic materials (Figure 56). Chipped stone objects also occur adjacent to these categories, hinting at deliberate Thule reuse of Dorset artifacts, or even the occasional production of these items. Fishing gear occurs at the edge of this male cluster that is closest to female categories, suggesting an intermediate gender association for this activity. Male toys occur in close association with some of the adult items (especially sea mammal hunting equipment) of which they are





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miniature versions, suggesting an association between boys and men's activities analogous to that between girls and women's food preparation. Food consumption occurs in the midst of this male cluster, which is consistent with the common Inuit practice of women and men eating separately. Food was presumably often brought to men on the sleeping platform or in the *karigi*, hence the need for serving utensils. Women may have frequently eaten more informally at the point of preparation.

Most of the hard organic debitage categories extend to the left of the main cluster of male-related tools. This group, or sub-group of the male cluster, is the least associated with women's activities, and falls near many *karigi* contexts (Figure 58). Associated with this group are the community and tooth pendant categories, which are distinguished from the debitage group only on the second axis. It is possible that tooth pendants were predominantly male ornaments, but their proximity to "community" artifacts (which activities likely occurred mainly in the *karigi*) equally suggests a more oblique association by virtue of men's preferential use of the *karigi* for manufacturing activities.

The CA was very successful at discriminating women's and men's refuse and tool categories, and suggesting interpretable subgroups. The opposition of the major classes of male and female refuse on the first axis provides particularly strong support for the proposed gender regionalization of daily activities. These find classes correspond to historically named (i.e., emic) refuse categories: *ilirniku*, referring generally to "any remainder" but specifically to such things as shavings and sawdust, and the feminine diminutive *ilirnikujuq*, referring to material left over from sewing (Schneider 1985:66). Since it occurs in floor contexts, much of this material

can be considered primary or provisional refuse, and thus points directly to the separation in spatial practice of gender-based manufacturing tasks. Associations of gendered toys with some of their respective adult activity categories indicate that gender roles were already being assimilated by toy-wielding children.

With respect to the inflection of architectural space with symbolic messages related to social power, discussed above, most men's activities are linked to sleeping platforms and the *karigi*, and most women's activities to house kitchens and floors (Figure 58). Women's activities are further divided between artifact categories and spaces linked to food preparation on the one hand, and clothing manufacture and ceremonial activity or dress on the other (Figure 56). Women are more closely associated than men with all ornaments except tooth pendants, while men are linked to group ceremonial and ornament by way of their *karigi* association. Also noteworthy is the generally greater proximity of male than female variables to the major male activity categories, hence a more extensive utilization of roofed space by men (this effect is visually reversed in the plot, where the more distant and scattered variables actually signify distributions that are relatively clustered and idiosyncratic, respectively).

b. Men's activities will be associated with heightened consumption of locally rare and exotic materials.

The circulation of rare and exotic commodities in Thule whaling communities is posited to revolve around the construction and maintenance of social ties related to

whaling crew formation, with male *umialit* (and aspiring *umialit*) the most active participants in intersocietal trade for such goods. Furthermore, most of the imports that are readily identified archaeologically are inorganic or hard organic materials, material classes traditionally associated with male manufacturing activities. It is thus expected that men had more direct access to these materials than women, although the possibility that women (especially the wives of prominent whalers) engaged in trade cannot be excluded, nor that woman and men may have consumed the fruits of trade equally. Unfortunately, the evaluation of gender differences in access to rare and exotic materials is inhibited by the generally small samples of such materials for which a functional assignment to some category of gendered activity is possible.

Horn is the only recovered soft organic material that was locally rare. The two functionally identified specimens were both snow knife parts, which can be considered predominantly men's artifacts. Although women traditionally assisted in snow house construction, their use as temporary hunting and traveling shelters by men, as opposed to family residences, was probably of relatively greater importance in Classic Thule than Historic times. Even historically, however, men did most of the cutting and shaping of blocks with the snow knife, whereas women worked more with a shovel to fill in gaps in the walls (Jenness 1922). Of hard organic materials, locally scarce muskox teeth were used for pendants of somewhat uncertain, but perhaps male, gender affiliation, and for whetstones that appear to be more closely associated with men than women (based on the CA results discussed above), although both may have used them. The single exotic beaver tooth functioned as a
chisel bit, and was likely used by men for working wood and perhaps antler and bone.

lvory was the most abundant rare or exotic material at Qariaragyuk, with 110 specimens (excluding cores, preforms and debitage) identifiable to 44 functional classes (Table 31). Of those with a reasonably secure gender affiliation, 74% of the classes and 57% of the specimens are associated with traditionally male activities, compared to 26% and 43% for women. These figures may be misleading, however, given the much greater typological diversity and abundance of men's than women's tools. The abundance of ivory specimens was then calculated as a proportion of all hard organic specimens by artifact type, thus controlling for differential preservation of material classes (Table 31). On this basis, the average proportion of ivory specimens across the artifact classes is actually greater for women's than men's objects: 61% for women's artifacts, 47% for men's, and 49% for those of uncertain affiliation. In other words, although the male ivory assemblage is substantially larger and richer than the female, certain artifact types associated with women were fairly consistently made out of this material, whereas this tendency is weaker for male artifacts, especially in light of the very small sample sizes for many of the male types with high ivory proportions. The average weight of ivory specimens is also greater for women's than men's artifacts (5.1 versus 3.5 gm), suggesting reduced pressure to recycle this material. Men were apparently consuming a greater volume of the difficult to obtain ivory than women, by virtue of their much larger technological inventory, but the proportional use of ivory for gender-linked objects, as opposed to the more readily available bone, antler and whale bone, favored women. This

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Table 31. Relative frequency of ivory usage for women's and men's artifacts (where some specimens are made out of ivory)

men s annaols (where so	ne speci	hone/antier/	made out t
	ivorv	whale bone	
WOMEN'S ARTIFACTS			
scraper	1	27	4
awl	3	26	10
brow band/bracelet	1	6	14
bag/bucket handle	2	5	29
bead	4	4	50
needle case	2	2	50
pendant - drop	8	1	89
needle case toggle	3	0	100
thimble holder	4	0	100
comb	13	0	100
IOTAL	41	/1	mean = 55 median = 50
MEN'S ARTIFACTS			
knife - end slotted	1	112	1
foreshaft	1	65	2
harpoon head	2	70	3
knife - side slotted	1	31	3
marlinspike	2	57	3
trace buckle	1	23	4
socket piece	2	43	4
ice pick	4	47	8
wound pin	2	19	10
float bar	1	3	25
hand drill	2	5	29
finger rest	2	4	33
sinew twister	1	2	33
tension piece	1	2	33
thong stretcher	1	2	33
drill/engraving tool/graver bit	8	12	40
fish stringing needle	1	1	50
fish lure	3	1	75
float mouthpiece	3	1	75
atlati hook	1	0	100
cord fastener	1	0	100
feather setter	1	0	100
fish lure tinkler	1 -	0	100
float mouthpiece stopper	1	0	100
engraving tool	2	0	100
labret	2	0	100
snow probe terrule	2	0	100
	5	<u>_</u>	100
TOTAL	55	500	median = 33
GENDER AFFILIATION UNCERTAIL		RAL	
shaft	1	91	1
buckle	1	11	8
toggle	2	4	33
marrow spatula	1	1	50
pendant	7	0	100
figurine	2	0	100
TOTAL	14	107	mean = 49
			median = 42

recalls McGhee's (1977) suggestion of continuity in the symbolic identification of sea mammal products, and especially ivory, with women, from Thule into Historic times.

These results are somewhat ambiguous, if not unsupportive, with respect to the proposed monopolization of precious materials by men, but do draw attention to an unsuspected dimension of gender difference in materials consumption discussed further in the next section. An additional difference between the male and female ivory assemblages emerges from an examination of the types of objects made in this material. Of the female-linked artifacts, 40% of types and 63% of specimens are related to bodily adornment, including decorative clothing elements (drop pendants, beads) and various items of jewelry (brow bands, bracelets, combs, beads), whereas only 7% of male types and 13% of specimens can be considered purely ornamental ("buttons" that were probably decorative clothing attachments, and labrets). Interestingly, one of the effects of these different patterns of material usage is to complicate the attempt to evaluate gender-based ivory consumption. It as if this precious material was being strategically deployed so as to deliberately resist the possibility of invidious intergender comparisons.

Only two nephrite artifacts were recovered at Qariaraqyuk, one a male-related drill bit and the other a likely female-related bead. Amber was comparably rare with only five specimens recovered, all barrel-shaped beads that were probably worn by women. Metal was by far the most abundant of the truly exotic material types, with 98 excavated specimens (in addition two large copper items were surface-collected in the sheet midden north of the house row, but are not considered further). Iron accounted for 23% of the metal finds, and copper for the rest. Two of nine iron

specimens (22%) analyzed by X-ray spectrometry lacked nickel and are thus probably Norse in origin (Corbeil 1995; see Buchwald and Mosdal 1985), while one of 38 copper specimens (2.6%) was identified as non-native copper based on high concentrations of gold and tin, as determined by neutron activation analysis (Corbeil and Powell 1995).

The breakdown of metal artifacts by functional classes is provided in Table 32. Of those assignable to a gendered category, 36% of types and 33% of specimens are linked to women and the rest to men. The proviso advanced above for the ivory results, that men's material culture is *a priori* more abundant and diverse than women's, applies here as well, but cannot as easily be circumvented because of the lack of alternate materials for these types with strictly comparable preservational potential.

There are some striking patterns in these data, including the precisely reversed proportions of iron and copper in men's and women's metal assemblages. This would be moderated if some of the numerous copper blades could be identified to a narrower functional category, since there is a greater range of men's bladed tools. However, the heightened consumption of iron by men seems to be real (i.e., assigning unidentified blades proportionally to bladed tool classes would still result in elevated levels of male iron use). Since iron is harder than copper, it will hold its form longer, and would probably have been preferred for knife blades and carving tools. It is also the rarer of the two materials, and was obtained from a greater distance (northern Greenland as opposed to Coronation Gulf). Men can thus be considered to have had greater access to the more "precious" of the metals.

	•		TOTAL
	iron	copper	METAL
WOMEN'S ARTIFACTS			
bracelet		1	, ,
brow band		2	2
needie		2	2
scraper	2	1	1
	3	2	5
IOTAL	3	8	11
MEN'S ARTIFACTS			
adze bit	2	1	3
arrowhead end blade	1		1
baleen shave blade	2		2
end-slotted knife blade	5	1	6
engraving tool bit	1		1
graver bit	1	1	2
harpoon head end blade		1	1
rivet		2	2
side-slotted knife blade	4		4
TOTAL	16	6	22
GENDER AFFILIATION UNCER	TAIN OR	NEUTRAL	
miscellaneous blade	2	27	29
miscellaneous slotted object	1		1
nugget		5	5
sheet		1	1
unidentifiable fragment	1	28	29
TOTAL	4	61	65

Table 32. Frequency of metal usage for women's and men's artifacts

The other notable pattern resembles that observed for ivory consumption, namely the greater ornamental use of a precious material by women. Two of five women's tool classes (40%) relate to adornment (bracelets and brow bands), whereas all of the men's artifacts can be considered at least nominally utilitarian. Again, differences in the pattern of material usage tend to obscure differences in the volume of precious materials consumed.

Metal consumption can also be evaluated on the basis of the slot width modes discussed in Chapter 7. Although men's knives and ulus were used for slightly different purposes, they overlap functionally as butchering tools. Since some Thule ulus have metal blades, and metal was rapidly adopted for all ulu blades in historic times, it appears that there is no compelling functional rationale for retaining stone ulu blades. However, only 14% of ulus fall toward the thin slot width mode, whereas at least 38% of the men's knives appear to have held metal blades (Figure 59). This difference is significant at p=.01 (X^2 =6.1, df=1). Comparing ulus to all men's tools, 47% of which had thin slots, suggests an even greater gender disparity in metal consumption for tools with blades or bits (X^2 =11.4, df=1, p=.001).

In summary, there is a tendency in the Qariaraqyuk assemblage for scarce and exotic materials to be preferentially used for men's artifacts (Table 33). This appears to be true of horn, rare animal teeth, iron, and metal tool parts generally (in addition to the evidence from slot modes above, holes for mainly metal rivets occur only on men's tools). However, it is difficult to disentangle this tendency from the overarching differences in the organization of women's and men's material culture, especially the much greater diversity and abundance of the male-linked assemblage.

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Figure 59. Slot widths for ulus and men's knives

	TOOL			ORNAME	ENT	
	men	women	?	men	women	?
amber	-	-	-		+	-
horn	+	-	-	-	-	-
ivory	++	+	+	+	++	+
nephrite	+	-	-	-	+	-
copper	++	+	+	-	+	-
iron	++	+	+	-	-	-
muskox tooth	+	?	-	-	-	+
beaver tooth	+	-	-	-	-	-

Table 33. Summary of scarce and exotic materials usage by women and men

•

Men consumed more of *all* raw materials, and not merely the precious ones. Although only amber was used exclusively for an artifact type (beads) traditionally associated with women, another important class of scarce material, ivory, appears to have been utilized at an elevated rate for female-linked objects, although men consumed a greater overall volume of ivory. This parallels the tendency noted in the previous chapter for non-whaling households to maximize usage of this relatively local preciosity. Potentially of even greater interest than the different rates of materials consumption is the different manner in which the materials were deployed. There is a marked tendency for scarce and exotic materials to be used preferentially for items of female adornment, while men's usage of these materials tends to be at least superficially utilitarian. This represents a subversion of the social effects produced by gender differences in access to preciosities. In effect, women abandoned the competitive microarena of utilitarian items for the distinct domain of bodily adornment. An individual woman's possessions could thus be readily evaluated with respect to distinctive material markers only against those of other women, and not directly against those of men. Women and men competed for different forms of cultural capital.

Another way of looking at these differences is in terms of the social contexts in which these material texts would have ben "read" by other actors. During winter men likely socialized on a daily basis in the *karigi*-cum-workshop. Since they performed mundane manufacturing tasks in a communal setting, the symbolic differences embedded in the material composition of an individual's toolkit would have been subtly communicated at all times. Since women performed much of their work in

relative isolation in the family dwelling, lacking a dedicated architectural context for communal activity, their everyday toolkit would not have represented as effective a medium of social communication as did men's. In particular, domestic maintenance, food preparation, and hide processing tools at Qariaraqyuk are consistently undecorated, and often made in relatively low quality materials (non-whale bone, local stone). Sewing paraphernalia, however, are more highly elaborated and often manufactured from ivory and even copper. This is consistent with the ethnographic practice of women gathering in a dwelling for sewing activities, which would have provided a discursive arena for these material texts comparable to the *karigi* for men. However, the group rituals, festivals and games held in the *karigi* provided an even better opportunity for women to display material tokens of wealth and status through elaborate dress and adornment. In effect, men's and women's deployment of precious materials were both oriented to the major arena of communal activity, but because of the regionalization of gendered practice this was achieved through distinct communicative media.

c. Men will be associated with heightened consumption of material symbols of social rank.

Ethnographically, men's status-related adornment consisted mainly of finely made and decorated clothing in rare materials (e.g., light-colored Siberian reindeer hides, wolverine fringes; Murdoch 1988). They wore simple leather bracelets and brow bands, the latter sometimes having attached beads or pendants. Bilateral labret holes were made at an early age, and increasingly large and well-made labrets

inserted. A young man might receive his father or grandfather's labrets as heirlooms (Kjellström 1973:29), and *umialit* vied for the most precious specimens. In early Historic times in North Alaska (labret use is not reported ethnographically for the Eastern Arctic), a single labret with a rare large blue trade bead might have the exchange value of an *umiak* (Spencer 1959:242). Men's hair styles were usually simple. Some men received tattoos to mark the killing of bowhead whales or murders. Women also wore elaborate clothing, often incorporating large numbers of dangling ivory or animal tooth pendants and beads. Jewelry included bracelets, brow bands made of metal or hard organic materials, and earrings. Hair styles were variable but often elaborate, including topknots held in place with a comb, or braids stiffened with decorated hair sticks. Unlike the exceptional male tattoos, the elaborate tattooing of a woman's face and arms practiced by most lnuit groups was routine, and conceptualized primarily as a beautification practice. It usually occurred at first menses (Saladin d'Anglure 1993).

Few ornamental tokens of male status were recovered, the only fairly securely identified specimens being several small ivory "buttons" or clothing attachments recovered in *karigi* contexts, two probable ivory labrets, and a ceremonial knife (Table 24). Traditional forms of female adornment were much more common, and as discussed above were often made of scarce or exotic materials. The two of nine brow bands made of copper are particularly striking examples, since they represent conspicuous non-utilitarian consumption of a substantial quantity of this precious material. All of the combs, one bracelet, and one brow band were made of scarce ivory, while beads were made out of ivory and imported amber and nephrite. Based

on the artifact types recovered, it appears that women were much more active participants in status-related display.

