THE EXCAVATION AND ANALYSIS OF A DORSET PALAEOESKIMO DWELLING AT CAPE RAY, NEWFOUNDLAND

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by

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ABSTRACT

The first season of fieldwork from the Cape Ray Archaeology Project resulted in the discovery of a Dorset Palaeoeskimo dwelling, dating between approximately 1600 and 1400 years B.P. (before present). Prior to the discovery of this dwelling, the only area in Newfoundland to have produced clear evidence for a Dorset dwelling was at Port au Choix. The purpose of this thesis is threefold: 1) to describe the Dorset dwelling at Cape Ray; 2) to place the dwelling in the context of other Palaeoeskimo dwellings in the Arctic and Newfoundland; and 3) to place the dwelling in the context of site function at Cape Ray.

ACKNOWLEDGEMENTS

There are many people to thank who have played a role in the Cape Ray Archaeology Project and/or who have helped me to shape and tackle the project over the last two years. I would first like to thank my supervisor, Priscilla Renouf, for introducing me to the Palaeoeskimos, for lending me the equipment for the first season of excavation, for her valuable advice, and for her ongoing attempts to keep me on track. Second, I would like to thank Rita Anderson, who created the project with me, and who is unrelenting in her ability to demonstrate to people the importance of cultural heritage and community development.

The project owes its success to my dedicated and hard-working crews from the 1996 and 1997 field seasons. From 1996, thanks go to Cynthia Anderson, Patricia Barefoot, Paul McEachen, Susan Moore, Elaine Osmond, Marjorie Osmond, George Osmond, Sandra Taverner, and my two research assistants, Brent Murphy and Paul Rankin.

In 1997, I saw the welcomed return of my Cape Ray crew, Cynthia Anderson, Elaine Osmond, Marjorie Osmond, George Osmond, and Sandra Taverner, as well as the welcomed addition of both Amanda Hunt, and my research assistant, Cynthia O'Driscoll. I feel privileged to have worked with such fine crews, and grateful of the friendships that have been formed as a result of this project.

I would also like to thank Stuart Brown, who encouraged me to excavate Cape Ray, and Urve Linnamae, who provided many useful suggestions for the "follow-up" to her excavation, thirty years later.

Thanks also to Karen Woosley at the Archaeology Unit, who has provided support in many ways, Eleanor Fitzpatrick at ISER, who helped me to get through the administrative details of the project's budget, and to both Kevin McAleese at the Newfoundland Museum and Martha Drake at the Cultural Heritage Division, who gave advice while I was out in the field.

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CHAPTER 1

INTRODUCTION: THE DORSET PALAEOESKIMOS AND THE CAPE RAY ARCHAEOLOGY PROJECT.

1.1 The Dorset Palaeoeskimos

Cape Ray was occupied by a prehistoric group that archaeologists refer to as the Dorset, an Arctic-adapted hunter-gatherer group that expanded their territory into the island of Newfoundland around two thousand years ago. This island was as far south as they had ever travelled, owing to the availability of sea mammals which were the focus of their economy.

Archaeologists have divided prehistoric Arctic hunter-gatherers of Canada and Greenland into two categories: the Palaeoeskimos (Independence I, Sarqaq, Pre-Dorset, Independence II, Groswater, and Dorset), and the Neoeskimos (Thule). The Thule, who were the ancestors of modern day Inuit, had their origins in North Alaska (Maxwell 1985). Archaeologists still do not know the exact relationship between the Palaeoeskimos and the Neoeskimos (McGhee 1996).

The cultural groups comprising the Palaeoeskimos share a common small tool technology, and although there is considerable debate regarding the relationship between these groups, they appear to have been part of a now extinct ancestral line which had its North American origins in the area of the Bering Sea, around 4500 years ago (Maxwell 1985). The earliest Palaeoeskimos crossed over the Bering Sea land bridge from Siberia and into Alaska at around this time. An eastward expansion of territory, all the way to the

eastern Canadian Arctic and Greenland took place rapidly, perhaps over a period of 500 years (McGhee 1990).

The Dorset Palaeoeskimos, who are the focus of this thesis, represent a cultural group that developed a distinct technology around 2500 years ago, perhaps in response to changing climatic conditions and thus, a changing resource base (McGhee 1996). These hunter-gatherers survived in the Arctic and Sub-Arctic regions of the Eastern Canadian Arctic, Labrador, Newfoundland and Greenland, for around 2000 years. The last traces of Dorset groups are found in Northern Labrador and Ungava, dating to around 500 years ago (Tuck 1976). Archaeologists have speculated on the apparent demise of Dorset groups, citing factors such as competition and climate change (Maxwell 1985).

Although archaeologists first glimpsed the remains of a Dorset site in the 1920s (Jenness 1925), it was not until the post-war period, when researchers had greater access to the Arctic, that the Dorset were identified as a distinct cultural group (Collins 1955), unrelated to the Thule, and possessing a small tool technology similar to the Palaeoeskimos at Cape Denbigh in Alaska (Giddings 1964), and at Deltaterrasserne in northern Greenland (Knuth 1954). Archaeologists have been researching Dorset sites for about fifty years now, and they continue to fascinate and challenge us. One cannot help but marvel at a culture which lived in the often harsh Arctic and Sub-Arctic territories, through changing climates, for a period of approximately 2000 years.

> In the Palaeo-Eskimos, archaeologists had encountered a group without clear descendants in the recorded world. Moreover, their way of life appeared to show little resemblance to that of any other people known to history or anthropology. If the Palaeo-Eskimos were to be understood, it would have to be on the basis of archaeology alone (McGhee 1996:7).

1.2 The Cape Ray Archaeology Project

The Cape Ray Archaeology Project had its genesis in the Archaeology Unit of Memorial University of Newfoundland in December of 1995, when the site first came to my attention. Cape Ray was first investigated by Helen Devereux (1966) in 1964, and subsequent excavations were undertaken by Urve Linnamae (1975) in the summers of 1967 and 1968.

Most of the information on the Dorset occupation at the site came from Linnamae's work, conducted for her Ph.D thesis. Linnamae's objectives were to compare the Dorset groups in Newfoundland, which was considered to be a peripheral region in Dorset prehistory, with the Arctic groups around Hudson Bay and Baffin Island, areas in which core or "parent" Dorset groups were believed to have originated. In her conclusions, Linnamae observed that while there were many similarities between the Newfoundland and Arctic Dorset groups, the Newfoundland Dorset groups in some ways exhibited a distinct material culture. We now know that this "distinctiveness" identified by Linnamae could in fact, be attributed to the Groswater phase of Palaeoeskimo prehistory, which is particular to Newfoundland and Labrador. Following the work of Elmer Harp Jr. (1964) at Port au Choix, Linnamae's work at Cape Ray resulted in one of the first characterisations of the Dorset culture in Newfoundland.

In contrast to the discoveries at Port au Choix, Linnamae found only scattered evidence suggesting the remains of Dorset dwellings at Cape Ray. She discovered a series of rocks throughout a cultural layer, interspersed with artifacts, and defined this as a living

area and evidence for a dwelling. However, no formal attributes that could be associated with a Dorset dwelling were recognisable.

For my Master's thesis, I decided to investigate why clear evidence for Dorset dwellings had not been found at the site. Cape Ray is one of the largest Dorset sites on the island, and radiocarbon dates indicate that it was occupied for hundreds of years (Linnamae 1975). Furthermore, the thick and productive occupation layer indicated an intensive occupation. Therefore, it seemed odd that no *clear* evidence for habitation had been discovered. Three potential reasons accounting for the absence of this evidence included: 1) Dorset groups did not live at Cape Ray, 2) the living areas that Linnamae had discovered were in fact, dwellings, and 3) more formalised dwellings existed but had not yet been discovered at the site. I approached the excavation of Cape Ray with these possibilities in mind.

After three weeks of survey and seven subsequent weeks of excavation, the remains of a Dorset dwelling were discovered at Cape Ray. The dwelling possessed features that were characteristic of other Arctic and Sub-Arctic Dorset dwellings, such as an axial hearth feature, rear platform, and open living spaces.

The purpose of this thesis is to describe the physical appearance of the Cape Ray Dorset dwelling, to place it in the context of other Palaeoeskimo cold-climate dwellings, and to determine site function at Cape Ray. As such, Chapter Two describes both the methodology used in the survey and excavation of the site, and the evidence for the Cape Ray Dorset dwelling. In Chapter Three, I compare the Cape Ray Dorset dwelling with other Arctic and Sub-Arctic Palaeoeskimo dwellings, and with the Dorset dwellings at

Port au Choix. A discussion of the artifact distributions and structural attributes within the dwelling is given, and the issues of superstructure and occupancy are addressed. Chapter Four places the dwelling in the context of site function at Cape Ray, in order to understand the seasonal round of the occupants of the dwelling, the reason Dorset groups occupied the site for hundreds of years, and the probable explanation for their departure. Finally, Chapter Five is a summary of the conclusions presented in this thesis.