It must be noted, however, that clothing was probably the most important arena of personal display. Except for the precious (and non-perishable) attachments which it sometimes incorporated, it is poorly represented archaeologically. Additional analyses would be required to establish differential patterns of animal hide consumption, although it would likely be difficult to specifically link hide and hair specimens to either women or men (analyses of Thule clothing-related refuse have apparently not been attempted, so this may be presumptuous). On the evidence at hand, the posited greater male involvement in the deliberate marking of social rank is contradicted. It appears that this may have been a predominantly female sphere of activity, with men's wealth and standing communicated by such things as the incorporation of precious materials in harvesting and manufacturing gear, and perhaps through relatively concrete socio-economic indicators (e.g., possession of boats, sleds, large dog teams). If such important social alliances as betrothals, adoptions, and co-residence arrangements were privately negotiated by women (e.g., Ellanna and Sherrod 1995), then it may have been important that the female person be concretely inscribed with the abstract rank of the social group for whom she acted.

d. Men's activities will be associated with heightened proximity to ritual spaces and paraphernalia.

The results of the CA clearly indicate a dissociation between women's activities

and *karigi* contexts (Figure 58). The female variable clusters occur to the right of, and only marginally overlap, the main cluster of *karigi* contexts. A small number of *karigi* contexts extend into the upper central portion of the plot, a region linked to women's food preparation and storage. This may reflect occasional food preparation there, or merely the great volume of food consumption that likely occurred in the *karigi*, by virtue of its housing men's daily work activities and community gatherings. Flesh and unidentified animal tissue may relate variably to food preparation, consumption, or storage in particular contexts, although at the larger scale of combined contexts these categories are linked to food preparation utensils. Women appear not to have used the *karigi* for mundane manufacturing tasks. Routinized spatial practice thus provided a privileged link between men and the principal loci of *community* socializing and ritual; men effectively inhabited the symbolic center(s) of the village.

However, women's spaces were likely invested with their own symbolic significance, as suggested by the inclusion of bowhead crania in kitchen construction. Women are also linked to various symbolic domains through their general association with dwellings, and the systems of meaning inscribed therein. The gender contrast appears to be one between public and private ritual spaces, rather than the presence or absence of a spatial association with ritual. Women's ritual activities were often poorly documented or wholly ignored by male ethnographers, perhaps precisely to the degree that they were private in nature. Men may not have been allowed to witness the menstrual and birth-related seclusions that seem to have been central to women's ritual practice in many hunter-

gatherer societies (Buckley and Gottlieb 1988). Separate menstrual seclusion structures were used by Yupik (e.g., Lantis 1946; Clark 1984) but few Inuit groups (e.g., Lantis 1947:5), although parturient Inuit women were normally isolated in a special birth hut (Spencer 1959:23; Rasmussen 1931:258; Boas 1964:202). No such structures have been identified archaeologically. This interpretation might be entertained for the small, house-like depressions that occur frequently at Classic Thule winter sites on southeast Somerset Island (including Qariaraqyuk), although excavations at Learmonth, PaJs-3, and PaJs-13 have so far failed to resolve their function (Taylor and McGhee 1979; James Savelle, pers. comm., 1998). A dearth of evidence for spaces dedicated to women's ritual cannot be considered conclusive in light of the scant ethnographic and archaeological attention to this issue.

The main artifact categories linked to ritual are amulets, certain pendants (especially chains and effigies), and community artifacts (especially drum parts). Miscellaneous pendants (including animal teeth), ornaments, and perhaps mica, may be related to elaborate dress associated with ritual performances. Several of these categories are linked to women's activities in the bivariate CA space (Figure 56). The "other pendant" category, which includes chains, falls very close to women's manufacturing equipment, and amulets and mica also fall in the same diffuse cluster. Community objects and tooth pendants are strongly associated with male activities on the first axis. Ornaments occur close to knotted baleen at the axis intersection, which suggests an essentially random distribution. This may imply spatially extensive loss of these objects rather than any strong association with gendered activity loci, although they appear somewhat more closely linked to female than male

variables. The association of women with personal magic (amulets), and men with community-related objects, parallels the contrast noted above between private and public ritual spaces. Women and men may thus have each dominated distinct aspects of the community's ritual life, again defying a strictly hierarchical characterization of gender power relations.

e. Women's association with exotic materials, status markers, and ritual may additionally vary among households in parallel with overall household association with these indices.

An alternative to a simple male hegemony over wealth, status, and ritual office that emerges from these analyses is a differentiation of these domains into spheres of male and female agency. This is suggested by frequent ethnographic references to the high status, ritual importance, and elaborate dress of the wives of *umialit* (e.g., Murdoch 1988). This does not contradict the notion that interhousehold differentiation resembled, or even was modeled upon, gender differentiation in these areas, but rather adds a separate dimension of variability that crosscuts the basic contrasts between women and men. Each can thus be examined for evidence of hierarchically patterned interhousehold variability.

Of the rare or exotic materials incorporated in artifact types linked to women, the single nephrite bead occurred in House 38, a presumed whaling household, as did three of the four amber beads from residential contexts. The other amber bead occurred in the non-whaling House 35. All of the copper recovered from dwellings and identifiable to a female functional category, namely two brow bands, a bracelet,

a needle, a scraper blade, and an ulu blade, came from House 38. The single women's iron artifact from a dwelling was an ulu blade recovered from the nonwhaling House 29. Samples are very small for making interhouse comparisons (Table 34). Women's artifacts made from exotic materials account for 4.3% of the House 38 inorganic assemblage, and the single specimen from House 35 represents a comparable proportion (5.3%) of that small collection. Sample sizes are only slightly better for ivory, which is again most abundant in Houses 35 and 38. Only 13 ulus with measurable slots were recovered from dwellings. The five wide-slotted examples from House 29 suggest minimal metal consumption, as does only one of six from House 34 that falls towards the thin mode. A single thin-slotted specimen occurred in House 33, and a thick-slotted specimen in House 38.

These results do not closely match expectations for greater female consumption of exotics in whaling households, but poor sample sizes prevent drawing firm conclusions. The House 35 assemblage is particularly problematic, since tantalizing indications of wealth (supportive of the alternate interpretation of this feature suggested above, as visitors participating in fall ceremonial, rather than the "poor cousins" of residents of one of the nearby *upsiksui*) are based on inadequate samples.

Considering artifact types rather than rare materials, the sample size problem still obtains (Table 35). House 35 has the greatest frequency of female ornaments relative to hard organic and inorganic finds, but the latter is based on a single specimen. These items are well-represented in the large House 38 assemblage, moderately abundant in House 34, and rare in Houses 29 and 33. Again, the

		н	IOUSE		
MATERIAL	29	33	34	35	38
INORGANIC					
amber				1	3
nephrite					1
copper					6
iron	1				
TOTAL	1	0	0	1	10
% INORGANIC	1.7	0	0	5.3	4.3
HARD ORGANIC					
ivory	2	4	5	4	16
% HARD ORGANIC	1.2	2.4	2.5	5.2	3.3

Table 34.	Relative	frequency	by house	of women's
usage of s	carce an	d exotic ma	aterials	

			- F	IOUSE			
ARTIFACT TYPE/MATERIAL	6	29	33	34	35	38	SITE
ALL HARD ORGANIC	7	172	166	198	77	483	2561
ALL SOFT ORGANIC	1	100	189	511	44	1035	2605
ALL INORGANIC	9	58	19	70	19	234	610
HARD ORGANIC							
bead - ivory		1				2	
bead - bone						3	4
bracelet - antler					1		1
brow band - ivory						1	1
brow band - antler/wb				1	1	1	6
comb - ivory			1	4		5	13
pendant - drop - ivory			_		1	6	9
TOTAL	0	1	1	5	3	18	38
% HARD ORGANIC	0.0	0.6	0.6	2.5	3.9	3.7	3.4
SOFT ORGANIC							
caribou incisor amulet						1	1
hair stick - wood			1				1
TOTAL	0	0	1	0	0	1	2
% SOFT ORGANIC	0.0	0.0	0.5	0.0	0.0	0.1	0.1
INORGANIC							
bead - stone				1		1	2
bead - amber					1	3	5
bracelet - copper/hide						1	1
brow band - copper						2	2
TOTAL	0	0	0	1	1	7	10
% INORGANIC	0	0	0	1.4	5.3	3.0	2.4

Table 35. Women's ornaments by house and material class

proposed correspondence of female wealth and status to household participation in whaling is not supported, although the results are somewhat ambiguous. This ambiguity applies also to the interpretation of such ornaments not simply as markers of wealth or status, but as part of the elaborate dress associated with participation in ritual. As noted in Chapter 7, the abundance of mica fragments and mirrors relative to all inorganic finds does conform to the patterning expected for whaling and non-whaling households (Table 24). Since the CA results indicate a female association for mica (Figure 56), this can be taken as support for a link between women from whaling households and elaborate dress and/or facial adornment related to the marking of rank and/or ritual performance.

The other potential link to ritual is the symbolic structure of dwelling space. Bowhead crania were associated with the kitchens of all of the whaling households, but neither of the non-whaling households, and the whaling houses conformed most closely to the structural ideal that resonated with community layout and cosmological symbolism. Additionally, the absence of a detached kitchen in House 29 suggests a very different symbolic construction of gender relations than that in other households, since less emphasis is placed on the delineation and segregation of gendered activity loci. This can be taken to imply a lack of elaboration of women's ritual practice, at least in the dwelling context.

In summary, patterning in the women's assemblage indicating wealth, status, and ritual hierarchies that parallels indicators of overarching household roles and statuses is established on some criteria, but not others. A serious problem with this attempt, however, was the small sample sizes that resulted from dividing the site

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assemblage not only into female- and male-linked artifact categories, but then parsing the small female assemblage into five house assemblages. Several large house assemblages, on the order of that from House 38, would be required to mitigate this effect, although it might be possible to explore this issue through a comparative study of several large site assemblages. Mortuary data would clearly be useful in this regard, but no large Thule dataset has been published, and few have been excavated (e.g., McCartney 1977).

CHAPTER 9: DISCUSSION AND CONCLUSIONS

Assessing the model

The test implications of the model outlined in Chapter 4 were generally wellsupported by the results of the research at Qariaraqyuk (Table 36). All of the expectations for patterning in site structure were strongly confirmed by the analyses of Classic Thule settlement systems, and especially by the spatial configuration of settlements and houses in the core whaling area of southeast Somerset Island. Whaling communities indeed appear to have been organized along the lines of karigi-based whaling crews analogous to those documented historically in North Alaska. Excavations at Qariaraqyuk revealed that households were differentiated according to participation in whaling and access to whale products, and that these often predicted other aspects of household status, such as dwelling size and complexity, the spatial context of the dwelling relative to other dwellings and kariyit, access to exotic commodities, the abundance of items of adornment, proximity to ritual spaces, the symbolic inflection of house architecture, and sometimes abundance of ritual paraphernalia. Among the results that were not predicted, but serve to modify rather than refute the model, were the heightened consumption of locally scarce materials by non-whaling households, and the occurrence of ritual paraphernalia in a non-whaling household, suggesting ritual activity may have constituted a dimension of social variability at least partly independent of whaling participation.

Evaluation of some of the test implications for interhousehold difference was complicated by the small assemblage from House 35, which occasionally

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Table 36. Summary of results with respect to test implications

RESULT

TEST IMPLICATION	COMMENTS		
Site structure			
a. whaling crew social formation expressed in scale of winter community	++	distinct modalities in winter settlement size likely correspond to whaling increments	
b. karigis present, functioning as men's workshops and site of whaling activities	++	karigi assemblage conforms strongly to North Alaskan model	
c. site organization most complex at large whaling villages	++	large whaling site(s) elaborately structured (physically and symbolically)	
d. multi-house groups (upsiksui) present, associated with karigis	++	karigi-linked upsikui widespread on large sites	
e. whaling success varies with number of crews, hence site	++	Savelle and McCartney's data supportive	
f. consumption of prized bowhead portions varies within sites	++	strong patterning in spatial distribution of surface whale bone	
Inter-household differentiation			
a. house assemblages differentiated by whaling participation	+	House 35 somewhat problematic: may be taphonomic problem	
 whaling participation correlated with house size and complexity 	++	strong contrasts in house size, complexity, and permanence	
 whaling participation correlated with location in village (occurrence in upsiksui, proximity to karigis, proximity to other whalers) 	+	Houses 33 and 34 not directly associated with karigi	
 whating participation correlated with access to scarce and exotic materials 	+	scarce materials relatively abundant in non-whaling households, and exotics in whaling households; house 35 problematic due to small sample size; houses 33 and 38 well-differentiated	
 whaling participation correlated with occurrence of symbols of rank 	+/-	some items of personal adornment occurr in non-whaling households, but mica much more abundant in whaling households; house 38 well- differentiated on all criteria	
f. whaling participation correlated with occurrence of ritual paraphernalia and proximity to ritual spaces	+/-	whalers differentially associated with ritual spaces, but not consistently with ritual paraphernalia; house 38 well-differentiated	
Gender differentiation			
 a. gendered use of space architecturally delineated and highly regionalized 	++	good separation of women's and men's spaces and artifacts	
b. men consume more preciosities	+	tendency for men to consume more exotics, but preciosities deployed more for ornaments by women and tools by men	
c. men consume more symbols of rank	-	not supported with data at hand; men may have marked status in other media; need to explore hide usage	
 d. men more associated with ritual paraphernalia and spaces 	+/-	men linked to public ritual spaces, but women's domestic spaces symbolically marked, and women and men each linked to different categories of ritual paraphernalia	
e. women's hierarchy of wealth, status and ritual participation parallels inter-household differentiation	?	patterning weak; house 35 problematic, house 38 well-differentiated; sample sizes inadequate	

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contradicted expectations in a way that was difficult to disentangle from sampling error. However, the patterning is not inconsistent with the speculation that this house had at some point served as a temporary late fall/early winter residence for a relatively high status family from another community, perhaps while participating in exchange or ceremonial activities. In general, one of the presumed whaling households (38) was clearly differentiated from other houses with respect to material indicators of superordinate social status, while another whaling household (33) was often so distinguished, subject to a small sample size. The smallest whaling household (34) predictably fell towards the middle range on various indices. The results for the non-whaling House 29 were as predicted for all but the abundance of ritual paraphernalia. The degree of household participation in whaling, through the performance by (multiple) household members of such roles as *umialik*, harpooner, and paddler, appears to have been the major determinant of access to and display of wealth, and an important, but partial, determinant of involvement in ritual practice.

The results with respect to gender differentiation less consistently conformed to expectations. The most striking result was strong support for the predicted regionalization of men's and women's activities. The first axis of a correspondence analysis was dominated by the opposition of men's and women's primary manufacturing refuse, indicating the spatial segregation of refuse-generating activities. Gendered tool categories were also separated in the bivariate space of the CA results, and it was possible to draw novel inferences with respect to the gender affiliation of numerous artifact categories based on their association with more securely gendered classes. Men's artifacts were much more closely linked to

karigi contexts than women's, and men also appear to have been preferentially associated with dwelling sleeping platforms, and women with floors and kitchens.

Other gender-related test implications were only partly supported, or contradicted, by the analytic results. Men probably consumed more of the precious metal imports, and a greater volume of almost all scarce and exotic materials, but women's artifacts were made out of most of the materials at hand. By artifact class, women consumed scarce ivory in higher proportions than men, and all of the amber was used for beads probably worn by women. The most interesting aspect of consumption of precious materials was the different uses to which they were put for gender-linked artifacts: utilitarian male items and ornamental women's items. Objects of personal adornment that may have signified rank or status were actually much more abundant for types traditionally associated with women than those linked to men, although the important category of clothing could not be assessed in this regard. Men were strongly linked to the principal ritual locus of the community, but women's spaces (kitchens), and female-linked dwellings more generally, were infused with symbolism, and may have been the sites of relatively "private" ritual practice. The CA results suggested that women and men were associated with different classes of ritual paraphernalia, rather than one or the other dominating the ritual sphere.

In summary, the whaling economy at Qariaraqyuk appears to have been organized in a fashion sufficiently similar to the modeled version of the historic North Alaskan pattern that most of the expected material ramifications of the latter left observable traces in the archaeological record. While the most important implications for gender relations were also supported, the patterning in gender-

related material culture proved to be more complex than expected. The reduced success of these test implications may relate in part to the uneven ethnographic reporting of this aspect of social practice, and consequent ambiguity with respect to the character of historic North Alaskan gender relations. It would appear to be inaccurate to characterize these relations as purely hierarchical. Although men's activities at Qariaraqyuk were linked to community-level ritual and economic practice, on the archaeological evidence women did not always participate in strictly the same arenas of social competition.

Women's status-related practices were thus not merely a shadow of men's, but extended into areas in which men had little part. In particular, women's social identities appear to have been marked in a much more expressive material idiom than men's. While likely emblems of male status occur occasionally at Qariaraqyuk (including labrets and elements of elaborate dress), those linked to women are ubiquitous. Women's ornaments were relatively more abundant (49 versus 8 specimens), typologically diverse (six major female ornament categories, as well as numerous stylistic variants of beads and pendants, versus four for men), and compositionally diverse (the only scarce or exotic material used for men's ornaments was ivory, versus ivory, copper, amber, and nephrite for women's, as well as several more common materials). Women's greater ornamental repertoire could thus potentially communicate a wider range, and finer gradations, of information related to the volume and configuration of a household's economic and cultural capital, such as the amounts of disposable surplus labor and goods, and the directions in which lucrative social and economic networks extended outside the community (whence

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non-local materials were obtained).

Men's ornaments and (archaeologically unobserved) dress probably carried similar social messages, but appear to have done so in a simpler fashion. While whale tail pendants, and perhaps clothing designs and tattoos, may have been highly visible signifiers of *umialik* status, any such media were not so abundant or conspicuous as to have left a substantial material trace. Since men of widely varying wealth and status probably cooperated frequently in communal hunting endeavors, it may have been the case that explicitly marking such status differences would have inhibited alliance formation. The information content of men's personal adornment, on the evidence of archaeologically durable items, appears to have been reduced almost to a binary identification: *umialik*/non-*umialik*.

The finer social gradations that would have distinguished individuals at various steps along the *umialik* trajectory may have been tacitly marked through the utilitarian deployment of rare materials. This effectively demoted invidious social information to a material *sub*text, but a visible one nonetheless. Among the large proportion of Inupiat and Inuit groups that retained some variant of the institution, the *karigi* functioned on ceremonial occasions as a community theater for ritual and artistic performances. For Thule and North Alaskan groups this architectural stage also provided the daytime setting for men's indoor activities, by contextual analogy imbuing these routine manufacturing tasks with the cultural associations that inhered in the theatrical setting. Tools subtly acquired the metaphorical resonance of props, and indeed everyday tools became literal props in some ritual performances. For

a bawdy skit in costume as a man and woman, the woman's main prop being a snow beater and the man's a dog whip (Saladin d'Anglure 1993:74-80). An analogue of these costumed figures from East Greenland involved an androgynous performer with a men's knife as one of the iconic male props (ibid.:83), while a similar example from Baffin Island involved a harpoon (Boas 1964). An important aspect of men's status was thus communicated passively, in the course of manipulating a seemingly mundane toolkit on the *karigi*'s social stage, rather than being inscribed confrontationally on their person. These "props" were further marked through the erasure of superfluous stylistic information. Stylistic simplicity and homogeneity subtly drew attention to the rarity of the materials, with all their socioeconomic connotations, rather than the craftsman's virtuosity. Only attainment of the highest status was explicitly marked through the personal display of emblems tallying whale kills.

A more nuanced evocation of household wealth and status fell within women's sphere. Communal gatherings in the *karigi* provided the opportunity for the display of elaborate female dress and adornment, and the detailed negotiation of household rank through the differentiation of ritual roles and the situating of participants in symbolically inflected space. The *karigi* was the site of the practical production of the all-important whaling crew formation, and of community ceremony. It was thus the primary social context in which men from different households, and women and men, were brought together to symbolically enact their relationship to each other, and that of their community to the universe. However, through his ownership of the *karigi*, leadership of the whaling crew, and officiating at ritual events, the superordinate status of the *umialik* (and his wife, followers, and crew members) was also marked

on such occasions. The community was simultaneously made whole and inscribed with factional divisions, through the thorough permeation of formal social performances with the significata of rank.

Options were available, however, for mitigating the social effects produced by differential access to the most precious commodities. Both non-whaling households and women consumed ivory at an elevated rate, deflecting one-to-one comparison of materials consumption. One of the non-whaling households (house 29) at Qariaragyuk was involved in ritual activities that may have generated compensatory cultural capital, much as women were associated with material culture domains distinct from those of men. House 29 was also unusual in producing two of three specimens of Norse metal, as well as the single artifact that may represent an unmodified Norse manufacture (a sandstone game piece). Such unusual objects may have been associated with esoteric knowledge of distant peoples and places, or at least claims to such knowledge. The overall implication seems to be that the distinct hierarchical proclivities associated with a whaling economy based on the circulation of wealth and formation of male labor alliances were counterbalanced by the diversification of the social fields within which individuals and households were situated, and across which they described a social trajectory during their life cycle. The primary axes of social differentiation (whaling participation, wealth in exotics, the size and extent of social networks) were crosscut by minor axes (ritual expertise, geographical knowledge, wealth in scarce materials) that provided scope for resistance to, and negotiation of, imputed social status. Heterarchy tempered hierarchy.

Implications for Thule prehistory

The existence of relatively large, wealth-oriented whaling communities in the Central Canadian Arctic during Classic Thule times raises a number of interesting issues for Neoeskimo prehistory. Contrary to the expectation, based on ephemeral historic land use, that this and neighboring High Arctic regions have been marginal to Inuit settlement, some factor or constellation of factors must have offered a significant inducement to settlement during the first half of the second millennium AD. The critical economic attraction was clearly the availability of summering bowhead whales, and aggregations of large sea mammals generally at High Arctic sites adjacent to polynyas. Patterns of wealth-based status differentiation like those observed at Qariaragyuk are predicted for other large whaling and walrus hunting communities (walrus hunting was also organized in terms of boat crews in Northwest Alaska: Bogojavlensky 1969), although this was probably less strongly expressed in the smaller villages outside the prime harvesting areas, due to the necessity of entire communities or groups of communities cooperating to muster a small complement of boat crews. The obvious deduction that abandonment of the whaling settlements followed a collapse in bowhead availability is only partially supported by paleoenvironmental and ethnohistoric evidence.

The extent and seasonal duration of sea ice would have increased during the Little Ice Age (LIA), likely excluding bowheads from some of the Central Arctic channels. The Hazard Inlet region, at the apparent southern limit of dense bowhead aggregations during the latter part of the Medieval Warm Period (MWP), may have become increasingly uninhabitable by all but small-scale mobile foragers as the

resource base shifted after AD 1400 (see Savelle 1987). Some long-occupied dwellings at Qariaraqyuk were in fact abandoned in the early 15th century, although site abandonment may have occurred gradually over the ensuing century. Euroamerican whaling records indicate that bowheads were present in the more northerly reaches of Prince Regent Inlet during the 19th century peak of the Little Ice Age, hence presumably also during previous centuries, but the commercial harvest in this area represented a minuscule .1% of the Davis Strait whale fishery during the period 1820-1910 (Ross 1993:Figure13.8, Table 13.2). Apparently bowheads only penetrated this far west and south during exceptionally ice-free years, and then tended to stay close to the Brodeur Peninsula coast, likely precluding a reliable native harvest from Somerset Island. This situation is very similar to that reconstructed for a cool climatic episode preceding the MWP (Dyke, Hooper, and Savelle 1996:Figure 18).

The vast majority of the Euroamerican harvest of this stock occurred in the Pond Inlet region, Cumberland Sound, and along the intervening coast, regions which consequently could have sustained an Inuit harvest prehistorically. A separate, and much smaller, commercial fishery operated simultaneously in northwest Hudson Bay and southwest Foxe Basin (Ross 1993), indicating the potential for Thule whaling to have persisted there as well, although if the above analogy with ice conditions obtaining prior to the MWP holds more generally, then bowheads may have been blocked from most of the west coast of Foxe Basin during the LIA. Both northwest Hudson Bay and the east coast of Baffin Island were in fact important loci of Modified Thule and early Historic settlement. It appears likely that some (large?) proportion of

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the large Classic Thule populations of the Central Arctic channels began to migrate south and east towards these regions with the onset of the LIA, perhaps continuing to whale at a reduced scale (Stoker and Krupnik 1993; see also Stevenson's [1997] claim for extensive late prehistoric whaling by Cumberland Sound Inuit), but in most areas ultimately adopting alternate economic foci.

The failure of Modified Thule groups to establish whaling economies comparable to those of Classic Thule times seems to relate to the breakdown of the larger interregional network due to the eventual abandonment of a large portion of the Central Arctic. This essentially severed, or at least drastically attenuated, links between Greenland and the Canadian Arctic, and between the Eastern and Western Canadian Arctic. The ethnographic data from North Alaska and the archaeological results from Qariaraqvuk suggest that the conversion of surplus whale products into utilitarian and luxury goods was a critical lubricant of the whaling economy. In a society in which the basic material needs (in terms of food and fuel) of households could be met through small scale harvesting (as they had been for millennia previously), the motivation to subordinate one's labour to another and undertake a risky whale hunt depended upon the possibility of the mundane fruits of the harvest being transformed into more marvelous things. Closely linked to this was the potential for the leaders of this enterprise to differentially accumulate wealth and associated social prestige, thus providing an incentive for ambitious individuals to set out on the risky and arduous umialik career trajectory. The cessation of these important trade links crippled the ability of umialit (who were also the trade leaders of their communities) to convert the whaling surplus into other desirable commodities,

and so attract a following through the strategic distribution of these preciosities. The social and economic rewards of whaling no longer exceeded its opportunity costs. From this perspective, the decline in whaling (and land-based winter settlement more generally) was ultimately triggered by the climatically induced retraction of bowhead range and polynya extent in the Central and High Arctic, but proved irreversible because abandonment of the central regions inhibited the reconstruction of an effective interregional exchange network among the areas that proved most conducive to settlement during Modified Thule and Historic times.

At the other chronological end of the Classic Thule whaling phenomenon, this research raises fundamental questions relating to the proximate origin of the *karigi*based whaling crew formation. The organizational similarity of North Alaskan and Classic Thule whaling would make sense if this pattern arose at or before the Birnirk-Thule transition in North Alaska and was carried east with the first Thule migrants. However, *kariyit* resembling the historic type have not yet been recognized on the earliest Thule sites in Alaska, and indeed such sites tend to be much smaller than those which eventually arose at locations suitable for spring shore-lead whaling. Early Western Thule and Pioneering Thule appear to represent a form of whaling by small and probably residentially mobile social groups distinct from the later prehistoric/ historic North Alaskan and Classic Thule patterns, as McGhee (1969/70) and others have noted (Arnold and McCullough 1991, Sheehan 1997:24-25). Such small communities would have had little use for elaborate communal workshops or ceremonial centers, perhaps utilizing small rooms attached to the largest dwellings for this purpose (Giddings and Anderson 1986).

It thus seems likely that the *karigi*-whaling crew complex was not present, or present in only an incipient form, at the inception of the Thule expansion. The existence of the developed formation in both regions would thus suggest either a parallel development of this precise organizational form, or else a later migration of Classic Thule groups bearing *karigi*-based whaling crew organization from Alaska to the Eastern Arctic. The former scenario is not impossible, but seems very implausible, unless contact across thousands of kilometers was maintained with sufficient intensity to somehow allow the transfer of this complex suite of social practices. While it is easy to imagine harpoon head styles or decorative motifs diffusing through down-the-line contacts, such a scenario is much harder to sustain for *kariyit* and the associated patterns of social and economic organization. The second scenario appears to be inherently more plausible, helps resolve problematic aspects of Classic Thule prehistory, and reconciles the Eastern Thule record with a recent model of the North Alaskan sequence.

Beyond the issue of the distribution of the *karigi*-whaling crew formation, a major problem with deriving Classic Thule from Pioneering Thule is the lack of any sites in the Eastern Arctic that provide a clear developmental sequence between them. If Pioneering Thule groups represented a successful colonization of the Eastern Arctic that subsequently grew in numbers and areal extent into what we recognize as Classic Thule, then the latter should be characterized minimally by chance retentions of Pioneering Thule traits, due to a sort of cultural founder effect (Anthony 1990:903). One would also expect a gradual expansion of settlement during the 11th and 12th centuries, with assemblages that are stylistically and technologically intermediate

between Pioneering and Classic Thule.

The poor dating of most Thule sites presently makes an expansion during this period virtually impossible to confirm or refute, but clearly transitional assemblages have not been reported. Furthermore, the excavated houses from Qariaraqyuk, with as "early" a Classic Thule assemblage as reported anywhere east of Coronation Gulf (i.e., numerous Sicco or Sicco-like Thule 3 harpoon heads, early arrowhead styles, Punuk-like decorative motifs), were apparently constructed in the late 12th to mid 13th century. This suite of early Classic Thule traits appears at numerous widely separated sites, including ones in the Amundsen Gulf (Booth Islands, Jackson, Co-Op), Coronation Gulf (Lady Franklin Point, Clachan), Prince Regent Inlet (Qariaraqyuk, PaJs-13, Cape Garry), and Barrow Strait (M-1, Brooman Point) areas.

If these sites are indeed representative of earliest Classic Thule, and if the construction dates from Qariaraqyuk can be considered to provide a *terminus post quem* for this stylistic moment, then it is striking that these components date two centuries later than Pioneering Thule (based on the well-dated Nelson River assemblage). Such traits as Natchuk harpoon heads, asymmetrically bifurcated and vestigial harpoon head spurs, an abundance of chipped stone tools, and winged needle cases (all present at Nelson River, the largest well-described Pioneering Thule assemblage) are all absent from early Classic Thule. It hardly seems coincidental that this suite of distinctive traits disappeared simultaneously from the entire Eastern Thule record, but this is the implication of the Pioneering-Classic continuity model, since such widely separated sites as Co-Op, Lady Franklin Point, and M-1 all possess similar Pioneering and Classic Thule material. The small

number and (often) small size and ephemeral nature of Pioneering Thule settlements make them unlikely candidates for participations in an intensive and farflung interaction sphere arising soon after penetration to the east. It is difficult to envision any mechanism other than a major migration that would account for such well-articulated loss and appearance of cultural traits.

The notion that Classic Thule represents a migration and occupation of the Canadian Arctic distinct from Pioneering Thule helps make sense of some other troubling observations. The Pioneering Thule Houses N, O, and P at M-1 (Collins 1952) were located at a higher elevation and were much more lightly constructed than the Classic Thule houses at that site. A similar cluster of lightly constructed and apparently very old houses at a higher elevation than the rest of the settlement occurs at PaJs-13 (James Savelle, pers. comm., 1998). The excavated Pioneering Thule feature at Nelson River was a relatively heavily constructed dwelling, and was associated with a poorly preserved house that was not excavated (Arnold 1986), but this house pair was located some distance from later Thule settlements. Pioneering Thule material (including a Natchuk and a Sicco with vestigial spur) was collected from one of eight surviving houses at Cape Kellett, while Classic Thule and Late Prehistoric material was excavated from other houses at that site (Manning 1956). Unfortunately, few other possible Pioneering Thule dwellings or settlements have been described. Natchuk harpoon heads from Lady Franklin Point and Maxwell Bay were not collected by archaeologists, and the specimen from Washout was surfacecollected. None can be associated with a recorded feature. The Co-Op and northern Baffin Island excavation results have not been published. With the

possible exception of Cape Kellett, in all of the cases for which data are available there is a suggestion of a settlement hiatus between the Pioneering and Classic Thule components, rather than a continuous occupation.

A lingering problem in Eastern Arctic archaeology is the nature of Dorset-Thule contact (Park 1993), an issue recently complicated by the reporting of late 12th century dates from Late Dorset sites in the High Arctic (Helmer et al. 1993; LeMoine and Darwent 1998). While this represents close to a two century overlap with Pioneering Thule, it may represent no overlap at all with a late 12th/early 13th century Classic Thule migration. If Classic Thule migrants overwhelmed any descendants of Pioneering Thule colonists who may have had sustained contact with Dorset groups, or if Pioneering Thule left no descendants, then the dearth of compelling evidence for Dorset-Thule contact becomes less mysterious. Indeed, it is conceivable that Pioneering Thule colonization failed precisely because of the persistent Dorset presence. The synchronicity between the Late Dorset abandonment of Little Cornwallis Island and the hypothesized arrival of Classic Thule migrants in the area suggests that the latter event may have been a factor in the former, and other ones like it. Unlike Pioneering Thule, the posited Classic Thule migration perhaps represented a demographic pulse on a scale sufficient to overwhelm Late Dorset groups. In any case, the heightened ability of Classic Thule groups bearing the *karigi*-boat crew formation to draw upon the whaling crew association as either an organizational model, or a preexisting set of alliances that could be mobilized in various circumstances, may have represented a key competitive advantage in cases of intergroup conflict (cf. Spencer 1979; Bandi
1995). A Late Dorset persistence into the 15th century in Ungava (Maxwell 1985) is also less problematic if Classic Thule groups arrived in nearby parts of Baffin Island and northern Hudson Bay as late as the 13th or even 14th century, and perhaps only pushed southwards in the 15th as part of the general settlement reorganization associated with the Classic-Modified Thule transition.

If the successful Thule colonization of the Central and High Arctic only occurred some time around AD 1200, then it also becomes somewhat easier to model the essentially contemporaneous Ruin Island Phase migration. Rather than Ruin Islanders skirting, or threading their way through, regions long settled by Pioneering Thule descendants, they may have represented the northern arm of a large and complex migration event. Ruin Island groups emigrated from the Bering Strait region, while the Classic Thule arm originated somewhere along the Chukchi Sea, Beaufort Sea or Amundsen Gulf coast, the latter moving east and (initially) no further north than the shores of Parry Channel, while Ruin Island groups bearing the same *karigi*-related socio-economic innovation moved north to Ellesmere and northern Greenland. Both migration streams may have originated under analogous conditions (i.e., the adoption of the boat crew formation).