CHAPTER 2

METHODOLOGY: THE EXCAVATION OF A DORSET PALAEOESKIMO DWELLING IN CAPE RAY, NEWFOUNDLAND.

2.1 Introduction

Cape Ray is located on the southwest coast of Newfoundland, about ten kilometres northwest of Port aux Basques (see Figure 2.1) which is one of the two gateways into the island. I left to begin my first season of fieldwork at Cape Ray in June of 1996, arriving at the site just in time for capelin weather, a season of torrential wind and rain. For most of the field season our crew consisted of ten people, five from the community of Cape Ray, and five representing Memorial University of Newfoundland. The field season lasted for a total of ten weeks, with the first three weeks spent surveying the site, and the remainder of the time divided between excavating, recording features, and conducting resource interviews. In this chapter, I will discuss the methodology used in the survey and excavation of the site, and describe the dwelling that we discovered and its associated features.

2.2 Getting Started: Surveying the Site

2.2.1 1996 Field Objectives

We immediately set out to accomplish our three fieldwork objectives:

1. To find Linnamae's primary datum and excavation areas.
2. To begin a systematic survey of the site to determine the limits and nature of the prehistoric occupation.
3. To locate and excavate a house structure.

The first thing I wanted to establish was where Linnamae had dug almost thirty years ago. After three days of searching, we located the datum point from comparisons between an aerial photograph and her survey and excavation map. This helped to clarify where her three excavation areas had been, which are located in what Linnamae called

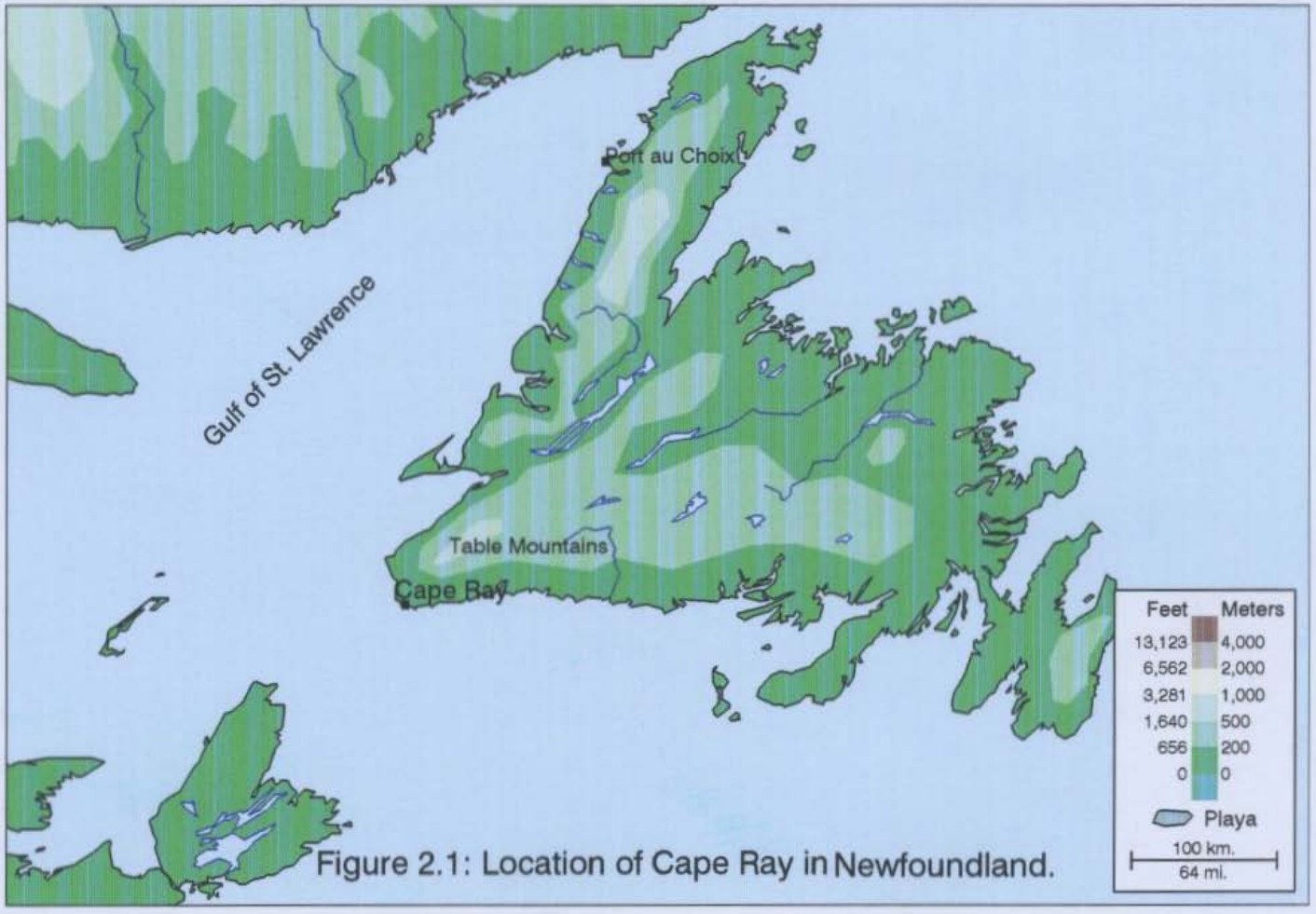


Figure 2.1: Location of Cape Ray in Newfoundland.

Areas C, E, and F (Linnamae 1975, 30). For consistency, I have adopted these letter designations for my own research.

We were now ready to survey the site. Initially, I had planned a systematic survey of test pitting at five and ten metre intervals. However, this type of survey is impossible at Cape Ray due to the extensive growth of stunted spruce, called "tuckamore". Figure 2.2 is an aerial photograph of the site, taken in 1990. The dark patches on the map represent tuckamore growth, while the lighter areas are virtually tuckamore-free. A considerable amount of time was spent clearing the tuckamore for test pits. This made a systematic survey inappropriate given time and labour constraints. Instead, we surveyed the site based on a judgmental method, which usually meant that we placed test pits in areas free of tuckamore, in addition to placing some test pits in the tuckamore.

2.2.2 Test Pitting

It took us three weeks to survey the site, which was accomplished by digging test pits measuring 625 cm2 each, and by general surface reconnaissance. By the end of these three weeks we had excavated 72 test pits, with 37 of them yielding a cultural layer.

Test pitting enabled me to get a good idea of the limits of occupation at the site. Five test pits, dug deep into the tuckamore within areas C, E, and F, produced an undisturbed cultural layer, indicating that in some places, the tuckamore has extended onto the areas of occupation of Palaeoeskimo groups. Also, the site was not as large as I had expected it to be. In her thesis, Linnamae had generalised about the evidence for occupation at the site based on the limited testing of seven areas. Though never explicitly stated, it seemed from her 1975 monograph that the site encompassed a region with an area of approximately three hectares. However, our survey has significantly modified the known extent of the occupation at Cape Ray. Based on the 1996 survey, the site is contained within an area of approximately 5600 m2.

Figure 2.2: Aerial Photograph of Cape Ray Site (1990), Newfoundland.

Test pits indicated that the greatest concentration of artifacts, and the most consistent presence of an occupation layer, was found along the ridges between four and twenty metres above sea level (the site's topography gently rises as one moves away from the shoreline). This region extends approximately 140 m along the coastline and encompasses the areas excavated by Linnamae, and Area C excavated by our crew (see Figure 2.3). Traces of occupation in the form of a few artifacts were found on the northwest boundary of the site just west of the existing road towards the shoreline, and north of the road. The last traces of occupation at the site are found to the east in the low-lying tuckamore, and to the south about 20 m away from Area C. This area (south of Area C excavation) is now mostly a bog mixed with tuckamore. At some time before 1960, the area immediately to the south of Area C had been traversed by a road leading towards a fog horn. It is fortunate that this road did not traverse Area C, where there is a heavy occupation layer, and a Dorset dwelling. To the west, the occupation layer diminishes as one approaches the shoreline. Lithic debris was found on the rugged edges of the coastline, and perhaps was produced by someone sitting on the edge of the rock, making tools while looking out towards the Gulf of St. Lawrence.

Surface reconnaissance, as opposed to test pitting, resulted in the discovery of a second site about two kilometres southeast of Area C. This site was situated on high ground, about 20 m inland on a peninsula where a perfect view of the southern and western coastlines could be obtained. Six test pits were placed in this area but to no avail. Instead, the only indication of occupation was the presence of a handful of flakes seen resting on a dark layer in three erosion cuts. Directly beneath the dark layer was a clay subsoil. Either this site was used on a temporary basis, for instance in the case of tool manufacturing and the procurement of nearby resources such as quartz, or a more substantial site has eroded away.

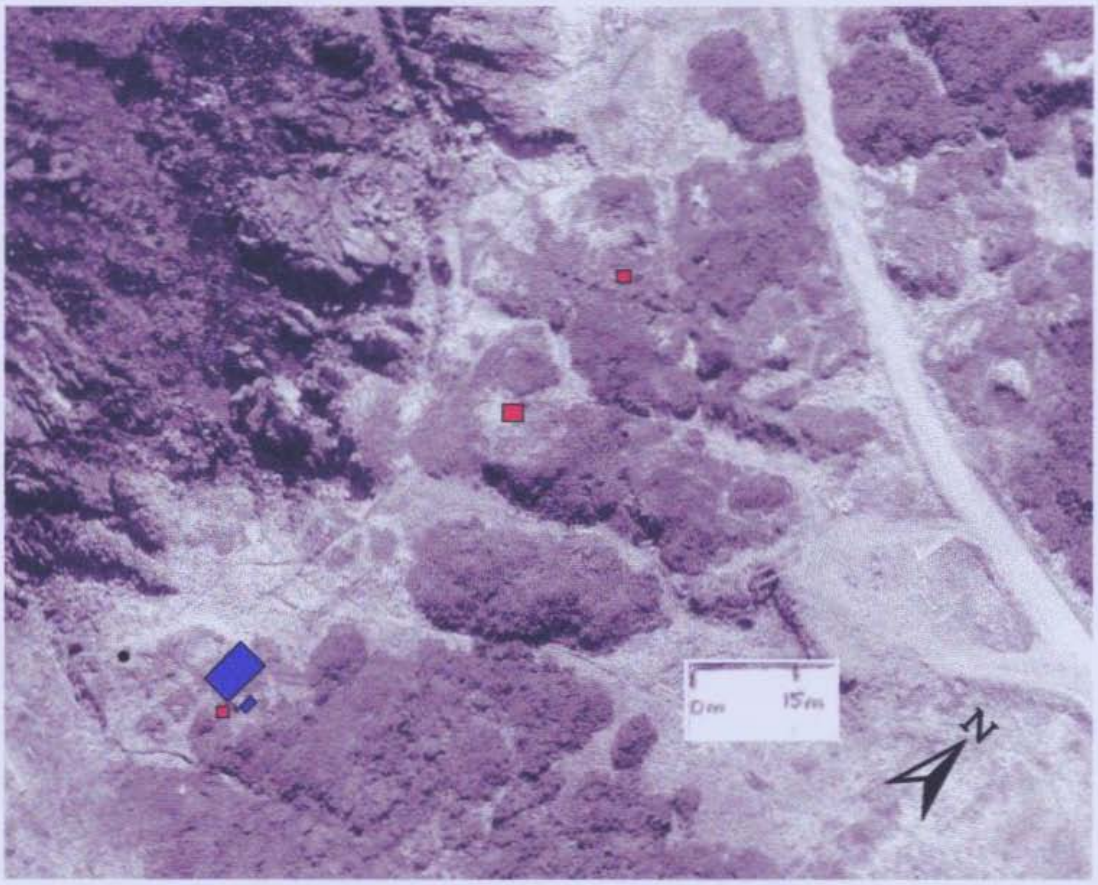


Figure 2.3: Area C Excavation (1996) and Linnamae's Excavation Areas, Cape Ray, Newfoundland.

- Area C Datum Point (1996)
- Area C Excavation (1996)
- Linnamae's Excavation Areas (1967/68)

At the end of three weeks of survey, we had a clear idea of the limits and the nature of occupation at the site (see Figure 2.4). In addition, the test pits had been dug to search for evidence in the form of features which included a dwelling, an activity area, and a midden. Logistically, with the use of 625 cm2 test pits, identifying these features was a potentially difficult thing to do, but not impossible as we soon found out.

2.2.3 In Search of a Midden

Areas E and F, excavated by Linnamae, were located on a plateau of raised land surrounded by lower trench-like areas. Linnamae had informed me (1996, personal communication) that these trenches had not been tested and that, if the raised areas had been lived on by prehistoric groups, then it seemed likely that these trenches could have been middens, made as a result of the inhabitants throwing their waste over the edges and into them. I decided to test her theory, which proved to be correct, as two test pits dug in the trench surrounding Area F produced evidence of a midden. The occupational layer in these pits was exceptionally dark, greasy, and deep. It contained a large number of broken artifacts, and tertiary (small) flakes, indicating an advanced stage of reduction in tool manufacturing. The impression was that most of the lithics were the swept-away debris from the living area above.

We tested the trenches associated with Area F only. However, the trench in Area E, which is identical to Area F in that it surrounds the higher living area plateau, could also be tested. For Area C, the occupation is not found on a raised plateau and as such, there are no trenches surrounding it. However, as will be discussed later, a midden was found in a low trench-like area which was only discernible after excavation and which was adjacent to the dwelling.

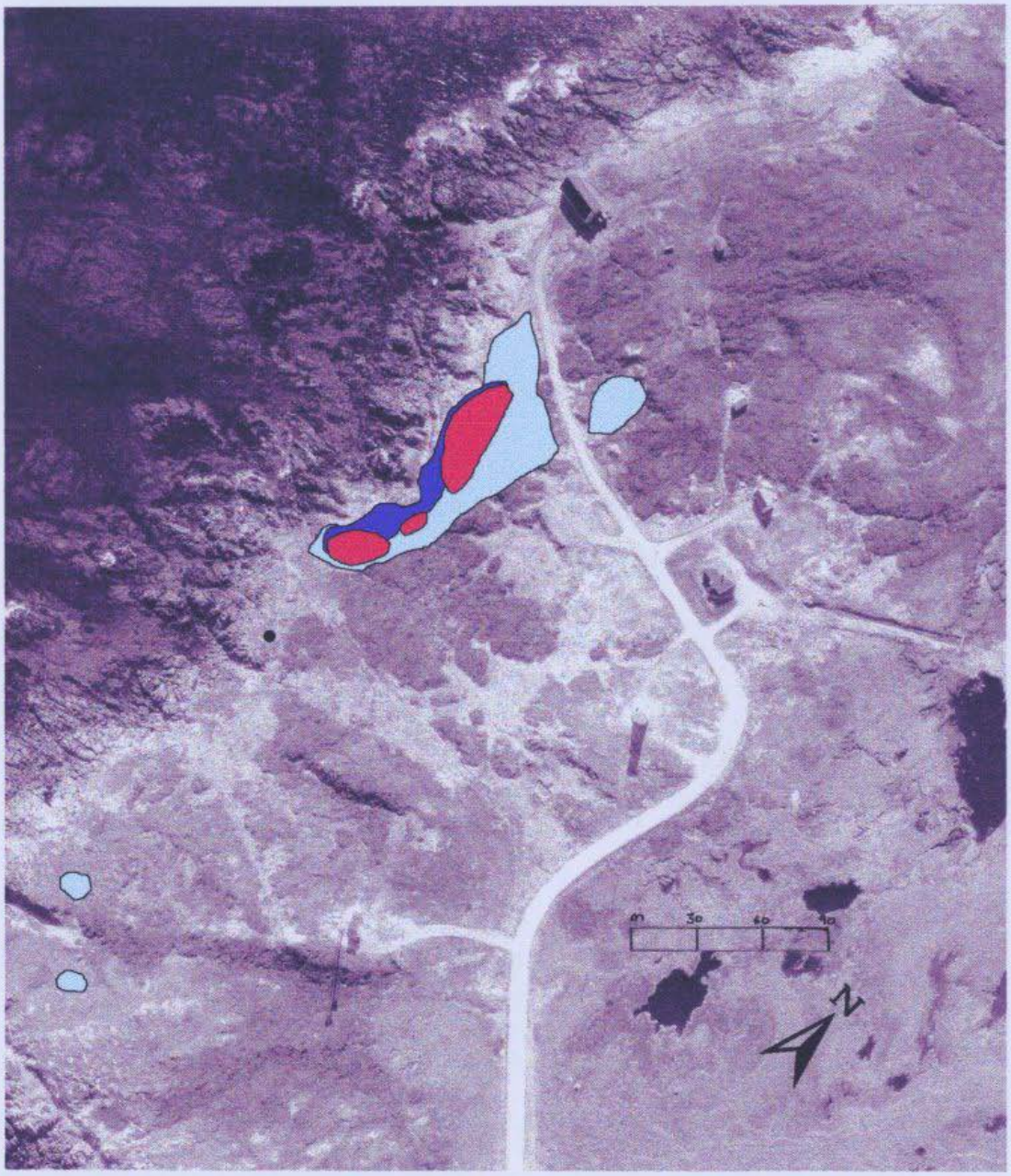


Figure 2.4: Extent and Intensity of Occupation at Cape Ray Dorset Site, Newfoundland.