The proposed late 12th/early 13th century timing for this second, and successful, attempt at colonizing the Canadian Arctic fits well with Sheehan's (1997) suggestion that the full-blown whaling adaptation only appeared on the North Alaskan coast around AD 1200. The social processes underway in North Alaska from the Birnirk-Thule transition may have culminated in the emergence of the developed *karigi*-boat crew complex at this time, dramatically improving the economic viability of whaling.

Although we still lack 13th century North Alaskan *kariyit*, the formation of large permanent whaling villages represents the precise social context with which this phenomenon is most likely to have been associated, and the secure early 13th century dates on some Canadian sites with *kariyit* (e.g., Qariaraqyuk and Skraeling Island) provide strong circumstantial support for this chronological placement. The spread of the *karigi* complex from Alaska may have spurred, or been identical with, exploration of new whaling grounds to the east, perhaps on the reports of earlier migrants, and perhaps under social or demographic stresses related to the emergence of large sedentary villages.

It is also possible that proto-Classic Thule groups (possessing the major elements of Classic Thule material culture) were already established along the coasts of Amundsen Gulf, and perhaps as far east as Coronation Gulf. These groups may have adopted the *karigi*-boat crew complex from their North Alaskan neighbors, or been part of the larger social network in which it arose, and have been the proximate source of the Classic Thule migration, rather than migrants from Alaska per se. The latter scenario is similar in some respects to the one proposed long ago by Taylor (1963), which had Eastern Thule arising on the Beaufort Sea/Amundsen Gulf coasts, but places this development some two centuries after an apparently unsuccessful Pioneering Thule penetration of the Canadian Central and High Arctic (which resembles Ford's [1959] suggestion of a 13th century origin for Eastern Thule that Taylor rejected).

Several sites in the western and west-central Canadian Arctic provide hints of such an *in situ* transition from Pioneering to Classic Thule. The Jackson site

assemblage includes early Classic harpoon head styles alongside abundant chipped stone tools and decorated pottery. Clachan produced some unusually welldecorated early Classic harpoon heads and decorated pottery. The unknown site from which the Semmler collection derives, if indeed it was collected at a single site, produced both Classic and Pioneering Thule harpoon head forms, and so conceivably could be transitional, as could Co-Op and Cape Kellett for the same reason. It is of course possible that the diagnostic specimens from the latter sites were collected from features as distinct and apparently unrelated as those that produced materials of these periods at M-1.

Arrayed against these highly ambiguous cases is the relative wealth of evidence from North and Northwest Alaska (particularly the Point Barrow and Point Hope areas) for an *in situ* development from Birnirk through Early Western Thule (which is very similar to Pioneering Thule) and Late Western Thule. Classic Thule could have arisen almost anywhere along these coasts or, for that matter, somewhere within the unevenly reported Asian Eskimo sphere, which has produced Birnirk, Punuk, and Classic Thule-like assemblages (Ackerman 1984; Rudenko 1961). The only area in which available evidence appears to militate against such an *in situ* transition from earliest to later Thule is the Eastern Arctic itself. However, much additional research will be required to provide a firm evidential basis for this hypothesized Classic Thule migration. A useful starting point would be the systematic (re)dating of Pioneering and early Classic Thule assemblages, by AMS determinations on terrestrial materials from well-understood contexts, to establish if and where there is a substantial temporal gap between Classic and Pioneering Thule. Survey and excavation effort should also be devoted to obtaining new data on initial Thule settlement in all regions, and especially in the zone between Coronation Gulf and Barrow Strait that has yet to produce a trace of the passage of Pioneering Thule groups.

Methodological implications

Methodologically, this research has demonstrated the potential of multivariate spatial analysis of both surface and subsurface assemblages for drawing out meaningful patterning related to the regionalization of refuse-generating activities. At the site level, a principal components analysis of the surface whale bone distribution revealed zones of prestige bone disposal adjacent to a site "neighborhood" interpreted as a likely residential and ritual locus of whaling activity based on complementary data provided by cluster analyses of house attributes and distributions. The survival of socially inflected spatial patterns in surface whale bone suggests that detailed mapping of the surface bone assemblage at other Thule sites will allow (1) excavation sampling strategies to be targeted at such loci without the necessity of costly subsurface testing programs or (2) collection of valuable data on community social organization at the site and regional levels through survey alone, avoiding extensive excavation.

These results complement the important methodological advances made by Savelle and McCartney in the analysis of surface whale bone for determining such things as bowhead mortality profiles and the functional organization of whaling settlement systems at the regional and site levels. In combination with detailed mapping and analysis of feature and site distributions at various spatial scales (such

as explored in Chapter 6), these approaches to the Thule surface archaeological record provide flexible tools for exploring numerous problems related to the social economy of whaling (e.g., with respect to intrasite, intersite, interregional, and temporal variability in the character of whaling activity). While the high visibility and fine grain of the Thule surface record is replicated in few times and places outside the Eastern Arctic (mainly arid regions), the demonstrated potential for extracting various elements of social patterning from surface distributions could be transferred to much ethnoarchaeological research, where site mapping often precedes the burial or dispersal of features, faunal refuse, and artifacts (see e.g., Yellen 1977; Binford 1991).

Exploration of spatial patterning in the generation and disposal of functional refuse categories through correspondence (or other multivariate) analysis of subsurface unit-level assemblages has very substantial potential for gender archaeology. Hodder (1991:135) recognizes "depositional unit" as one of the basic dimensions of contextual variability with respect to which networks of meaningful associations (e.g., among artifact classes, decorative motifs, materials, etc.) might be sought, while hedging this observation with a nod to the general arbitrariness and subjectivity involved in employing purely archaeological units of analysis. Hill (1998:116-117) similarly draws attention to the potential of such contextual or "microscale spatial" analysis for picking up patterned associations between artifacts, and between artifact assemblages and spatial contexts, that may relate to gendered dimensions of activity. Hill suggests that the advantage of this approach is that it does not require *a priori* knowledge of, or assumptions about, the actual content of

gendered activities, given that "it is inadvisable to make generalizations about what women (or men) did in the past" (ibid.:117).

This is a somewhat inadvisable, and ambiguous, generalization in its own right. From one perspective, it is merely tautological. The very point of an archaeology of gender would seem to be getting beyond generalization, to develop a body of empirical knowledge about past gender relations through the application of research designs grounded in gendered social theory. From another perspective, Hill seems to be advocating a drastic, and ultimately unmanageable, curtailment of the research process that echoes Conkey and Gero's (1991:11) assertion that it is not necessary to find women and men in the archaeological record through the attribution of gender to particular activities or artifacts. If we cannot find gender groups in the past, and determine the specific ways in which gender informed the organization of various categories of social, economic, ritual, etc. activity in specific prehistoric contexts, then we are left with nothing but generalization, theoretically sophisticated though it may be. In fact, we can no more approach past gender relations with a tabula rasa than we can any aspect of the archaeological record. The record is inert, and only acquires the meanings we impute to it with greater or lesser self-awareness and theoretical rigor.

Conducting a microscale spatial analysis of artifact distributions implies that we have some grounds for discriminating deposits and dividing up the assemblage into meaningful artifact categories. If those grounds are weak they can be phrased as working hypotheses, but it is impossible to proceed without any analytical framework. So too with gender we need templates or reference points against which to assess

the data, and around which to build models of past practice. It is rare indeed that archaeologists have absolutely no basis for generating working assumptions about gender roles. General and specific ethnographic analogies, skeletal markers of diet and habitual activities, mortuary associations, and depictions in art all provide bases for at least tentatively deducing what sorts of patterning to expect of the data. Past researchers have been demonized for employing generalizations based on such things as cross-cultural regularities in the GDOL, but the fault lies only in adopting such generalizations as a *substitute* for empirical data. There is no inherent reason why these same generalizations cannot serve as the basis for a model of anticipated data structure, as a moment in the process of acquiring novel information about past gender relations, and in fact it is difficult to imagine how one can proceed otherwise.

The correspondence analysis of functional artifact categories demonstrated how such reference points can be employed to explore larger gender associations in a complex data set. Given the volume of ethnographic data on the Inuit GDOL, and strong historical grounds for employing direct analogy, it is possible to defend fairly sweeping inferences about the Classic Thule GDOL. Many such assumptions were incorporated into the model of Thule social relations from which analytical motifs (test implications) were derived. However, interpretation of the CA results could have relied (and to a large degree did rely) on only a single assumption, and the one most easily defended with reference to ethnographic, archaeological, and osteological data, namely that of women's association with clothing manufacture. The proximity of other artifact categories to this cluster of variables of "known" gender affiliation provided the basis for linking ambiguously gendered activities or artifact types to

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women and men.

The success of this approach depends on a relatively high degree of spatiotemporal regionalization of women's and men's activities, sufficient to produce at least some degree of spatial separation of the relevant categories of gendered refuse (whether primary or secondary). However, there are strong ethnographic and social theoretic grounds for expecting such regionalization in many archaeological situations, precisely because gender is such a fundamental dimension of individual identity and social practice. The multivariate analysis of unit-level assemblages (the approach might work even better with point provenience data) provides a good fit between theory, data, and analytical methods. Taking excavation or collection units as the units of analysis adjusts the investigation to the scale of recording, and employing a theoretical framework that construes the social field in multivariate, spatial terms establishes a concordance between interpretative and analytical tropes, through the depiction of social relationships in the spatial idiom of the scatterplot. The results of such an analysis are not an end in themselves, but must be reinserted into a larger web of contextual inferences that incorporates as many strands of gender signification and practice as the researcher can command. Because gender identities and relations are reflected in every facet of individual experience, an archaeology of gender demands thick interpretation.

Theoretical implications

Perhaps the most general conclusion that can be drawn from this research is that the investigation of the origins of social inequality should not confine itself to those

cases in which marked social stratification ultimately arose. The Classic Thule whaling phenomenon represents an instructive instance of the emergence (and collapse) of low level social inequalities, perhaps on the order of a small-scale Big Man society, with a single distinctive rank (*umialik*) that could be achieved by ambitious individuals, alongside numerous dimensions of material differentiation that contributed to the delineation of social position. These constituent axes of social differentiation, expressed in the toolkit associated with economic roles, the size and organization of rooms, dwellings, and community spaces, precious materials consumption, personal adornment, foodways, and participation in ritual, are all more or less universal dimensions of hunter-gatherer societies, and not the prerogatives of only the most complex groups. It is likely that various categories of social difference, based on gender, age, personal ability, and specialized economic or ritual roles, were constructed from these core symbolic resources in many of the small-scale societies that have traditionally been ignored by social archaeologists.

The ethnographic record of the Netsilingmiut, considered among the most egalitarian of Inuit societies, indicates that even the subtlest forms of social differentiation can have distinct material expressions. Rasmussen's (1931) data include many instances of social difference expressed in the volume of such material possessions as sleds, dogs, boats, food, hides, oil (the term for a poke of oil translates as "a blubber possession" [ibid.:146]), and exotic commodities, as well as multiple wives, ritual aptitude, and practical expertise in numerous arenas of social and economic life. The concern with thresholds of hunter-gatherer complexity has blinded researchers to the near universality of materially constructed social

differentiation.

The important role of exchangeable commodities in the creation of social alliances and denotation of status in even the smallest and most egalitarian huntergatherer societies opens up an important field of archaeological, ethnoarchaeological and ethnohistoric investigation into what might be labeled "hunter-gatherer luxe." The goods that were most consistently exchanged among small-scale hunter-gatherer and horticultural societies appear to possess a striking symbolic coherence. Materials with reflective or luminous properties that seem to attract light to the wearer, such as amber, native copper, mica, shell, ivory (and other animal teeth), and various translucent rocks and minerals, appear as exotics repeatedly in the hunter-gatherer record from the Upper Paleolithic onward. The consistency in the suite of materials exchanged, and their redundant semiotic properties, should direct our attention to the possibility of consistencies in the manner in which these materials were deployed, and became inflected with desire in the first place.

The occurrence of these sorts of objects in hunter-gatherer assemblages, and the development of extensive prehistoric exchange networks in them, points generally to the importance of incipient elites effectively manipulating the desires of other individuals, by fostering the investment of more or less useless things with socially recognized value. As a result of symbolic struggles over the construction of the social field, the material tokens of social difference that hunter-gatherers have probably always possessed come to signify superordinate social position, rather than merely dissimilarity. The desire to possess these things, and identify oneself with

whatever illustrious cultural associations they may have acquired, provides a strong motivation for individuals to acquiesce to the dominance of those who already possess them (or seek these things out independently, if possible). Construed in this way, desire appears likely to have been a much more important constituent of inequality in small-scale societies than that other pole of social power, violence.

Fear spawned by the threat of physical violence is a powerful force in many human affairs, but is difficult to impose systematically in a small community where social distances are slight, and where mobility offers a ready response to the actions of domineering individuals. While high rates of interpersonal violence characterized many small-scale societies (Knauft 1987), much of this violence was directed outwards from the co-residential social group (see Burch 1974; Sheehan 1997). Even then, the ability of individuals to carry out a violent act, or coordinate others to do so as a group, appears to have been sufficiently constrained that homicides and raids sparked cycles of low level feuding that might drag on for generations without a clear resolution. Action groups effective enough to function as a police force or army seem to arise only in relatively large-scale social formations, where economies of scale free up sufficient labor (and the surplus resources to reward it), and large populations create sufficient social distance within a community, to allow elites to attach thugs or soldiers to their households.

Another research avenue suggested by this work is the investigation of the synergy between gender and interhousehold status indicated by partial parallels in the construction of both forms of social difference. Gender is an essentially universal feature of (ascribed) social identity, and is probably fairly often bound up with other

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dimensions of status, as various authors have suggested. It is also an extremely widespread basis of economic role differentiation. The exploration of gender relations should thus be a central component of any consideration of increasing social inequality and economic complexity, although it has usually been ignored in these regards (some exceptions include Brumfiel 1991; Gero 1992; Cyphers Guillén 1993; Moss 1996; Crown and Fish 1996). With data at hand it should be possible to reexamine many instances of prehistoric social change from the perspective of changes in the organization of the GDOL and social relations between women and men. It will be necessary, however, to expand the scope of gender studies well beyond the narrow realms of status and role.

Although gender can be seen ultimately as the accretion of culturally specific social roles and meanings around biologically mediated differences in corporeal experience, there has been relatively little archaeological concern with sexuality and the embodied fact of sexual difference. Sexual intercourse was the basis of important extra-marital social relationships in all historic lnuit and lnupiat societies. Of particular relevance to the case at hand, spouse exchange was a key element of the *umialik*-crew member relationship (according to Spencer [1959, 1972]), a connection between sexuality and whaling evoked by the scenes depicted on a Thule drill bow (Figure 60; Whitridge 1997). Beyond the obvious, but limited, body of prehistoric depictions of women and men, or such things with a direct bodily association as clothing, ornaments, and the demarcation of private dwelling spaces, there is a largely untapped potential to employ psychoanalytic (and other psychological) modes of interpretation in the exploration of prehistoric sexuality (e.g.,

Davis 1996).

Drawing together social, cultural, and psychoanalytic theory, Bataille developed a unique interpretative voice in the earlier part of this century that anticipated later deconstructionist practice, and could provide a model for this approach. His substantial, if idiosyncratic, body of work relating to sexuality in non-Western and prehistoric societies has received little or no archaeological attention (e.g., Bataille 1980, 1986). In fact, many important bodies of 20th century social theory have delved to some degree into the layers of meaning, sexual and otherwise, that adhere to material culture, including critical theory (Adorno 1974), semiology/semiotics (Barthes 1972), postructuralist social theory (Foucault 1978), and postmodern cultural theory (Baudrillard 1996). Hodder (1987, 1991) drew upon some of these in formulating his "contextual" approach, as have other postprocessual theorists, but it appears that relatively few North American archaeologists have yet turned to the original writers to learn the rhetorical idioms firsthand. These bodies of theory represent interpretative languages, ways of speaking about things (such as the imbrication of gender and sexuality in material culture) of which archaeologists have rarely spoken. The alternative to archaeologists adopting (or creating) such a voice is continued, and increasing, isolation from the theoretical dialogues that now connect most other fields of social inquiry.

Another seriously neglected research area related to gender is childhood (*v*. Lillehammer 1989; Moore and Scott 1997). Although the organization of childcare varies substantially cross-culturally, women (though not solely mothers) in many societies devote more time to this activity than men, at least until children reach an

Figure 60. Reverse side of Thule drill bow collected near Arctic Bay, northwestern Baffin Island (after Maxwell 1983:84).



age at which it is considered appropriate for them to play on their own or begin learning adult social and economic roles. The association of wooden figurines and miniature harvesting implements with women's and men's artifact categories, respectively, at Qariaraqyuk represents an example of the analytical gateways into gender role socialization that may be available to the archaeologist (see also Kenyon and Arnold 1985; Park 1998; for Thule examples).

Gender roles may be actively produced, among other ways, through the channeling of children's play into culturally appropriate activities. Toy play often initiates the acquisition of primary adult gender roles through the simulation of iconic adult activities, as appears to be the case at Qariaraqyuk. The nature of gender roles, and especially changes in these that are posited to accompany other kinds of social and economic change, should thus be reflected in toy assemblages.