- Linnamae's Primary Datum 1967/68
- Heavy Cultural Occupation
- Moderate Cultural Occupation
- Light Cultural Occupation

2.2.4 In Search of a Dwelling

While I was searching for any indication of a feature, such as an activity area or midden, what I really wanted to find was a dwelling. Finding evidence of a dwelling meant that I was looking in the test pits for signs of structural evidence. Since structural evidence is mostly found in the form of paving-stones, I was looking specifically for this or for the presence of an organised array of stones. I found this in six test pits: two in Area F, (one of which was within the tuckamore), two in Area E (one within the tuckamore), and two in Area C. All of this evidence was very promising, for in some cases the rocks were flat and butted against each other, forming the appearance of a paving. The evidence was particularly strong in Area C, where test pit #2 came down upon a series of stones, including two large flat stones pressed against each other in a clear and undisturbed grey-black cultural layer interspersed with artifacts. There was some evidence for burning on one of the stones. The stones themselves were of different varieties and included granite, sandstone, and schist, all of which rested directly above the clay subsoil. Altogether, this feature was almost certainly cultural, as the organisation of the rocks was not seen in any naturally occurring state in the area.

It was time to decide where to lay out a grid for excavation. Area C looked to be the most promising, not only because the test pits produced structural evidence, but also because a large part of it appeared to be undisturbed by potting or by Linnamae's prior investigations.

Therefore, at the end of the third week, we laid out an excavation grid in Area C in search of a Palaeoeskimo dwelling. This coincided with the news that funding had been approved for the hiring of five crew members from the community of Cape Ray, just in time for the start of the excavation.

2.3 The Excavation of Area C - The Discovery of a Dorset Palaeoeskimo Dwelling

We began excavating Area C on July 17, 1996. The capelin weather was finally receding and clear skies were becoming a common thing. In fact, when we finished excavating after four weeks, only two days had been washed out by rain.

2.3.1 Methodology

Figure 2.3 illustrates the Area C excavation which is located immediately north of where Linnamae had excavated in the 1960s. This excavation grid, oriented towards magnetic north, was made up of one metre square units, and divided by baulks into four quadrants representing the southwest, southeast, northwest and northeast.

Units were excavated according to naturally occurring stratigraphic levels. Artifacts and flakes were collected from two layers: Level One was made-up of peat and sod, and in some cases, the disturbed cultural layer representing backdirt from Linnamae's excavation; Level Two was the cultural layer. Trowels were used to excavate both levels, and Level Two was screened. Artifacts, flakes, and charcoal were collected separately from both levels. Artifacts from the cultural layer were given north, east and depth co-ordinates, and charcoal samples were collected by unit and given depth co-ordinates. Soil samples were taken from each layer. Other samples taken included ash and sand deposits, a bark-like layer from the midden, a leather-smelling layer from the southeast quadrant, and burned fat. Flake concentrations were water-screened and seed concentrations were floated.

The unit as a whole was described in terms of its stratigraphy, inclusions (artifacts and stones) and cohesion with adjacent units. The cultural layer was described in terms of its colour, texture (smooth, gritty), level of greasiness and compactness, and microtopography. Features, concentrations (flakes, artifacts, charcoal, burned fat) and stones were mapped by unit. Finally, the height above sea level was measured for each rock in case a three-dimensional reconstruction of this house is ever attempted.

2.3.2 Midden versus Dwelling

Figure 2.5 illustrates the completed Area C excavation. Two distinct areas were found in Area C: a dwelling located on a plateau of raised ground, and a midden located in a lower wet and boggy area adjacent to the dwelling (see Figure 2.6). These areas were differentiated by the following attributes: elevation, thickness and texture of cultural layer, artifact yield, organisation of rocks, and overall appearance. The main differences between the two areas are that the raised area is where the dwelling was located and where the inhabitants lived, while the lower trench area is where a midden was formed when the inhabitants deposited their waste into it.

The midden was found in units that were located throughout a lower wet and trench-like region in the excavation. These units produced a thick cultural layer of loose to medium compactness which was black, greasy, and yielded a large number of artifacts. The rocks found within these units were disorganised and appeared throughout various levels of the cultural layer.

In contrast, the dwelling was located on raised dry ground. In this area, the cultural layer was thin, compact, moderately greasy, grey-black, and produced a small to medium number of artifacts. For the most part, the rocks in the dwelling were organised, rested directly above the subsoil, and appeared to be part of a feature. Relatively large open spaces that were free of rocks were also found in the dwelling.

In the midden, the average number of artifacts found per square metre excavated was 82, as opposed to an average of 34 artifacts per square metre excavated in the dwelling. Table 2.1 summarises the differences between the midden and dwelling areas:

Table 2.1: Summary of the Differences Between the Midden and Dwelling.

	Lower Area: Midden	Upper Area: Dwelling
Elevation	low - in bog	high - dry land
Cultural Layer	thick	thin
	very greasy	moderately greasy
	wet	dry
	black	grey-black
	loose to medium compactness	medium to heavy compactness
Rocks	disorganized	organized
	resting throughout cultural layer	resting directly on subsoil
Artifacts	large number	small to medium number
Overall appearance	cluttered: area is covered	organized: area is divided into
	with rocks	places that have rock features
		and open areas free of rocks

The nature of the occupation of Area C can be inferred using this information.

Dorset groups built their dwelling on the raised plateau, or knoll, because it was a flat and dry area suitable for habitation. The rocks in the dwelling comprise features directly associated with the dwelling, while the midden rocks are indirectly associated with it. Large open areas free of rocks were living areas within the dwelling.

The midden has a thick, black and greasy cultural layer with a large number of artifacts because this is where the inhabitants continually deposited their waste (bones, tools, etc.), forming organic- and artifact-rich layers. The soil in this area is not as compact as in the raised area where inhabitants lived because there is not as much compression. As indicated, the rocks in the midden were found at different elevations and angles throughout the cultural layer rather than just resting flat above the subsoil. This may be because many of these rocks have been discarded over the years from continual re-occupation of the dwelling. According to Linnamae (1975: 48), Palaeoeskimo groups lived at Cape Ray for a period extending over 600 years. The large number of artifacts retrieved from this dwelling indicates an intense occupation that could be the result of repeated occupations over many years. While this raised area of land may have been used as a habitation site for the full period that Dorset groups occupied the site, this particular dwelling was most likely occupied seasonally, perhaps for a period extending twenty-five years according to estimates of northern stone age house longevity (Helskog and

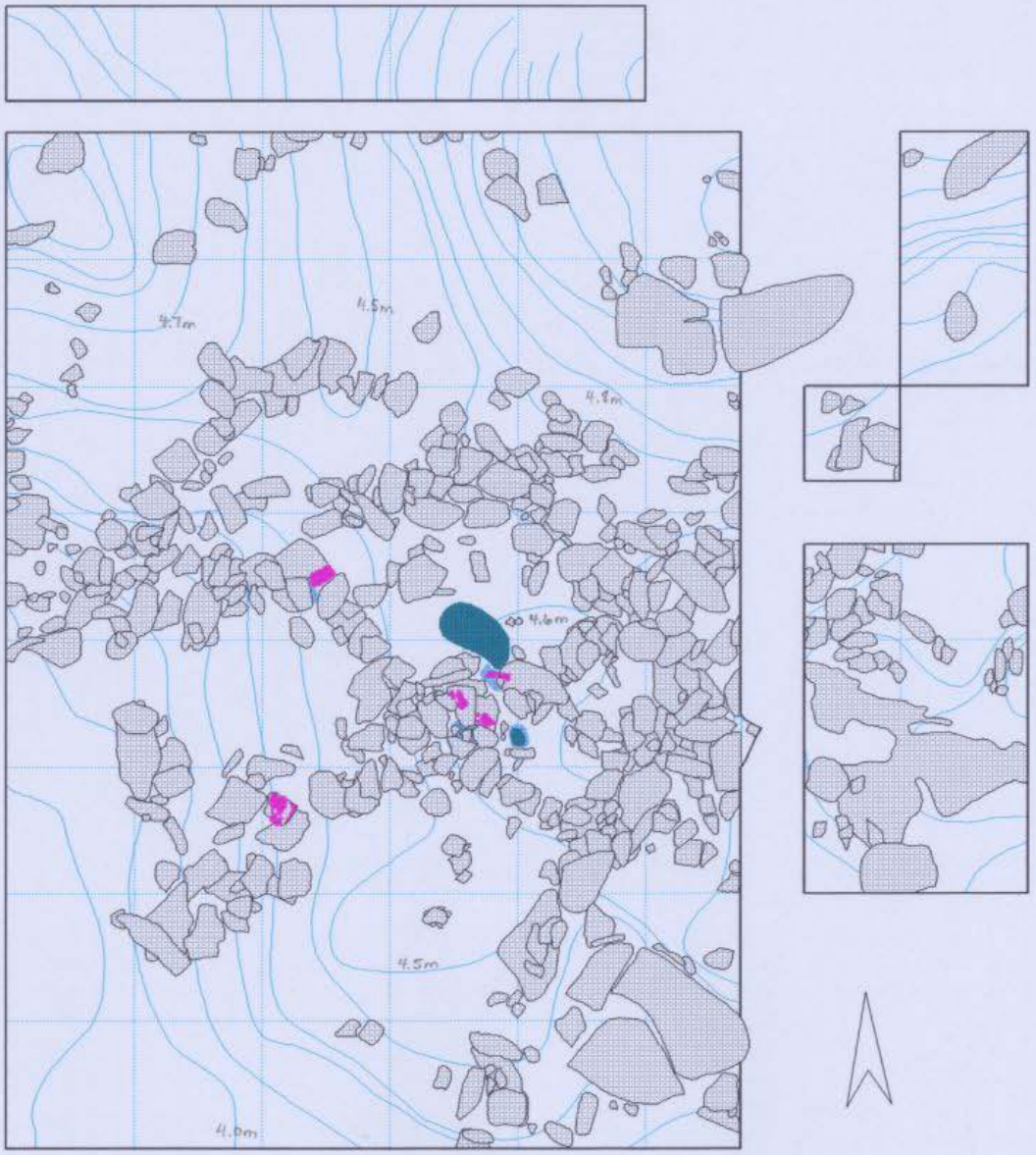


Figure 2.5: The Completed Area C Excavation at Cape Ray (1996)

Grey = Rocks
Blue = Charcoal concentration
Green = Flake concentration
Pink = Soapstone shatter

1 square = 1 square metre excavated

Contour lines are at intervals of 10 cm.

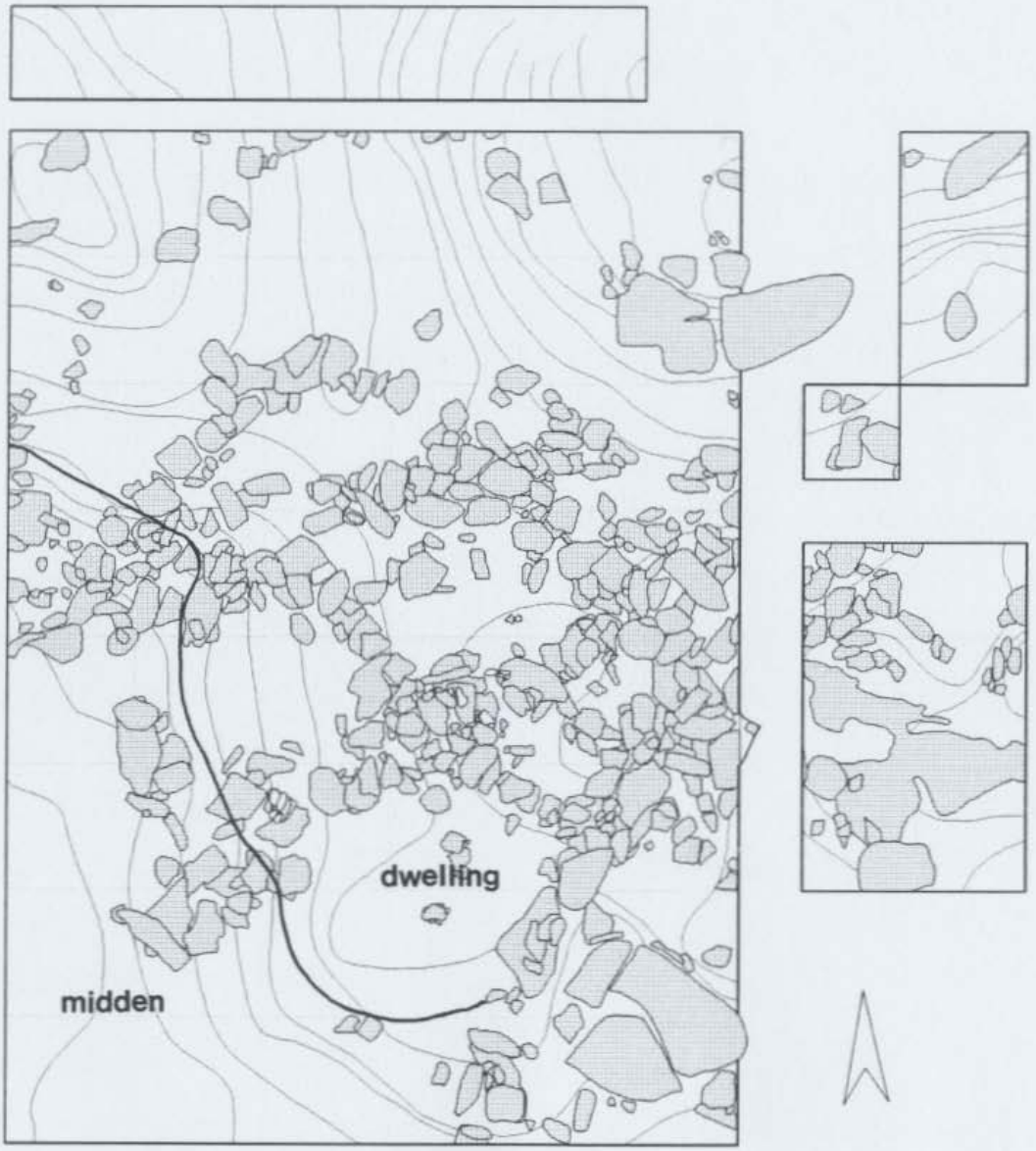


Figure 2.6: Dwelling and Midden Areas in Area C Excavation.

Schweder 1989). Over the years the Dorset may have modified the construction of the dwelling, removing rocks or replacing them and throwing the broken or less desirable ones in the midden. It is also possible that hold-down rocks (rocks used to hold-down the sides of a structure's covering) from the ridge above had rolled down into the midden.

Evidence for the repeated occupation of this dwelling may exist in the layout of a specific group of the rocks extending over both the midden and the raised area (see Figure 2.7). These rocks have a cohesive structure and appear to be associated with the dwelling. However, they are situated on a *pre-existing* cultural layer. Therefore, these rocks may have been part of a structure that was built after the dwelling had been occupied for a period of time. While this feature could have functioned independently, it could also have been associated with the dwelling, perhaps extending its boundary.

By the third week of excavation, almost the entire southwest quadrant was exposed and units in the southeast, northwest, and northeast quadrants were slowly being excavated. The units in the southeast quadrant were located directly beside what appears to have been Linnamae's earlier trench excavation of Area C. A fairly thick disturbance in the upper stratigraphy of the cultural layer was noted in these units, and was in all likelihood caused by this previous investigation. For the most part, this quadrant was beyond the limits of the dwelling.

2.3.3 Stratigraphy

On the whole, the stratigraphic sequence in Area C excavation was simple, as was expected from the test pit evidence. From top to bottom, the sequence was as follows: Level One, an upper peat and sod layer that varied in thickness from one to thirty centimetres, occasionally mixed with a disturbed cultural layer which was really the displaced dirt from Linnamae's nearby excavation; Level Two, a cultural layer which reached its maximum thickness in the trench areas or midden; and lastly, the bottom layer which was a yellow-brown clay subsoil. While most units had a stratigraphy which conformed to this sequence, there were some exceptions.