To an extent that would have to be empirically determined, children's material culture may also function discretely from other material culture domains. Timmins (1997) argued that changes in Early Iroquoian pottery styles were prefigured by changes in the decoration of children's practice pottery (see also Smith 1997). While this makes a certain amount of intuitive sense, since the makers of the practice pots would mature into the makers of fully functional pottery, it may not always be the case that children's material culture anticipates adult forms. Toys may have been made by individuals in a variety of social relationships to the child, providing a variety of possible vectors for stylistic and technological transmission. Toys made by a grandparent might reproduce anachronistic artifact styles, while those made by the child or a sibling might reflect contemporary trends.

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The spatial distribution of different toy categories with respect to adult artifacts and particular architectural spaces may also reflect important features of the regionalization of childhood. It is thus quite likely that patterns of childcare will have a material expression in toy assemblages, subject of course to the archaeological survival of recognizable toys. The acquisition of adult manufacturing skills may also be reflected in the nature and distribution of trial pieces, and mortuary assemblages may help identify cultural categories of childhood. Any investigation of prehistoric social relations should be alert to such possibilities for recovering data on the demarcation of, and socialization into, adult roles, and especially gender roles, since variability (i.e., between households, between sites, over time) in this sphere may help chart the construction of social difference over the course of the individual's life cycle.

Conclusions

The Classic Thule record from the Central Canadian Arctic is so visible and wellpreserved, and the collections from Qariaraqyuk so large and diverse, that the results presented here have dwelt on the surface of its vast archaeological possibilities. It is hoped, however, that the themes and analytic approaches explored in this dissertation have drawn attention to the real potential for addressing such previously neglected aspects of Thule prehistory as social differentiation and gender relations. While these issues are far from resolved, even for Qariaraqyuk itself, the methodologies developed here to exploit the exceptional surface record, and the full preservation of perishable refuse on house floors, should prove useful additions to the Thule archaeologist's analytical toolkit. These methodological tacks also have broader archaeological application, as does Bourdieu's conceptualization of the social field, with its inbuilt analytical idiom so well-suited to the nature of our data and methods.

While most archaeological appropriations of Bourdieu's (and other social theorists') work remain couched in the abstractions of theoretical discourse, case studies such as *Distinction* provide a blueprint for relating practice theory to the patterned *material* expressions of social difference with which archaeological competence lies. The deeply felt need of archaeologists to achieve such marriages of method to theory is demonstrated by the recent championing of a body of specialized evolutionary theory (e.g., Maschner 1996). While this may provide a satisfying integration of processualism's ecologically attuned practice with high level theory, selectionism is profoundly unequal to the task of producing compelling accounts of past human social life. It is unfortunate that postprocessualism, archaeology's most fertile moment of theoretical introspection in decades, polemically distanced itself from the practical methodological competence that was one of processualism's great strengths. If processualism is a body of methods in search of integrating theory, then postprocessualism is decidedly incorporeal, theory in search of a body of methods to ground it in everyday archaeological practice. The logical solution that some archaeologists have advocated (Cowgill 1993; Duke 1995), to join processual (especially quantitative) methods to problems inspired by the postprocessual critique, appears to be gaining acceptance, and it is hoped that this dissertation will be taken as a contribution in this direction.

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A substantial portion of the credit for the emerging synthesis seems to lie with mainstream archaeologists who have embraced gender issues, since it has provoked them into confrontation with the political context of scientific activity, interdisciplinary theoretical discourse, and the needless shortcomings of past archaeological practice (Conkey and Gero 1997). It is hoped that more archaeologists will come to realize that the inflection of research with the social anxieties at large in the world outside the discipline, as exemplified by the archaeology of gender, is not an imperfection or a threat, but a sociological fact, a potential strength (Wylie 1992), and ultimately the very source of archaeology's relevance.

We need to reflect upon, and take greater responsibility for, the social ramifications of archaeological practice if we are to avoid having our research manipulated for iniquitous ends. Arnold's (1996) chronicle of the way in which the Nazi German state co-opted archaeology illustrates something of a limiting case of the dangers of intellectual passivism, but there are numerous instances of archaeology's systemic complicity in nationalist, racist, ethnocentric, and androcentric ideologies (see e.g., Leone et al. 1987; Trigger 1989; Tilley 1989, Conkey and Williams 1991; Riding In 1992; Ferguson 1996). However, archaeology has a largely untapped subversive potential, insofar as it embodies a subtle repudiation of contemporary society (and the social roles it rewards) for the abstract pleasure of learning what went on in the past. The obligations conferred on this privileged position are that archaeologists advertise the visions of alternate lifeworlds that only they come to possess, while becoming vigilant of the social effects that this

information produces.

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APPENDIX 1

EXCAVATION SUMMARIES

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House 6 test pit

House 6, near the western edge of the site, is a bilobate dwelling dug into a sparsely vegetated beach ridge. It has one of the most complete complements of structural whale bone (138 elements visible on the surface). A small mound immediately south of the entrance tunnel appeared to be a midden and so was selected for test excavation to obtain datable artifacts or samples. The upper layer (1) of the two 1x1 m units consisted of a sterile, peaty deposit continuous with the modern vegetation mat. Immediately beneath the peat, and in some places projecting into it, lay a moderate amount of faunal material and a few artifacts lying on gravel. This deposit of cultural material lying at the interface between the peat and gravel is designated Layer 2. The underlying gravel, designated Layer 3, contained occasional lenses of buried peat and sand, and decreasing amounts of bone and artifacts with depth. Underlying Layer 3 was sterile gravel (Layer 4). The relatively small faunal and artifactual collections, mostly deriving from the upper part of Layer 3, indicate that the mound was formed not, primarily, as a refuse deposit. Rather, it appears to be due to the deposition of beach ridge sediments and vegetation removed during the original excavation of the house and tunnel, followed by a brief period of refuse accumulation (Layer 2 and upper Layer 3), and stabilization of the ground surface with vegetation growth and no cultural deposition (Layer 1). Combined caribou bones from Layer 3 produced a ¹³C/¹²C corrected and uncalibrated ¹⁴C date of 420±60 BP.

House 29

House 29 was a shallow but well-defined depression, and was completely excavated to sterile gravel in most of the 24 one m² units (Figures 61 and 62). The thin (20 cm) layer of vegetation and fill directly overlying the floor suggests that this dwelling did not have substantial sod insulation, but rather a skin roof that was probably banked with snow. A relatively short period of seasonal use might be inferred which, given the 3.5 m long entrance tunnel, likely fell during late fall/early winter. This implies that the occupants moved into a sod house at another settlement in mid to late winter, or into snow houses on the sea ice. The presumed sleeping area at the rear of the house, beyond a well-made flagstone floor, consists of a raised gravel area overlain by disorganized slabs and boulders that appeared to represent wall collapse rather than a paved platform. A small stone shelf or bench abuts the wall slabs in a niche west of the tunnel mouth, and may have served as a lamp stand and cooking area. In the corner of the house compartment on the opposite side of the tunnel was an apparent storage bin built of boulders and slabs. The tunnel was dug into the gravel to a depth of about 30-40 cm, the walls lined with boulders, and the roof framework constructed of whale ribs and mandible sections. It had a paved floor in at least one area, but sterile was not reached throughout due to permafrost. The living area of the house is estimated at about 10.5 m², with an additional 3.5 m² of roofed tunnel. A combined sample of caribou bones from the floor of the living area produced a date of 460±90 BP.






Figure 62. Photograph of House 29, facing south

House 33

This was one of the larger and deeper house depressions, and shared an encircling berm with House 34 (Figure 63). A 24 m² area was excavated, but the depth of frozen fill in the living compartment and tunnel, and flooding once it was removed, prevented the complete exposure of the floors of these features before the end of the 1994 season. Large quantities of structural whale bone underlying the fill, including complete mandibles, indicate that a substantial whale bone superstructure supporting a sod roof had not been thoroughly scavenged at abandonment. The sleeping platform was damaged by wall collapse, but a full complement of large stone slabs appeared to be present. A kitchen separate from the main living compartment was indicated by a concentration of charred fat and bone surrounded by heat-altered stones and large whale bones, centered approximately 3 m southwest of the junction of the house interior and tunnel. It appeared to connect with the house interior rather than the house entrance tunnel, but a kitchen tunnel was not well-defined. The living area of the house is estimated to be 19.5 m², the tunnel 3.5 m², and the kitchen 3.0 m². A sample of heather from permafrost deposits in the vicinity of the sleeping platform produced a date of 310±50 BP.

House 34

The house depression immediately east of 33 was smaller and slightly shallower than the latter. A 28.25 m² area centered over the house and tunnel, with a trench extending from the entrance tunnel into an apparent kitchen, was excavated to sterile everywhere but the tunnel (Figures 64 and 65). Some large slabs and vertical



supports were present in the sleeping platform area, but it appears to have consisted mostly of a raised gravel ledge. The main compartment was paved with a single course of thick (~10 cm) flagstones, rounded from use and covered in some areas with large amounts of animal flesh and scraps from hide processing and clothing manufacture. A storage bin in the southwest portion of the house interior was floored with a large slab coated with an oily residue and bordered by vertical slabs and whale bone. South of this, abutting the mouth of the main tunnel (defined by large vertical slabs), was the entrance to the kitchen. It was defined by a vertical boulder on the west and shared the main tunnel's wall on the east. A short tunnel must have run south from this entranceway through an unexcavated unit (the kitchen appeared on the surface to connect with the main tunnel), to a lightly-roofed kitchen area carefully bordered with heat-altered cobbles and boulders. Large masses of charred fat and bone, and deposits of ash, occurred within its bounds, at a slightly higher elevation than the main house floor. Structural stone and whale bone had collapsed into the main tunnel running south of the living compartment, but large vertically-placed boulders still marked its walls in some areas. The main living space extended over approximately 14.5 m^2 , with an additional 5.5 m^2 of tunnel and 3.0 m^2 of kitchen space. A heather sample from the sleeping platform area, beneath wall and roof collapse, produced a date of 810±70 BP.





Figure 65. Photograph of House 34, facing southwest across floor towards kitchen entrance

House 35

The small House 35 depression was dug into the level, thinly vegetated gravel behind the main house row. The 48 m² area excavated to sterile extended well beyond the house walls (Figure 66). The low gravel berm visible on the surface defined a full size (3.5 m) tunnel and an apparent kitchen wing. There was very little structural whale bone in this feature, consisting mostly of ribs in the tunnel area and along the west wall. The shallowness of the fill further suggests a skin-covered roof. like that of House 29, and similar inferences as to occupational duration apply. Unlike the other dwellings, a single raised gravel sleeping platform was placed at a right angle to the tunnel, in the east portion of the living area. This faced onto a small, lightly paved floor north of the entrance tunnel. Immediately west of the tunnel mouth, a short tunnel joined the main living area to a kitchen 2 m to the southwest. The kitchen contained concentrations of charred fat, bone, and ash, some lying directly on a stone slab at its northwest margin, and was at about the same elevation as the main house floor. The main tunnel was defined by vertical wall boulders at its northern end, many of which had collapsed into the tunnel depression. The interior living area is estimated at only 6.5 m², the tunnel at 2.5 m², and the kitchen at 2.0 m².

House 38

This deep, bilobate house depression was part of a shared mound house group that included a possible . An area of 68.5 m² was excavated, encompassing much of the adjacent mound and an exterior midden area (Figures 67 and 68).

This was the largest and most architecturally complex house in the sample, and was

Figure 66. Plan of House 35







Figure 68. Photograph of House 38, facing northwest towards intact rear sleeping platform

covered with a deep layer of collapsed stone, whale bone, and sod roofing. A large, perfectly intact sleeping platform in the north portion of the house faced the mouth of the entrance tunnel, and could not be fully dismantled because of a persistent ice lens in the underlying storage alcove. At right angles to the first, a second platform in the east of the house had partly collapsed, but all of its structural slabs appeared to be present. The platform collapse was underlain by stratified, artifact-rich deposits of heather and gravel.

Both platforms opened onto a large, closely paved flagstone floor, slick with sea mammal oil and heavily smoothed from use. The principal course of flagstones was partially overlain by a discontinuous slab covering, and underlain by additional flagging that may represent the remnants of an earlier floor, or an attempt to level the main floor's foundation. A complete stone and pottery lamp filled with sewing refuse rested on the floor in front of the east platform, next to a mandible upright. What appeared to be a tripod made of rib segments tied with baleen had collapsed over it. A tongue of consolidated clayey sand and gravel projected from the north wall almost to the upright, separating the north and east platforms, and defining the northwest edge of a shelf or bench composed of blocky boulders, in a niche beside the east platform. A drip basin made from a bowhead atlas occurred at the south end of the east platform, and an identical object similarly encrusted with congealed fat lay on the floor in front of the tunnel mouth. Overlying the latter atlas was a drying rack made from three large sections of whale rib, fastened with baleen lashing passing through drilled holes, and with intact baleen netting. A complete baleen toboggan projected from the roof collapse towards the floor just north of the drying

rack. Four whale mandible roof supports were embedded in the gravel sub-floor deposits and an additional *in situ* mandible support occurred in the north wall of the north sleeping platform. A stone shelf was built into the western house wall at an elevation of 40 cm, and a paved storage bin bounded by vertical slabs abutted the south wall. The bin still contained portions of animal carcasses (two ringed seal flippers with intact hide and muscle), as well as faunal refuse and a tarry deposit of congealed fat.

A narrow tunnel ran beneath a stone lintel and whale bone roof beams from the southwest corner of the living area to a kitchen west of the main tunnel. The kitchen was bounded with heat-altered vertical stone slabs and an upended bowhead cranium (also part of the main tunnel's wall), and was dominated by a well-made stone platform covered with a deep deposit of charred bone and fat, under which was a small storage compartment containing a lump of unaltered clay (presumably to construct or repair composite stone and pottery lamps). A concentration of slabs of animal tissue occurred immediately south of the kitchen wall, and charred fat/bone and ash were abundant in this and other units south of the kitchen. The floor of the main tunnel was not fully excavated due to ice and flooding. The northern portion of the tunnel was demarcated with vertical wall stones and bones, and roofed with whale ribs and maxillae/premaxillae segments. The southern portion was mainly walled with stacked boulders and whale bone, and the exterior mouth was roofed with a bowhead cranium. The western wall of the tunnel was broken by two alcoves with stone shelves or benches that probably served as activity or storage areas. Comparable features appeared to be present along the east wall, but were gravel-

floored. The estimated interior living space was 15.5 m^2 , the tunnel 6.0 m², and the kitchen 2.5 m^2 . A sample of heather recovered amongst the collapsed slabs of the east sleeping platform was dated to 550 ± 50 BP, while a sample from a sealed lens of heather (overlain by gravel) beneath the platform collapse produced a date of 600 ± 60 BP. A sample of willow roots and branches that occurred between structural sod blocks in the north wall of the house, between the north and east sleeping platforms at 48 cm below ground surface, produced a date of 830 ± 80 BP.

House 41

The only *karigi* in the sample was the largest house depression at Qariaraqyuk, and occurred in a shared-berm house group (Figures 69 and 70). An 84 m² area centered on the main depression and tunnel, and including extramural areas, was excavated. Only a moderate amount of structural whale bone occurred in the deep (30-40 cm) layer of collapsed roof sods overlying the floor, indicating post-occupational scavenging. The original roof framework may have rested on the *in situ* maxillary and premaxillary portions, since removed, of the bowhead skull bases that occurred along the walls (like the *kariyit* at Cape Garry [McCartney 1979b:288] and PaJs-13 [Habu and Savelle 1994:11]). In striking contrast with the high degree of internal architectural differentiation of the smaller House 38 dwelling, House 41 was characterized by a relatively simple spatial configuration. The circular floor was composed of very large fitted flagstones, some as much as 1.2 m long, that were worn smooth and covered with an oily residue. Baleen was abundant on the floor and between the flagstones. A small 15 cm deep cavity containing some refuse

Figure 69. Plan of House 41





Figure 70. Photograph of House 41 before removal of baulks

occurred beneath a flagstone at the center of the floor (like one beneath the *karigi* floor at PaJs-13 [ibid:5]), but it was otherwise underlain by a scatter of small stone slabs surrounded by highly consolidated oily gravel. This sub-floor feature is comparable to that in House 38, and is likely a foundation rather than an earlier floor.

No sleeping platform was present, but rather around the margins of the pavement was a low gravel rim overlain by a dark, compact, greasy matrix very similar to that reported for a karigi at PaJs-13 (ibid:14-15; Savelle, personal communication, observed these deposits at both sites and considered them alike). Set into the gravel were boulders, vertical slabs (oriented towards the center of the floor), and blocky whale bones discontinuously overlain by a ring of disorganized slabs. This appears to be the remains of a bench encircling the floor, and hence this "house" can be considered a karigi or analogous non-residential structure rather than a dwelling. The eastern and southern portions of the wall were relatively well-defined by large boulders or whale bones (i.e. skull bases), but along the north and west portions peaty deposits merely sloped sharply upward to the rim of the berm and no vertical slabs or stacked wall stones were observed. It is possible that deep slumped wall and roof deposits overlay such features but were not exposed by 1994 excavations. However, a concentration of charred bone, fat and ash resting on such peaty deposits in the southwest corner of the *karigi* probably represents the location of a lamp, and suggests that the entire interior may not have been defined by stone or bone structural elements as is typical of the dwellings. Another lamp stand was indicated by a concentration of burnt material lying on slabs at the karigi's northeast corner. The tunnel was bounded with very large vertical slabs and filled with stone

and bone collapse and large quantities of refuse, but flooding and permafrost prevented its complete excavation. Extramural areas produced large quantities of faunal and artifactual refuse. Deposits west, east, and south of the tunnel are clearly continuous with the concentrated midden deposits discussed below, and hence probably relate mainly to the *karigi* occupation. The bench and floor area of the *karigi* extend over approximately 23 m². A cut section of caribou antler from beneath the flagstones of the central floor yielded a date of 780±60 BP.

House 41 midden trench

A prominent mound, confirmed to be a midden, occurred southeast of the entrance tunnel (see Figure 71 for overview of excavations). A one metre wide L-shaped trench was excavated though this area, extending south from the southeast corner of the *karigi* excavation for four metres, then cutting east through the major portion of the mound itself for an additional five metres (nine 1x1 m units). Artifactual refuse, faunal material, stone slabs and cobbles, and whale bones were abundant in the north-south arm of the trench, but the frequency of stones and large whale bones declined in the west-east portion. The latter deposits were composed of consolidated loam with even more abundant artifactual and faunal refuse, dominated by vast quantities of debitage from bone, antler and wood working. There were occasional lenses of sand, gravel, or dark peaty material, probably from *karigi* interior cleaning episodes, and the vegetation on the surface of the mound was crisscrossed by cracks that gave it the appearance of being composed of discarded blocks of sod (Sheehan 1990:269 reports discarded sod blocks in a *karigi* midden at



Figure 71. Photograph of Qariaraqyuk excavations, facing south from bluffs overlooking site

Utqiagvik). Gravel became abundant and cultural material scarce at a depth of approximately 40 cm in units taken down that far, suggesting excavation neared the base of the major refuse deposits, but the midden trench did not reach sterile.

APPENDIX 2

ARTIFACT TABLES

	HO	USE/CO	NTEXT								
		6 29	29 29	33	33	33 💮 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL*	i fill	floor TOT	fill	floor	BD TOT	fili	floor	BD TOT	fill	floor TOT
FEMALE MANUFACTURING					~		~				
awl	a/b/wb		2.2	1	2	3	2	3	5	1	
anvil	a/wb	§ 1	1		1		1	1	-2		1
cutting board	w						1				
"fish scaler"	b						1				
needle - bone/antler	a/b		1 1	1			1	3	4		
needle - copper	cu 🔄										
needle case	a/i 👔									1	
needle case toggle	1342							1			1
scraper	a/b/i/wb		1 经通知		1	1				1	1 2
scraper	bl/w										1
scraper - beamer	a/b/wb	2	2		1	3 • 1				2	2
scraper - cobble spall	st	ຼິ 2	2				1		1		
scraper - long-handled	wb 🥵										
scraper handle	a										
scraper handle	w 🧞										
thimble	h	б. М	1								
thimble holder	i see	Š.		1		1.20			56.05		1 . 1
threading needle	a/b/wb			1							
ulu - blade	st					672.53		2	- 2		
ulu - complete	w/st							1			
ulu - handie	a/wb	5	5	[·] 1		1	2	2	4		1 2 1
utilized pebble	st	2	2 4					3	3		
··	TOTAL	12	8 20	5	5	10	9	16	25	5	6 11

* a - antler am - amber b - bone bk - bark bl - baleen bs - bird skin ch - chert cl - clay cu - copper d - diabase

f - feather fl - flesh fu - fur g - gut h - hide he - heather ho - horn i - ivory m - mica mo - mollusc valve

p - pottery si - sinew st - miscellaneous stone w - wood wb - whale bone

	H	IOUSE	E/CONT	EXT						
		38	38	38	38	41	41	41	41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD	TOT	fill	floor	mid	BD TOT	TOTAL
	_			1						
FEMALE MANUFACTURING	j									
awl	a/b/wb	6	4		10	5	2	2	9	30
anvil	a/wb	2	1		3		1		S. S. S. S.	10
cutting board	W		1		1			1	1	3
"fish scaler"	b	3			3	2			2	6
needle - bone/antler	a/b	5		1	5	3		1	4	15
needle - copper	cu		1		1		1			2
needle case	a/i	1					2		- 2	4
needle case toggle	i						1			3
scraper	a/b/i/wb	1	2		3	2	1	1	4	11
scraper	bl/w		1		1		1			3
scraper - beamer	a/b/wb	1	4		5		1			11
scraper - cobble spall	st		1	1	2	2			2	7
scraper - long-handled	wb		1		1					1
scraper handle	а							1		1
scraper handle	w		1		1		1			2
thimble	h		10		10					11
thimble holder	i	1					1		1	4
threading needle	a/b/wb	1								2
ulu - blade	st	4	1		5		1			8
ulu - complete	w/st									1
ulu - handle	a/wb	1	2		3	7	2	2		25
utilized pebble	st		9		9					16
·	TOTAL	26	39	1	66	21	15	8	44	176

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	HOUS	E/CO	NTEXT								
	6	29	29 29	33	33	33 3 3	34	34	34 34	35	35 3 5
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
FEMALE MANUFACTURING REFUS	E										
castoff - depilated hide	h		12 12		5	5	6	23	29		
castoff - fur	fu 💦						1	1	2		
castoff - gut	9				1			5	5		
castoff - undepilated hide	h		3 3	1			2	21	23		1
clay	cl										
clothing fragment	h		3 3	1	6	7	1	8	9		
clothing fragment - bird skin	bs 👬						1	1	2		
sinew - fragment	si		6-1.		2	2	1	11	12		1 31
sinew - knotted	si										
sinew - twisted	si 🕵 🖓				1	1		2	- 2		
TOTAL			18 18	2	15	E 17	12	72	. 84		2 2
MALE HEAVY MANUFACTURING											134
adze blade	st							1			
adze handle	W										
adze head	wb 📩	1					2		2	1	
pick - diabase	d 🛫 4	5	1 6	1		1	3	2	5	1	
wedge	a/wb	4	3 7	4	5	1 10	7	3	10		1
TOTAL	4	10	4 14	5	5	1891	12	6	18	2	1

	H	IOUSE	E/CONT	EXT					
		38	38	38 3 8	41	41	41	4 1 4 1	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL
							·		
FEMALE MANUFACTURING	REFUSE							的成绩的	
castoff - depilated hide	h		65	65		2		2	113
castoff - fur	fu		4	4					6
castoff - gut	g		4	4					10
castoff - undepilated hide	h		161	161	2	1		3	192
clay	cl	1	6	7					7
clothing fragment	h	2	43	45	3	2		5	69
clothing fragment - bird skin	bs		1						3
sinew - fragment	si		22	22					37
sinew - knotted	si	1	5	6					6
sinew - twisted	si								3
• ••• ••• ••• ••• ••• ••• ••• ••• •••	TOTAL	4	311	315	5	5			446
MALE HEAVY MANUFACTU	IRING								
adze blade	st								1
adze handle	w		1						1
adze head	wb	1		2 1 1	6	2	4	12	17
pick - diabase	d	5	2	7	16	10	6	32	56
wedge	a/wb	10	4	-14	30	19	33	82	124
	TOTAL	16	7	23	52	31	43	- 126	199

	ł	HOUSE	CON	NTEXT								
		6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL		fili	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
MALE LIGHT MANUFACTURING	· · · · ·											
baleen shave	a/wb 🦉								1			
composite knife socket	a				1							
drill	w/ch 🖗								1			
drill - hand	a/b/i/wb 💈							1		1		
drill bit - bone/antler/ivory	a/b/i/wb					2	2	1				
drill bit - stone	st											
drill bow	wb	and a second	1	1			54.54					
drill bow mouthpiece - bone/antler	a/b	1, 3 ,8	3	3	1		1	1				
drill bow mouthpiece - stone	st	13 (2592) 2010 - A T					相比加加		1			
drill chuck					1						2	2
drill rest	a/wb				1							
drill shaft - bone/antler	a/wb		2	3 5	2	2	4	2		2	2	2
drill shaft - wood	w			1					2	2		
engraver bit - beaver incisor	be						H. N	1		6.44		
engraving tool - ivory	i									時代に対応		1 1 1
engraving tool - wood	w						法编辑					
engraving tool bit	i											
graver	a/wb	N.C.							1			
graver bit - ivorv	i											
graver bit - copper	cu									1993年1993年1993年1993年1993年1993年1993年1993		
knife - composite	a/wb				1				1			
knife - end blade	cu											
knife - end blade	st											
knife - end-slotted	a/i/wb		6	1	2	3	5	4	2	6		3 3
knife - side-slotted	a/i/wb		2	183	2	1	3	1	1	2	1	
marlinspike	a/wb		2	2	3	3	6	1			•	1
punch/marlinspike	a/wb		1		-							
splice - composite knife	wb											
TOTA	L	antes Antes	15	6 21	14	11	25	12	10	22	5	5 10 +
	,	r de diver d'Ales		1.14 (* 1773). 1			We watch the Tra				-	ALTERATION O

	ł	HOUSE	E/CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	fioor	BD TOT	fill	floor	mid	BD TOT	TOTAL
MALE LIGHT MANUFACTURING									
baleen shave	a/wb	1		1	3		3	· · · 6	8
composite knife socket	а				1				2
drill	w/ch								1
drill - hand	a/b/i/wb	2	1	3	3	1		4	8
drill bit - bone/antler/ivory	a/b/i/wb	5		5	7		3	10	18
drill bit - stone	st	3		3					3
drill bow	wb								1
drill bow mouthpiece - bone/antler	a/b	5	1	-6	1				12
drill bow mouthpiece - stone	st								1
drill chuck		1			6	2	4	-12	16
drill rest	a/wb		1	1			1	1	3
drill shaft - bone/antler	a/wb	2		2	6	1	2	9	24
drill shaft - wood	w		1		2			1 3	7
engraver bit - beaver incisor	be							的法规是	1
engraving tool - ivory	i						1		2
engraving tool - wood	w	1	1	2					2
engraving tool bit	i		1	1					1
graver	a/wb		1	1	1	1	1	3	5
graver bit - ivory	i	1			2			2	3
graver bit - copper	cu							1	1
knife - composite	a/wb	2	1	3	7	2	2	11	16
knife - end blade	cu				1				1
knife - end blade	st		1		1				2
knife - end-slotted	a/i/wb	10	1	s 11	35	15	31	81	113
knife - side-slotted	a/i/wb	4	1	5	17	1	2	20	32
marlinspike	a/wb	5	6	11	19	5	14	38	59
punch/marlinspike	a/wb		1	1 (Sec. 1		1	1	2	4
splice - composite knife	wb					1		1	1
тот	AL	42	18	60	112	30	65	2 209	347

	HOUS	E/CO	NTEXT								
	. 6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
MALE PROVISIONAL MANUFAC	IURING REFUSE										12.53
blank - antler	a	1	1 2	2		2	2	1	3		
blank - ivory	i 包括語言										
blank - whale bone	wb	3	3 6	1		1	1	2	3	2	2
copper - fragment	cu							4	4		
copper - nugget	cu										
core - antier	a	1	1					1		1	
core - diabase	d	2	-2				1				3 3
core - ivory											
core - whale bone	wb	1	1 2	1		國語	2	1	3	1	
dowel	w					10.81×2		1	13.51		
iron - fragment	fe										
peg - bone/antler	a/wb	2	2	5		5	2	1	3		1 51
peg - wood	w	3	2.5		1		2	2	4		1
preform - adze head	wb 1									1	
preform - arrowhead	a										17.15
preform - bead	b								n de la companya de La companya de la comp La companya de la comp		
preform - bola weight	wb				1			1			
preform - button						1140 - 11444 1145 - 1144 1145 - 1144					
preform - composite knife	wb										
preform - drop pendant	1 Barris										
preform - finger rest	i/wb										
preform - foreshaft	wb			1							
preform - gaming piece	W 503 (State										· 新闻·
preform - graver handle	a								 A State of the second se		
preform - handle	a										
preform - harpoon head	a/i/wb	1	2 3				1				
preform - knife - composite	a/wb				1						
preform - knife - side	a/wb					i angla di seri ngan Pangangangangan Pangangangangangan					
preform - leister barb	a										
continued be	elow										

	F	IOUSE	E/CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL
MALE PROVISIONAL MANUFAC	TURING REFUSE			141、141、1 151、151、151、151、151、151、151、151、151、					
blank - antler	а	3	4	7	17	3	4	-24	38
blank - ivory	i				2			2	2
blank - whale bone	wb	3	2	5	15	7	8	30	47
copper - fragment	cu		5	5	2	17		19	28
copper - nugget	cu	2	1	3		1		1	4
core - antier	а	7	2	9	12	2		14	26
core - diabase	d	1	2	3	2	4	1	7	16
core - ivory	i		3	3			1	2002 1	4
core - whale bone	wb	2	2	4	11	4	1	16	27
dowel	w		1	1					1
iron - fragment	fe				1			1998	1
peg - bone/antler	a/wb	5		5	30	12	45	87	103
peg - wood	w	3	8	11	10	8	2	20	42
preform - adze head	wb							0	2
preform - arrowhead	а					1	1	2	2
preform - bead	b		1						1
preform - bola weight	wb		1						3
preform - button	i				1			1	1
preform - composite knife	wb				1				1
preform - drop pendant	i				1	1		2	2
preform - finger rest	i/wb				1	1		2	2
preform - foreshaft	wb	1							2
preform - gaming piece	w		1	800 M					1
preform - graver handle	а				1				1
preform - handle	а	1							1
preform - harpoon head	a/i/wb	3	1	4	4	1		5	13
preform - knife - composite	a/wb				1			1	2
preform - knife - side	a/wb	1					1		2
preform - leister barb	а	1							1
continued be	elow			a construction				C. C	

	HOU	SE/CO	NTEX	T								
	6	29	29	29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floo	TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
MALE PROVISIONAL MANU	FACTURING REFUSE- CC	NTINU	ED									
preform - pendant	1 State	1		1								
preform - pendant - chain	1.2000 (1997) 1.2000 (1997)		1	1								
preform - shaft	a/wb				1			1		1		
preform - sled shoe	wb	1		资源 1 :	1				1	1	1	
preform - snow knife	wb	1		() 1								
preform - socket piece	a								1			
preform - toggle	a			and a second								
preform - trace buckle	wb	1		1				1				
preform - ulu handle	wb											
preform - unidentified	a/wb								1			
preform - unidentified	wb											
reinforcement piece	a/wb	1	•	1 2	3		3					
reinforcement piece	bl											
rivet	cu			1889 -1 1								
shim	a/b/wb	3			1	1	2					0.4.1.4.5
shim	wb 🚑					1	1211				1	
splice	a ()))	· 		Real Providence								
	TOTAL	19	12	2 31	16	5	21	13	17	30	7	5 12
TOOL MAINTENANCE									_			
abrader	st	4		4	1	1	- 2	4	2	6		1 1 1
bear canine - utilized	t	1	4	4 5	1	1	- 2	1	1	2	1	2 3
muskox postcanine - utilized	t	1		1 2				1	1	2		
	TOTAL	6	:	5 11	2	2	4	6	4	10	1	3 4

	ł	HOUSE	E/CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fili	floor	BD TOT	fili	floor	mid	BD TOT	TOTAL
*				en ender Sie Neuer					
MALE PROVISIONAL MANU	FACTURING REFUSE	- CON	TINUED						
preform - pendant	i		1						2
preform - pendant - chain	i								1
preform - shaft	a/wb				2	3		5	7
preform - sled shoe	wb	1	1	2	4		1	5	11
preform - snow knife	wb				1	1		2	3
preform - socket piece	а								1
preform - toggle	а					1			1
preform - trace buckle	wb	1		1		1		1	4
preform - ulu handle	wb				1				1
preform - unidentified	a/wb	1			1	5	5	11	13
preform - unidentified	wb	1							1
reinforcement piece	a/wb	2	2	4	6	3	4	13	22
reinforcement piece	bi		1		1				2
rivet	cu	1							2
shim	a/b/wb				1	1		2	4
shim	wb					1			3
splice	а						1		1
	TOTAL	40	39	79	129	78	75	282	456
TOOL MAINTENANCE									
abrader	st	2	5	1967	6	1	3	10	30
bear canine - utilized	t	5	2	7	11	4	10	25	44
muskox postcanine - utilized	t	2		2	3			3	9
	TOTAL	9	7	16	20	5	13	38	83