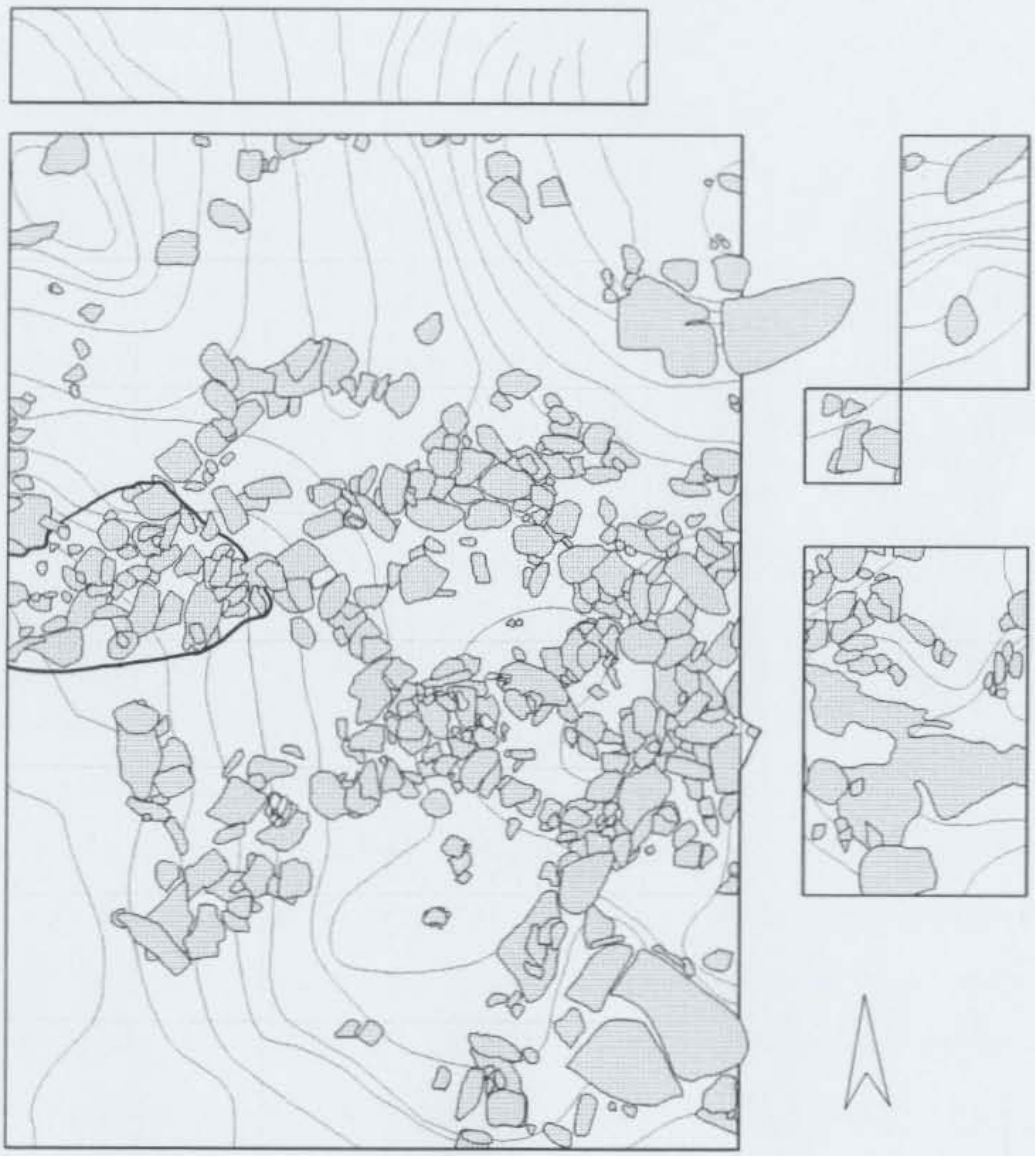


Figure 2.7: Rocks Resting on a Cultural Layer.

A layer resembling bark was found in the lower stratum of the cultural layer in nine units throughout the midden (see Figure 2.8). This bark-like layer was dark brown/black to orange-brown in colour, was approximately five to ten centimetres thick, and had the consistency of wet bark under the trowel. This layer most likely represents an old peat and sod layer which, having been covered by so much organic material in the cultural layer, has now taken on a woody or bark-like appearance.

There were a few other units in the midden with an interesting stratigraphy. These units had a complex layering of soils which was either caused by disturbance, or by repeated dumping episodes. Isolated pockets of charcoal, sand, clay, and unidentified organic material (possibly fur) were found.

2.3.4 Two Axial Features

By the fourth week we had exposed the remains of almost an entire Dorset dwelling. Two axial features, a main and secondary one, could be seen intersecting each other in the middle of the dwelling (see Figure 2.9). Axial features are typical in Dorset dwellings, and usually consist of a line of rocks upon which various activities, such as cooking and tool manufacturing, are carried out. An axial feature also delineates space; inhabitants of a dwelling lived in open spaces on either side of the feature.

The dwelling in Cape Ray is unique because it appears to contain two axial features instead of the usual single axial feature. Furthermore, both axial features appear to be contemporaneous, being situated directly above the subsoil, with no identifiable superposition between them. However, one axial feature, running on a northeast angle along the dwelling, is larger, contains more activity areas, and connects with a rear sleeping platform (which will be discussed later). I call this the main axial feature. The smaller axial feature will be referred to as the secondary axial feature.

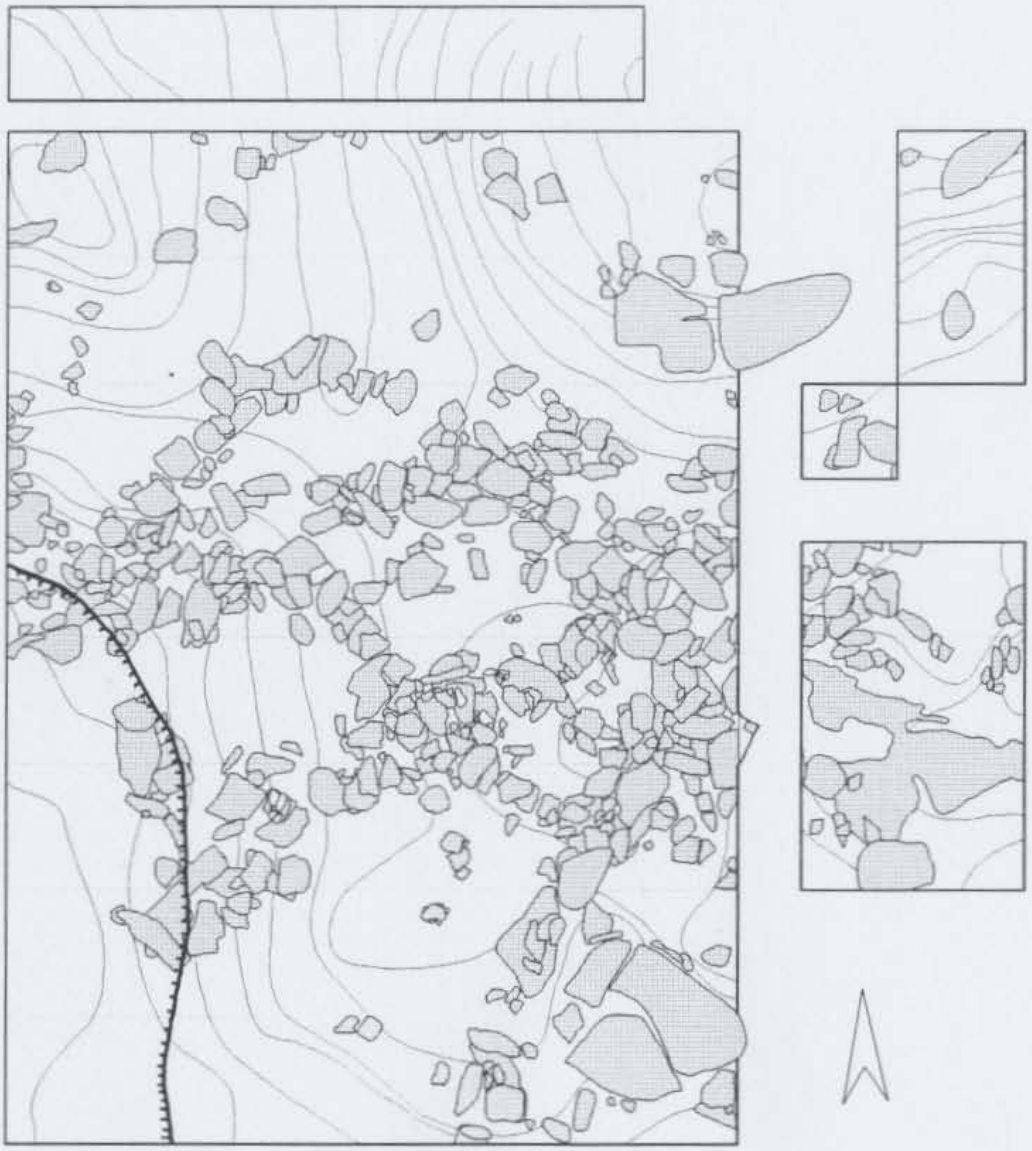


Figure 2.8: Prehistoric Peat Layer in Midden Area.