	HOUS	E/COI	NTEXT									
	6	29	29	.29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	TOT	fi∦	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
DOMESTIC MAINTENANCE												
bag	h/g					1	<u> 1</u>		1			的建设
bag/bucket handle	a/i/wb				1				1		1	
bag/bucket handle	w											
birđ skin	bs		1	2 1		1			4	4		
drying rack - complete	Ы		Ę.									B. A.
drying rack - complete	wb/bl		E.									
drying rack frame	a/wb		200 100					1	1		1	1
excelsior	f		and the second s	- C. 1								
fire drill shaft	w		1940 A									
lamp - composite	st/p		ę.									
lamp - composite - base	st	1	3	4					2	2		
lamp - composite - side	P		5									
lamp - local stone	st 🔅 1	2	ů.	2				3		3	2	2
lamp - soapstone	st											
lamp stand	st		1									
lamp stand	wb											
lamp/pot - local stone	st	5	3	8				1	3	4	1	
lamp/pot - soapstone	st	6	1	7	1	1	2					
pottery	P	1		1	1		1	9	4	13	1	
pyrite	py										1	1 2
snow beater	wb	1	1	2		1	1 State	2		2		
snow beater	bl 🔅 🖓								1	1		
sphagnum block	sp		- 			2	2		2	2		
whisk	f/b		1	1								
wick trimmer	w	1	2	1		2	2	1	10	11	2	2
wick trimmer	wb	1	5. JUN 10	99 (1			가는 가지? 같은 것이 있는 것이 있는 같은 것이 같은 것이 있는 것이 없는 것이 않는 것이 없는 것이 없는 같은 것이 없는 것이 없					
wick trimmer ? (field identification)	w 5333	2	3	5	5	12	17	12	15	27	2	4 6
TOTAL		20	13	33	8	20	28	29	44	73	11	5 16

	F	IOUSE	CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL
DOMESTIC MAINTENANCE									
bag	h/g		1						3
bag/bucket handle	a/i/wb				1	1	2	4	7
bag/bucket handle	w						1		1
bird skin	bs		11	13 1 1					17
drying rack - complete	Ы		1						1
drying rack - complete	wb/bl		1	1					1
drying rack frame	a/wb	2	1	3	4	1	4	9.	15
excelsior	f		1	1					1
fire drill shaft	w		1	1					1
lamp - composite	st/p		1	state 1				e v state	1
lamp - composite - base	st	1		· · · · · · · · · · · · · · · · · · ·	1				8
lamp - composite - side	р		2	2					2
lamp - local stone	st		5	5	2			. 2	15
lamp - soapstone	st				1				1
lamp stand	st	2		2					2
lamp stand	wb		1	1					1
lamp/pot - locai stone	st	3	5	3 11	1		2	1 900 S	27
lamp/pot - soapstone	st	2	1	3			1		13
pottery	р	28	23	51	23		3	26	93
pyrite	ру								2
snow beater	wb				3			3	8
snow beater	bl	1	2	3					4
sphagnum block	sp		1	1		1			6
whisk	f/b								1
wick trimmer	w	5	7	12	28	3	2	33	61
wick trimmer	wb								1
wick trimmer ? (field identification)	w	13	14	27	21	49	36	106	188
TOTAL		57	79	3 139	85	55	51	191	481

HOUSE/CONTEXT											
	6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
HOUSE MAINTENANCE											
house structure	wb			1							
mattock - complete	wb		1					1			
mattock handle	wb	1						1			
mattock head	wb	2	2	1			1	2	3		
pick head	a/wb	1	1 2	2	2	4	1			1	
snow shovel	wb	4	2 6	1	1	2	6	1			
snow shovel handle	wb										
	TOTAL	8	3	5	3	*/**** 8	8	5	13	1	<u>E 19</u>
FOOD PREPARATION											
blubber pounder	wb										
hammerstone	st	1	2 3			1. 1. 1.	2	2	4	1	1 2
hook - meat/pot	a/wb		1		1	1	1		1 A A		
maul handle	bl		1231		1			1			
maul head	st					的小人的。 在这个时候,		1			
maul head	b						1				
pot - soapstone	st	4	2, 6	1	1	2	1				CONTRACT.
pot - local stone	st										
tripod	wb/bl		and the second secon								
· · · · · · · · · · · · · · · · · · ·	TOTAL	5	6 11	1	3	4	5	4	9	1	1 0.5.2

HOUSE/CONTEXT										
		38	38	38 38	41	41	41	41 41	SITE	
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL	
HOUSE MAINTENANCE										
house structure	wb		1	股份 (1)	1	1		2	4	
mattock - complete	wb								1	
mattock handle	wb	3	2	5	4	1		5	12	
mattock head	wb	5	3	8	3	2	1	6	20	
pick head	a/wb	2		. 2	3	2		5	15	
snow shovel	wb	5		5	8	4	3	15	35	
snow shovel handle	wb				1				1	
	TOTAL	15	6	. 21	20	10	4	0 34	88	
				1200 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 2400 - 1400 - 2400						
FOOD PREPARATION										
blubber pounder	wb				1				1	
hammerstone	st		3	3	1	1		2	14	
hook - meat/pot	a/wb	1		8 C S 1					4	
maul handle	bl		2	2					5	
maul head	st								1	
maul head	b				1			1.1	2	
pot - soapstone	st		1	1					10	
pot - local stone	st	1							1	
tripod	wb/bl		1	1					1	
	TOTAL	2	7	9	3	1		4	39	

HOUSE/CONTEXT											
	6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
FOOD CONSUMPTION											
dipper	wb								接線		
ladle	W								自己有		
marrow spatula	a/i 🔛		(1)。 [1]:"我们也	1		1		1			
marrow spatula	W							1			
meat dish	wb 👬		記録の								
serving tray	bl										
spatula	a 🚉										
vessel - composite - base	w/bl		1				1	1	2		1
vessel - composite - base	wb										
vessel - composite - complete	bl/w		1								
vessel - composite - sides	bl ;		1				2	1	3		KAN L
τοτΑ	AL RES		3 3	1			3	4	7		1
SLED TRANSPORTATION											
dog harness	h										
dog trace swivel	bl				-						
dog whip handle	W	1			2	2					
dog whip handle	wb									1	1
sled cross-piece	a/wb	1	1					1			
sled runner	wb									1	
sled shoe	a/wb 1	3	3 6	8	3	11	2	3	5		
snow knife	a/wb	4	1 5	3	3	6	2	5	-7	3	1 彩 4
snow knife	ho								a sa		
snow probe	a/wb	1	2 3								
snow probe ferrule	i		1 资源1								
toboggan	bl							1			
trace buckle	a/i/wb	3	1 4	1		1		1		2	1 3
тот/	AL 1	13	9 22	12	8	20	4	11	15	7	2 9

HOUSE/CONTEXT											
		38	38	38 38	41	41	41	41 41	SITE		
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL		
FOOD CONSUMPTION											
dipper	wb	1	1	2					2		
ladle	w	1	2	3		1		1 .	4		
marrow spatula	a/i			した) (2) 私 (1) (2) (2) 私					2		
marrow spatula	w								1		
meat dish	wb	1			1	1		2	3		
serving tray	bi		1	1					1		
spatula	а				1				1		
vessel - composite - base	w/bl	1	5	6	3	1		4	14		
vessel - composite - base	wb	1		1					1		
vessel - composite - complete	bl/w		1						2		
vessel - composite - sides	bl		3	3					7		
TOT	AL.	5	13	18	5	3		8	38		
SLED TRANSPORTATION											
dog harness	h		1	14455 (1					1		
dog trace swivel	bl		1						1		
dog whip handle	w				1				4		
dog whip handle	wb								1		
sled cross-piece	a/wb	6	3	9	11	3	10	24	36		
sled runner	wb		1				1		3		
sled shoe	a/wb	14	4	18	38	15	29	82	123		
snow knife	a/wb	6	5	11	7	2	1	10	43		
snow knife	ho		1	1	1				2		
snow probe	a/wb	4	3	7	9	1	1	1	21		
snow probe ferrule	i	1		1					2		
toboggan	bl	1		1					2		
trace buckle	a/i/wb	4	3	7	3	2	3	8	24		
TOT	AL	36	22	58	70	23	45	138	263		
	F	IOUSE/CO	ONTEXT								
----------------------------	-------------	----------------	--	------	-------	--------------	------	-------	--------------	------	----------------------
		6 29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	ji fil	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
	51										的推进
BOAT TRANSPORTATION	Ę.										
boat hook	wb										
boat part	w				2	2		3	3		
boat part	wb 🐇							1	1		
ice scraper	a										2020-000 2020-007
splice - high finish	a/wb			1			1				
thong stretcher	b/i 🔤										
"yaavutak"	wb	25-12 674-0	1			1. A. A.					
	TOTAL		1	1	2	3	1	4	-5		
WHALING									1938年		
float bar	a/i/wb										
float bar	w §		I								
float inflation tube	b										
float mouthpiece	a/i 🛛										
float mouthpiece stopper	w S				1						
float mouthpiece stopper	្ តែ										10.万 <u>企</u> 業
foreshaft - whaling	wb			2		2					
harpoon shaft - whaling	w										
lance head - large whaling	wb 🔤		and an and a second sec	1	1	2	_				
	TOTAL			3	2	5					CARLE .

	H	IOUSE	E/CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL
BOAT TRANSPORTATION									
boat hook	wb	1		100 A					1
boat part	w	2	3	5		1			11
boat part	wb	1			6	2		8 - 8	10
ice scraper	а		1	1	1				2
splice - high finish	a/wb		1			1		6.254	4
thong stretcher	b/i		1		2			2	3
"yaavutak"	wb								1
	TOTAL	4	6	10	9	4		13	32
WHALING									
float bar	a/i/wb				3		1	4	4
float bar	W		1			1	1	2	4
float inflation tube	b				1	1		2	2
float mouthpiece	a/i	1	1	2	2			2	4
float mouthpiece stopper	w	1		1					2
float mouthpiece stopper	ì				1				1
foreshaft - whaling	wb				2	3	3	8	10
harpoon shaft - whaling	w		1						1
lance head - large whaling	wb		2	2	1				5
	TOTAL	2	5	7	10	5	5	20	33

	HOUS	E/CO	NTEXT								
	6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TÔT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
	1945 - Alexandre										
MISC OPEN WATER HUNTING											
atlatl hook	1										
bladder dart head	a/wb			1						1	5.4 1
dart butt peg	a/wb		1221	1							
foreshaft - moveable	a/i/wb		1 影影】	1			1	1	2		
lance - detachable - reinforcement	a/wb										
lance head	wb 1			1	1	2		1			
lance head - fixed	wb	1	1			出了。 [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]					
lance head - moveable	wb									1	
line stopper	a/wb										
socket piece - scarfed	i/wb						1				
socket piece - tubular	a/wb	1	1 2				1			2	- 2
tension piece	i/wb			1		1	_				
TOTAL		2	3 5	5	1	6	3	2	5	4	4
ICE HUNTING						作意为了					
foreshaft - fixed	wb	1									
harpoon ice pick	a/i/wb	2	1 3	1	1	2		3	3	1	
seal drag handle	a/wb										
seal indicator	wb										
seal scratcher	w.	1						1			
seal scratcher	a										
sealing stool	wb										
wound pin	a/i/wb			1		1.0 m					
TOTAL		4	1 5	2	1	3		4	4	1	

	F	IOUSE	CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL
MISC OPEN WATER HUNTING									
atlatl hook	i					1			1
bladder dart head	a/wb								2
dart butt peg	a/wb						1		3
foreshaft - moveable	a/i/wb	1		1	8	1	4	13	18
lance - detachable - reinforcement	a/wb				2	4	1	7	7
lance head	wb				3	1		4	8
lance head - fixed	wb				1		1	2	3
lance head - moveable	wb		1	1	2	2	1	5	7
line stopper	a/wb				1	1	1	3	3
socket piece - scarfed	i/wb	1		1	1			1	3
socket piece - tubular	a/wb	5	1	6	22	4	4		41
tension piece	i/wb				1		1	2	3
TOTAL		7	2	9	41	14	14	69	99
ICE HUNTING									
foreshaft - fixed	wb								1
harpoon ice pick	a/i/wb	6	4	10	20	5	8	33	52
seal drag handle	a/wb	1	1	2					2
seal indicator	wb	1		1					1
seal scratcher	w								2
seal scratcher	а					1		· · · · · · · · · · · · · · · · · · ·	1
sealing stool	wb	1	2	3					3
wound pin	a/i/wb	3	4	7	7	2	4	13	21
TOTAL		12	11	23	27	8	12	47	83

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	HOU	SE/CO	NTEXT									
	6	29	29	. 29	33	33	33 33	34	34	34 34	35	35 3 5
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	TOT	fill	floor	BD TOT	fill	fioor	BD TOT	fill	floor TOT
MISC SEALING												
finger rest	a/i/wb				1		1					
foreshaft	a/wb		約	-5		1		1	1	. 2	1	
harpoon end blade	cu											
harpoon end blade	st		Fit									
harpoon head	a/i/wb	2	1鷹	3	3	1	4	7	5	12	1	2 3
harpoon shaft	W	1	2	3		2	2	2		2		
	TOTAL	3	3	6	4	4	. 8	10	6	16	2	2.44
BOW AND ARROW			1244 124 127 127									
arowhead - end-slotted	a/wb		1	1	1	1	2 2	1				
arrow shaft	w		1	- 1					4	4	1	
arrowhead	a/wb	2	5	7	2	2	- 4	9	2	11	1	1 2
arrowhead - tang	a/wb		14) 141								1	1.
bow	w				1		1		1			
bow backing	bl											
bow brace	a/wb		1	1	1		1					
bow brace	bl									1. 6.2		
bow brace	w 2523.											
bow cable stop	a/wb		21. 144								1	
feather cutling board	w		(S.)	1999 (A)		1	· · · · · · · · · · · · · · · · · · ·					
feather setter	1. 化化物学		C)									
sinew twister	a/i/wb				1							
wrist guard	bl		1	1			1. No.2					
	TOTAL	2	9	11	6	4	10	10	7	17	4	1 5

		HOUSE	E/CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL
								新学校教育(1967) 新学校会会和新学	
MISC SEALING									
finger rest	a/i/wb	1			4			4	6
foreshaft	a/wb	6		6	9	6	12	27	37
harpoon end blade	cu		1	F. 1					1
harpoon end blade	st	1	3	2.34	2			2	6
harpoon head	a/i/wb	11	6	17	17	4	10	31	70
harpoon shaft	w	1	7	8	2	2		4	19
	TOTAL	20	17	37	34	12	22	68	139
BOW AND ARROW				的复数					
arowhead - end-slotted	a/wb				2			2	6
arrow shaft	w	2	10	12	7	1		. 8	26
arrowhead	a/wb	8	8	16	12	6	14		72
arrowhead - tang	a/wb	3	1	4	10	5	25	40	45
bow	w								2
bow backing	bl	1	2	.3					3
bow brace	a/wb		1		3		1	4	7
bow brace	bl				1	2		- 3	3
bow brace	w					1			1
bow cable stop	a/wb				2			2	3
feather cutting board	w	1		1		1			3
feather setter	i						1	这个问题	1
sinew twister	a/i/wb				1		1	2	3
wrist guard	bi							自动感	1
	TOTAL	15	22	37	38	16	42	96	176

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	HOUS	E/CO	NTEXT								
	6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TOT	វារ	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
FISHING			和我们								
arrowhead - fish	a										
fish lure	i/wb	1	2 3								
fish lure tinkler	i										
fish spear prong	a/wb	2	1 3		1			1			
fish stringing needle	a/i							1			6 3 7 T
fish stringing needle	bl										
leister barb	a/wb		1		1	1	1	2	3	1	1 2
leister prong	a/wb	3	3		1		2	3	5		2
leister prong	bl/w		1		1	1					
ТО	TAL 1	6	5 .11		4	4	3	7	E 7 10	1	1 2 2
BIRD/SMALL GAME HUNTING											
arrowhead - bird	a/wb				1	1	1	1	2		
barb	a			1			1				
bird dart - prong	a/wb	1	1 2								
bird dart - shaft	w				1	1					
bola weight	a/wb	3	1	1		8 (1)	1				1.50
gorge	a										
gull hook shank	w		1	1	1	2	1		i An		1891
sling handle	w										
snare	bl							1	1		
wolf killer	bl										
то	TAL	4	3 7	3	3	6	4	2	6		1

	ŀ	IOUSE	E/CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL
EISHING									
arrowboad fish		1			2	2	4		c
Allowneau - IISI	а :/ь	I	4		2	2			0
fish lure tiplden	1/WD :		1			4			4
	1	~			4.4	1			1
tish spear prong	aiwo	3	1		14		0	20	29
tish stringing needle	a/i				1				2
fish stringing needle	10	-	1			~	_		1
leister barb	a/wb	6	2	8	15	3	7	25	40
leister prong	a/wb	6	3	9	4	2	1		26
leister prong	bl/w								2
TOT	AL	16	8	24	36	8	15	59	111
				部分建筑					
BIRD/SMALL GAME HUNTING									
arrowhead - bird	a/wb				1	1	1	3	6
barb	а	1		1	2			2	5
bird dart - prong	a/wb	1		1	2			2	5
bird dart - shaft	w								1
bola weight	a/wb	4	1	5	1				13
gorge	а				1				1
gull hook shank	w	2	5	1	2			•2	14
sling handle	w	1		.					1
snare	Ы								1
wolf killer	bi		1	1					1
TO	TAL	9	7	-16	9	1	1	11	48

		HOUS	E/CO	NTEXT								
		6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE		MATERIAL	fill	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
COMMUNITY				因了 <i>可能的。</i> 第二次的第三								
ajagaq		b	1				いた。 「 いた」 して、 して、 して、 して、 して、 して、 して、 して、					
ajagaq pin		a/wb		1	1		1 .					
drum handle		W										
drum rim		w/bl		1 影響								
gaming piece		a/wb	1	1					1			2 2
gaming piece		bl					的 这个人的 。 这一个人的 。					
	TOTAL		2	2 4	1		1.6		1			2 2
FEMALE ORNAMENT												
bead		am 🦢		國家編集							1	
bead		b					同 代的					
bead		i能感染。	1	1								
bead		st							1			
bracelet		а									1	
bracelet		h/cu										
brow band		a/wb							1		1	
brow band		cu					Ne tra					
brow band		I BER										
comb		i			1			1	3	4		
hair stick		w				1	1					
	TOTAL		1	1.00.1	1	1	2	1	5	6	3	3
MALE ORNAMENT												
button				11년								
ceremonial knife		wb/bl/w							1			
labret				1 1								
	TOTAL	E Star		1 1			en de la companya de La companya de la comp		1			14-41 5 47 4 2 5 4 - 12-44 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4
							1 A 17 12 17 1		•			9 2 S. S. S. S.

		H	HOUSE	E/CONT	EXT					
			38	38	38 38	41	41	41	41 - 41	SITE
ARTIFACT CLASS/TYPE		MATERIAL	fill	floor	BD TOT	fili	floor	mid	BD TOT	TOTAL
										·
COMMUNITY										
ajagaq		b				1	1		2	3
ajagaq pin		a/wb	1					3	3	6
drum handle		w		1						1
drum rim		w/bi		1						2
gaming piece		a/wb	4		4	4	3	8	15	23
gaming piece		Ы		1	to tabe of		3		3	4
	TOTAL		5	3	<u> 8</u>	5	7	11	- 23	39
FEMALE ORNAMENT										
bead		am	1	2	3			1		5
bead		b	2	1	3	1			1. See	4
bead		i	1	1	2	1				4
bead		st	1							2
bracelet		а								1
bracelet		h/cu		1	1					1
brow band		a/wb		1		1		2	3	6
brow band		cu	2		2					2
brow band		i	1							1
comb		i	3	2	5	2		1	3	13
hair stick		w								1
	TOTAL	· · · · · · · · · · · · · · · · · · ·	11	8	19	5		4	9	40
MALE ORNAMENT										
button		i				3	1	1	5	5
ceremonial knife		wb/bl/w								1
labret		i		1						2
	TOTAL			1	1	3	1	1	5	8

	HOUS	SE/CO	NTEXT								
	6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
PENDANT - TOOTH						「記録の記					
pendant - bear canine	bt				1						
pendant - bear incisor/premolar	bt 🔣	1	1			日本の日本					
pendant - caribou incisor	ct						2	2	4		
pendant - dog tooth	dt										
pendant - fox canine	ft	1		2	3	5	2	3	5		
pendant - fox incisor/premolar	ft	1	1	1		1				1	
fox tooth - cache	ft							2	2		
pendant - muskox incisor	mt 🔄										2 2
TOTAL		3	3	3	4	7	4	7	211	1	2 3
											新教室
PENDANT - OTHER									1.1. 374 A.L.		
pendant - ermine/fox effigy	1 國家給給										
pendant - ivory chain		1	1 2								
pendant - ivory drop	1									1	1
pendant - mollusc valve	mo										
pendant - stone	st 🔄 1							1			
TOTAL		1	2 3					1		1	1. 1 .
AMULET											
amulet box	W							1			
bear claw	pp			1		3 3 3	า				
caribou incisor amulet	ct										
composite hide object	n/t				1		1		(]		
tigurine - temale	「「「「「「「「「」」」					· · · · · · · · · · · · · · · · · · ·					
Tigurine - whale tail											
TOSSII	st										
quartz crystal	q	1	1					<u> </u>			
TOTAL		1	10. SA	1	2		2	. 1	3		

	F	IOUSE	E/CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fili	floor	mid	BD TOT	TOTAL
PENDANT - TOOTH									
pendant - bear canine	bt				1	1		2	3
pendant - bear incisor/premolar	bt	1	1	2					3
pendant - caribou incisor	ct	6	2	8	3		1	4	16
pendant - dog tooth	dt	2		2	2			2	4
pendant - fox canine	ft	12	6	18	11	4	3	18	47
pendant - fox incisor/premolar	ft	13	3	. 16	1		1	2	21
fox tooth - cache	ft								2
pendant - muskox incisor	mt								2
TOTAL		34	12	46	18	5	5	28	98
PENDANT - OTHER									
pendant - ermine/fox effigy	i				1				1
pendant - ivory chain	i	2	1	18 S.3		1			6
pendant - ivory drop	i	5	1	6	1		1	2	9
pendant - mollusc valve	mo							1233年14月	1
pendant - stone	st	1		1			1		4
TOTAL		8	2	10	2	1	2	5	21
AMULET								的问题是	
amulet box	W				1				2
bear claw	bp	3		3	2	2		4	9
caribou incisor amulet	ct		1	1.1					1
composite hide object	h/f		1						3
figurine - female	i				1				1
figurine - whale tail		1	1	2					2
fossil	st				1				1
quartz crystal	<u> </u>				1		1	2	4
TOTAL		4	3	7	6	2	1	9	23

	HOUS	E/CO	NTEXT								
	6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TÓT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
	に行いた。										
FEMALE TOY											
doli	w		1	2	2	- 4		2	- 2	2	1 3
toy - lamp	so								10100-3935. ReNALISA		12231
Τ	OTAL		1	2	2	4		2	2	2	2 4
MALE TOY											
toy - arrow	w/bl		2 2				1	4	5		1
toy - arrowhead	2			2		2	1	-			
toy arrowhead		1		2							
toy how		I					4				
toy - Dow							1	4			
toy - dan nead								1			
toy - foresnatt			$\phi_{1}^{*} = \sqrt{\partial \omega_{1}}$								
toy - harpoon head	DI/W										1833
toy - harpoon shaft	W										
toy - kayak	bi/w					ار با با المراسع . المربع وموجود بالمربع المربع ومربع ومدينة ولما مربع					
toy - lance	DI Filippi										
toy - leister prong	w William										12 1013
toy - paddle	w Marine		1		2	2					
toy - sling handle	W							1			
toy - umiak	W										
Т	OTAL	1	3 4	2	2	4	3	6	: 9		2 2
NEUTRAL TOY	1996년 1998년 19 1998년 1998년 199 1998년 1998년 199		and the second sec								
bull roarer	ble					that is the state		1	1		
Norse game piece	st		19851								
toy - inserted bones	b			1	1	2					
tov - top	w										
tov - top	wb		1								
tov - top spindle	a (500)	1	ં								
<u>,,</u>	OTAL 1	1	2 3	1	1	2		1			erasten Franklik

		Ī	OUSE	(CONT	EXT							
			38	38	38	38	41	41	41	4	41	SITE
ARTIFACT CLASS/TYPE		MATERIAL	2	floor	BD	TOT	E	floor	mid	Ga	Tot	TOTAL
											同語の	
FEMALE TOY										3134 A		
doll		3	-	ო		4	2			134	Sector 4	17
toy - lamp		SO			1.2 13				:			-
	TOTAL		-	e	i ti en	4	2	-		Y UZ	6. State	18
MAI F TOY					istr.							
tov - arrow		{q/m		1	BUIA		2		-	1113	0	22
toy - arrowhead		o			tin to		3	۰		25 C		7
toy - arrowhead		M			<u></u>					1.12		-
toy - bow		W/Iq	2	4		9	2	-			6	9
toy - dart head		q			2 - 34							*-
toy - foreshaft		3	-				-					8
toy - harpoon head		w/lq	-	4	t set	9	2	0		13233		9
toy - harpoon shaft		N		2	4926	2	-			224		ę
toy - kayak		bl/w	~ -	.		2		-		Pert		ŝ
toy - lance		q		-						<u></u>		
toy - leister prong		3		-	1.1.16					9624G		*
toy - paddle		3		~				ო	-	25.0	9	6
toy - sling handle		3		-			۰-			385		ŝ
toy - umiak		3		-	1999 B	The second				3.1		-
	TOTAL		ъ	27	2013	32	13	∞	~	235-33	23	74
NEUTRAL TOY					1.070-C					in the second		
buil roarer		Ā			era					49 RG		-
Norse game piece		st			(4)4J					551		~
toy - inserted bones		q	~	2	9-244A	?						9
toy - top		3				2				24255		2
toy - top		dw			SULP					1.3.40		-
toy - top spindle		ø			in Bri					lize H		-
	TOTAL		2	e	<u>19</u> 10	9				eas a		12

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	HOUS	E/CO	NTEXT								
	- 6	29	29 🤤 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
CORDAGE/FASTENER											
baleen line	bl		1								
buckle	a/wb			1		1					
buckle	i 開始							1	1		
cord - braided sinew	si 💭				1			2	2		
cord fastener	I State		1								
thong	h		1		1	1		5	5		
toggle	a/i/wb			1							
toggle	W			1	1	2	_ 1				
TOTAL			3 3	3	3	6	1	8	9		
KNOTTED BALEEN	bl 👔	4	4	2	14	. 16	2	21	23	1	1 2 2
HARD ORGANIC DEBITAGE			日本語								
primary debitage - whale bone	wb 13	56	12	121	11	4 132	65	17	82	100	6 106
secondary debitage - whale bone	wb 11.	23	9 32	265	2	267	17	5	22	312	1 313
tertiary debitage - whale bone	wb 🛃	27	9 36	236	6	242	8	7	15	178	1 179
ivory debitage - flake/chip	i			1							
ivory debitage - other	i			1						1	
antler debitage - shaving/chip	a										
antler debitage - other	a	6	4	9	3	12	4	12	16	1	
TOTAL	35	112	34 146	633	22	655	94	41	135	592	8 8600
MICA			F33								
mica mirror	m						3		3		
mica fragment	m2	1	2 3	7		7	4		4	1	1
TOTAL	-2	1	2 3	7		7	7		18.7 1	1	

	ł	IOUSE	CONT	EXT					
		38	38	38 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	fioor	mid	BD TOT	TOTAL
								的代表的	
CORDAGE/FASTENER									
baleen line	bl	1	2	3		3		3	7
buckle	a/wb	2		- 2	3	2	3	8	11
buckle	i								1
cord - braided sinew	si		7	7		1			11
cord fastener	i								1
thong	h		21	21	3	15		18	46
toggle	a/i/wb	1			5			5	7
toggle	w	2		2	2			2	7
TOTAL		6	30	- 36	13	21	3	37	91
KNOTTED BALEEN	bl	11	114	125	27	64		91	265
HARD ORGANIC DEBITAGE									
primary debitage - whale bone	wb	167	67	234	553	97	922	1572	2207
secondary debitage - whale bone	wb	130	63	193	812	50	4593	5455	6293
tertiary debitage - whale bone	wb	93	29	122	501	61	1825	2387	2992
ivory debitage - flake/chip	i	1			23		73	96	98
ivory debitage - other	i	5		5	23	6	63	- 92	99
antler debitage - shaving/chip	а	5		5	59	1	759	819	824
antler debitage - other	а	21	9	30	144	47	647	. 838	907
TOTAL		422	168	590	2115	262	8882	11259	13420
MICA									
mica mirror	m	4	9	13	4	1		5	21
mica fragment	m	22	25	47	29	4	11	1.45	109
TOTAL		26	34	60	33	5	11	1 50	130

	HOUS	E/COI	NTEXT								
	6	29	29 29	33	33	33 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor TOT ;	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
MISCELLANEOUS ARTIFACTS											
baleen knife	bl 🔛 🔅			3		3					
band/rim - wood	W				1						
blade	cu	1						1	1 2	1	
blade	fe		1 1								
blade	st	1								1	
handle - misc	a			1							
handle - misc	w/bl				2	2	1		1.5.1		
handle whipping	bl										
rim	wb										
shaft - misc	a/wb		2 2	7	1	8	6	2	.8	3	1
shaft - misc	w	3	5 8	1	6	7	2	11	13		2 2
slotted object	a/wb 🤤						1				
spatulate knife	a/wb			1				1			
TOTAL		5	8 3 13	13	10	-23	10	15	1 26	5	3 8
UNIDENTIFIED	174 F										
unidentified baleen object	bl		1		12	12	3	20	-23		3
unidentified bark object	bk 🛃						1				
unidentified antler object	a		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	1	2					
unidentified hard organic object	a/b/i/wb	1						1		1	
unidentified non-cetacean bone obje	b			1							
unidentified horn object	ho	1									1 8 20
unidentified ivory object	「観鐘										
unidentified stone object	st 🖓 🖓	1									1
unidentified wood object	w	3	2 5	7	12	19	2	30	32	3	3 6
unidentified whale bone object	wb	2	1 3	5	2		1	3	4	3	1 4
TOTAL		8	5 13	14	27	41	7	54	61	7	9 16

	H	IOUSE	E/CONT	EXT					
		38	38	38 🔂 3	8 41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TO	T fil	floor	mid	BD TOT	TOTAL
MISCELLANEOUS ARTIFACTS									
baleen knife	bl		1		1 1	1		2	6
band/rim - wood	w	1	2		3 1				5
blade	cu	6	5	1	2 3	6	1	- 10	26
blade	fe						1		2
blade	st	2	1	1	4 2	2	1	3	10
handle - misc	а				Si 1				2
handle - misc	w/bl		1		11		1	2	6
handle whipping	bl					1			1
rim	wb				至 1				1
shaft - misc	a/wb	8			8 29	8	22	59	89
shaft - misc	w	6	11	1 認識	8 19	8	2	29	77
slotted object	a/wb				ž 2	2	1		4
spatulate knife	a/wb	2			2 3	1	1	5	9
TOTAL		25	21	3	9 63	25	30	118	238
					遊				
UNIDENTIFIED									
unidentified baleen object	ы		26	1	ž 7	21		28	94
unidentified bark object	bk	2	1		3 3	3 1	1	5	9
unidentified antler object	а	2			2 26	6 8	13	47	52
unidentified hard organic object	a/b/i/wb	1			1 3	3 3	4	. 10	14
unidentified non-cetacean bone obje	b	2	1		3 3	3 3		8	10
unidentified horn object	ho					1			3
unidentified ivory object	i	2	1		3 5	52	2	9	12
unidentified stone object	st							6- A.26 . 1	3
unidentified wood object	w	12	20	1	3 45	5 92	38	175	270
unidentified whale bone object	wb	11	3		35	5 9	29	73	105
TOTAL		32	52	2	6 128	3 140	87	355	572

		HOUS	SE/CO	NTEXT								
		6	29	29 29	33	33	33 🔄 33	34	34	34 34	35	35 35
ARTIFACT CLASS/TYPE	MATERIAL	1	fill	floor TOT	fill	floor	BD TOT	fill	floor	BD TOT	fill	floor TOT
FEATHER	1		1	3		2	2	1	8	9		1 1
FUR	fu		1		3	3	6		4	4		1
FLESH	fi			7		23	23	24	131	155		1
MISC ANIMAL TISSUE	fi/g/h	1	1	5 6	7	5	· / 12	5	33	1 39	3	
HEATHER	he			1 1	2	2	4	5	9	14		
PALEOESKIMO												
Dorset - organic artifact	i/a		2	12	1		3 1	1			2	
chipped stone - debitage	s		5	1 6	2	1	* *3	8	2	10	2	
chipped stone - flake	S			1 21	6		6	3	2	6		
chipped stone - formed tool	si		2	2	1		2.51	6	2	18	3	
chipped stone - utilized flake	s			1 24				3	1	4	1	
	TOTAL		9	3 12	10	1	52:41	21	7	28	8	16.98

		HOUSE	E/CONT	EXT					
		38	38	38 📉 38	41	41	41	41 41	SITE
ARTIFACT CLASS/TYPE	MATERIAL	fill	floor	BD TOT	fill	floor	mid	BD TOT	TOTAL
FEATHER	f	4	29	33	1	11		12	61
FUR	fu	10	35	45	5	2			64
FLESH	ព	11	80	91	9	51		60	337
MISC ANIMAL TISSUE	fl/g/h	10	26	36	9	21	2	.32	129
HEATHER	he	2	12	14	2			2	35
PALEOESKIMO									
Dorset - organic artifact	i/a	1		1	2	1		3	10
chipped stone - debitage	st	7	1	8	10	7	5	22	51
chipped stone - flake	st	13	6	19	9	4	7	20	51
chipped stone - formed tool	st	11	8	19	12	11	6	29	62
chipped stone - utilized flake	st	7	5	12	7	3	1		29
	TOTAL	39	20	59	40	26	19	85	203

HOUSE/CONTEXT







IMAGE EVALUATION TEST TARGET (QA-3)





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