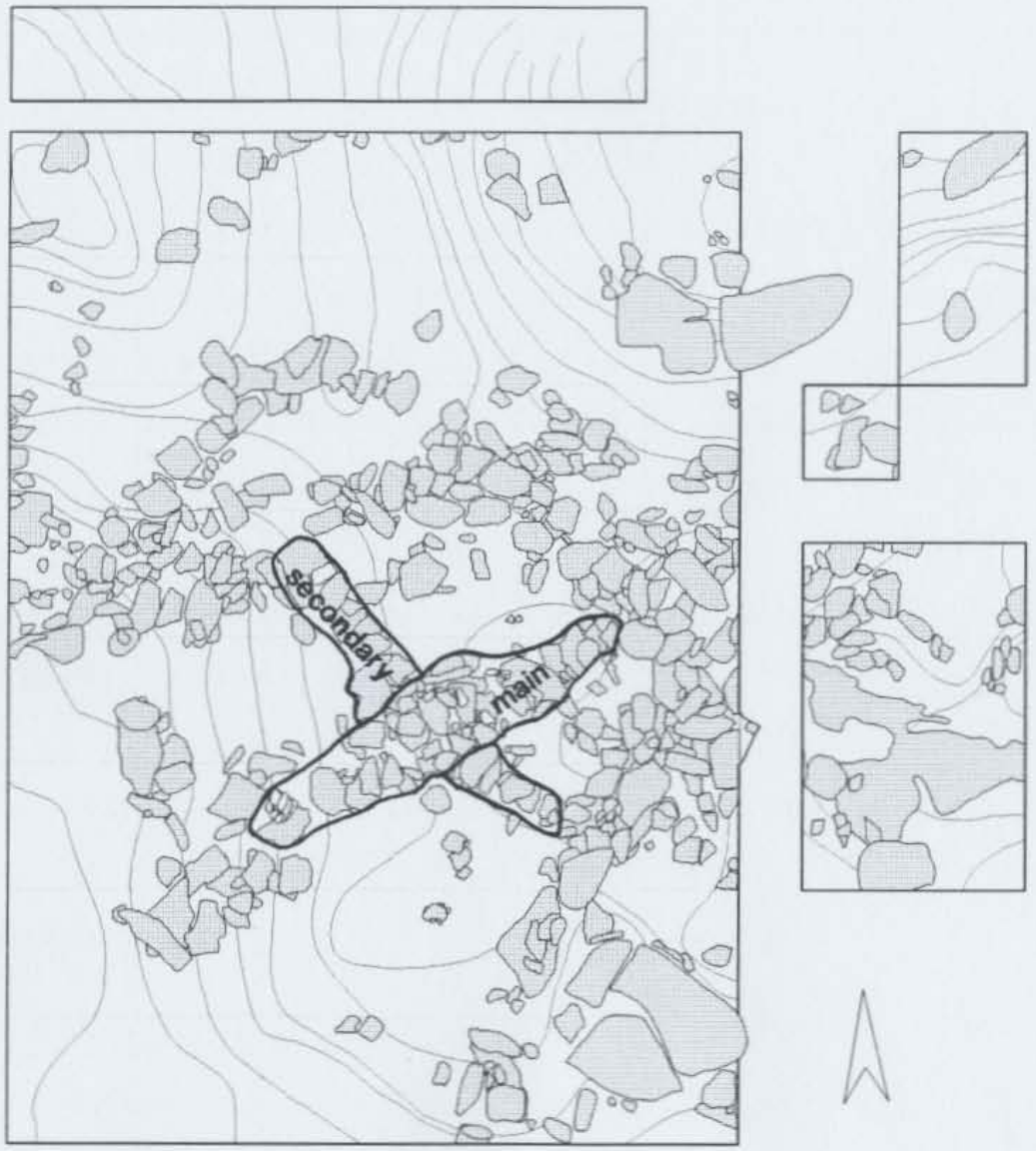


Figure 2.9: Main and Secondary Axial Features in Dwelling.

Evidence for activity was found on the main axial feature. Soapstone shatters were found in the centre and on the end of this feature. The centre of the axial feature also appears to be the focal point or "centrepiece" for activity within the dwelling. I refer to this area as the centrepiece because it contains so much evidence for activity: three soapstone shatters, two flake and charcoal concentrations, and a concentration of burnt rocks (see Figures 2.5, 2.9, and 3.7). Therefore, this centrepiece area appears to be where the inhabitants cooked and made tools, and the centrepiece itself was most likely a hearth.

The other soapstone shatter was found on the western end of the axial feature, right before the drop-off in elevation where the midden begins. Here again the shatter is in close proximity to a number of burnt rocks. The majority of the burnt rocks recorded for the entire dwelling make-up this main axial feature.

The secondary axial feature is located perpendicular to the main one, and the two intersect at the centrepiece. This smaller axial feature also traverses the dwelling so that in combination both axial features appear to divide the dwelling into quadrants of relatively open space.

2.3.5 Open Spaces and Entrance-Passage

Four open spaces, relatively free of rocks, are found within the dwelling. The two open spaces on either side of the main axial feature (#1 and #4 in Figure 2.10) are fairly large and flat, and would have been suitable living areas within the dwelling. Two other open spaces (#2 and #5) could have been living areas, or used for some other purpose like storage. Space #3 was most likely the entrance-passage to the dwelling. It naturally slants upward and thereby acts as a perfect cold-trap. Furthermore, it faces the ocean, which is common in Dorset entrance-passages. Finally, it is marked by a large boulder (in this case, natural bedrock conglomerate - see Figure 3.6) inside of the dwelling, which is also characteristic of the entrance-passage (LeBlanc 1997: personal communication).

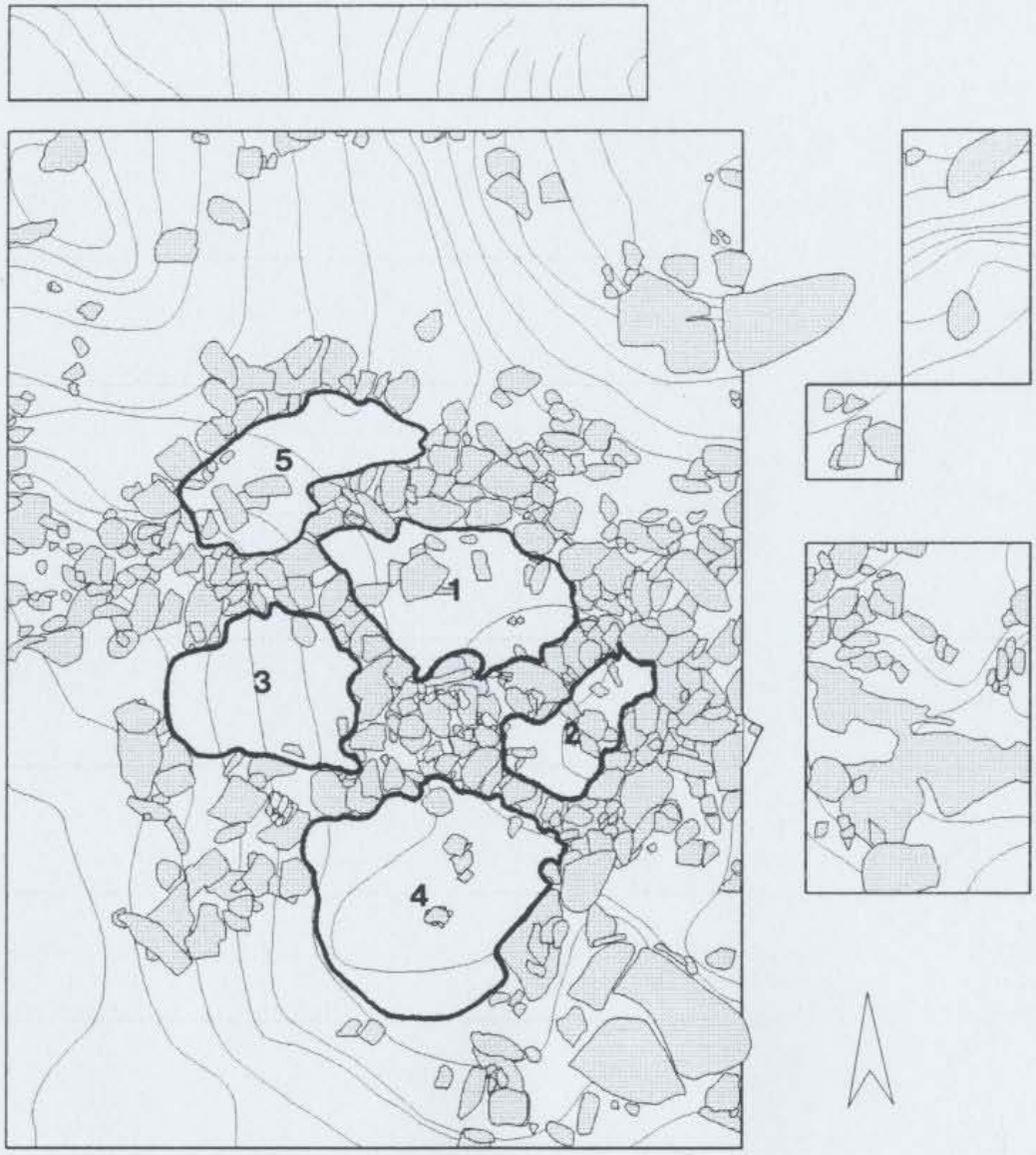


Figure 2.10: Open Spaces and Entrance-Passage (#3) in Dwelling.

2.3.6 Rear Sleeping Platform

The rear sleeping platform, seen in Figure 2.11, is made up of over 100 rocks. All of these rocks are lying flat rather than on their edges, so that none of them slant upwards obtrusively, or more important for a sleeping platform, uncomfortably. It is a fairly level platform, and the rocks have the appearance of forming a pavement that is slightly embedded into the ground. The overall impression is that the ground beneath the platform has been hollowed out in areas, creating a trough for these rocks to be placed on. This is uncharacteristic of typical Dorset sleeping platforms, which tend to be raised above the ground. Whether this trough was created naturally or culturally is unknown. But, it does seem that the rocks were intentionally placed within the trough. If the trough was cultural, perhaps their intent was to level the floor upon which the sleeping platform of rocks would be laid.

2.3.7 Dwelling Boundary

One of the most difficult things to determine about this dwelling is where its boundary lies, and how the superstructure was constructed. We know that other Palaeoeskimo dwellings had a superstructure of whale ribs and other bones (Renouf 1993, Helmer 1996), with a hypothesised animal skin and sod covering. In Sub-Arctic areas, such as Newfoundland, wood may have been used for the superstructure.

Often the perimeter of a cold-climate dwelling is delineated by hold-down rocks which were used to keep the skins in place, or by a low stone wall upon which whale ribs might have rested. There is no clear indication that either of these existed in this dwelling. The only evidence for possible hold-down rocks is found in the line of stones along the northwest edge of the dwelling. No other evidence for hold-down rocks exists, which leads me to suspect that the dwelling's superstructure, most likely constructed from seal and/or caribou skins, was more commonly held down by sod and/or snow during its occupation.

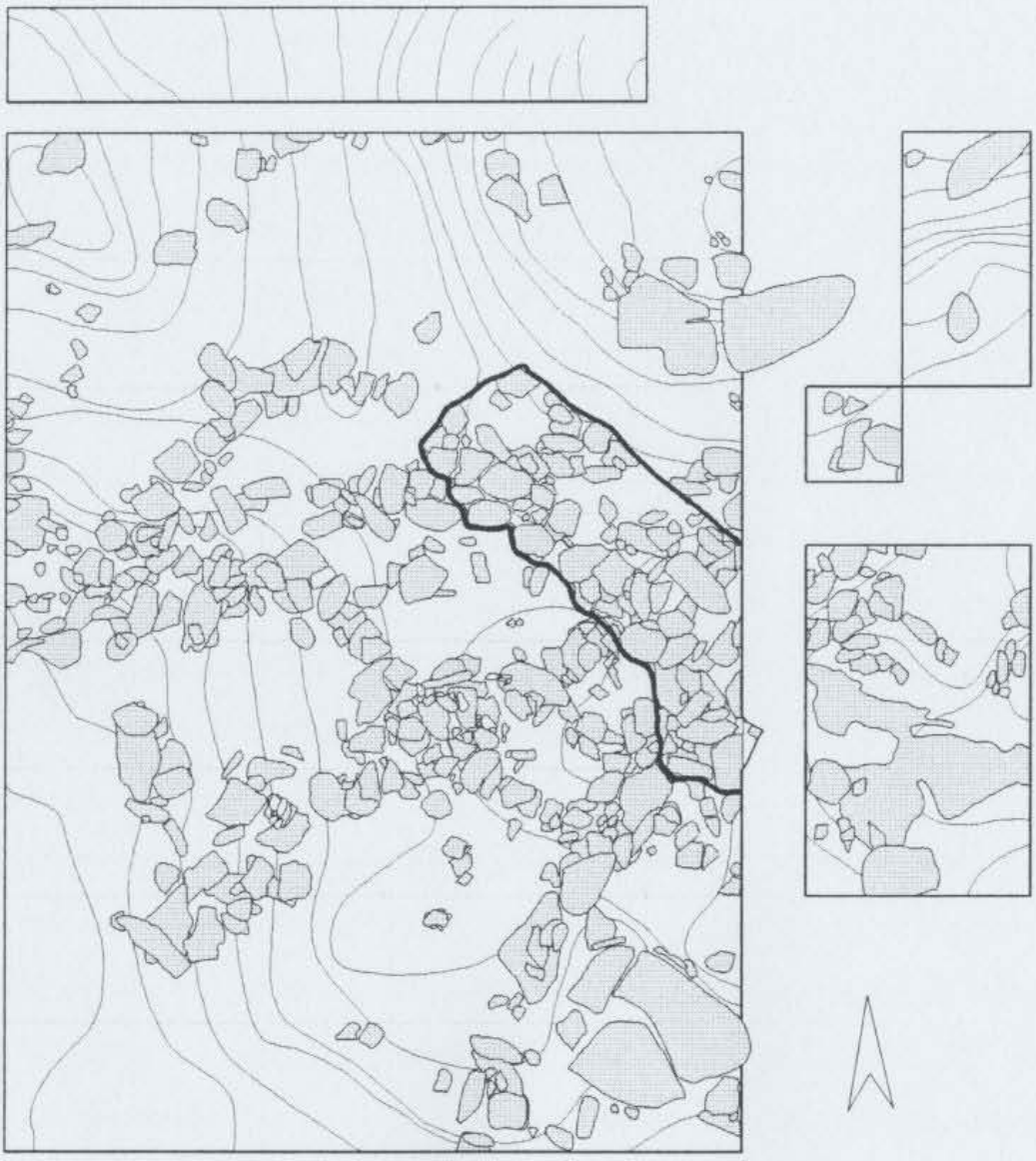


Figure 2.11: Rear Sleeping Platform in Dwelling.

Figure 2.12 illustrates where the dwelling's boundary most likely extended. This boundary was extrapolated from an assessment of architectural features and topography; the dwelling in its entirety is situated on raised ground, encompasses the internal features, and appears to be linked to two boulders of bedrock on its periphery. Therefore, the area of the dwelling is approximately 17 m2, using this hypothesised boundary.

2.3.8 Natural Bedrock Outcrops

Another note on the presence of the naturally occurring bedrock: it does not seem to be a coincidence that the dwelling, in its *entirety*, is situated precisely in-between the two large bedrock boulders (see Figure 3.6). I think the decision to locate the dwelling in this area was partially influenced by the availability of this bedrock. The bedrock could have been incorporated into the construction of the dwelling, both practically and symbolically.

On a practical level, the inhabitants could have used the bedrock as a foundation or wall. The symbolic use of the bedrock is also noted because, in addition to marking the edges of the dwelling, the main axial feature runs right through two smaller outcrops of bedrock coming through the living floor. Symbolically, the bedrock represents symmetry in the dwelling. Bedrock in the southeast quadrant lay flat, or at level with the subsoil, rather than protruding like the other two large bedrock boulders.

Therefore, the location of this dwelling was probably chosen because a) it is a raised, flat and dry area, and thus suitable for habitation, and b) the natural bedrock could be incorporated into the construction of the dwelling, both practically and symbolically. In my opinion, both points could have equal weight in the selection of this location. But, it is interesting that in the entire span of coastline along this site and beyond, about two kilometres, this is the *only* spot where we noticed the bedrock jutting out of the land so obviously and invitingly.

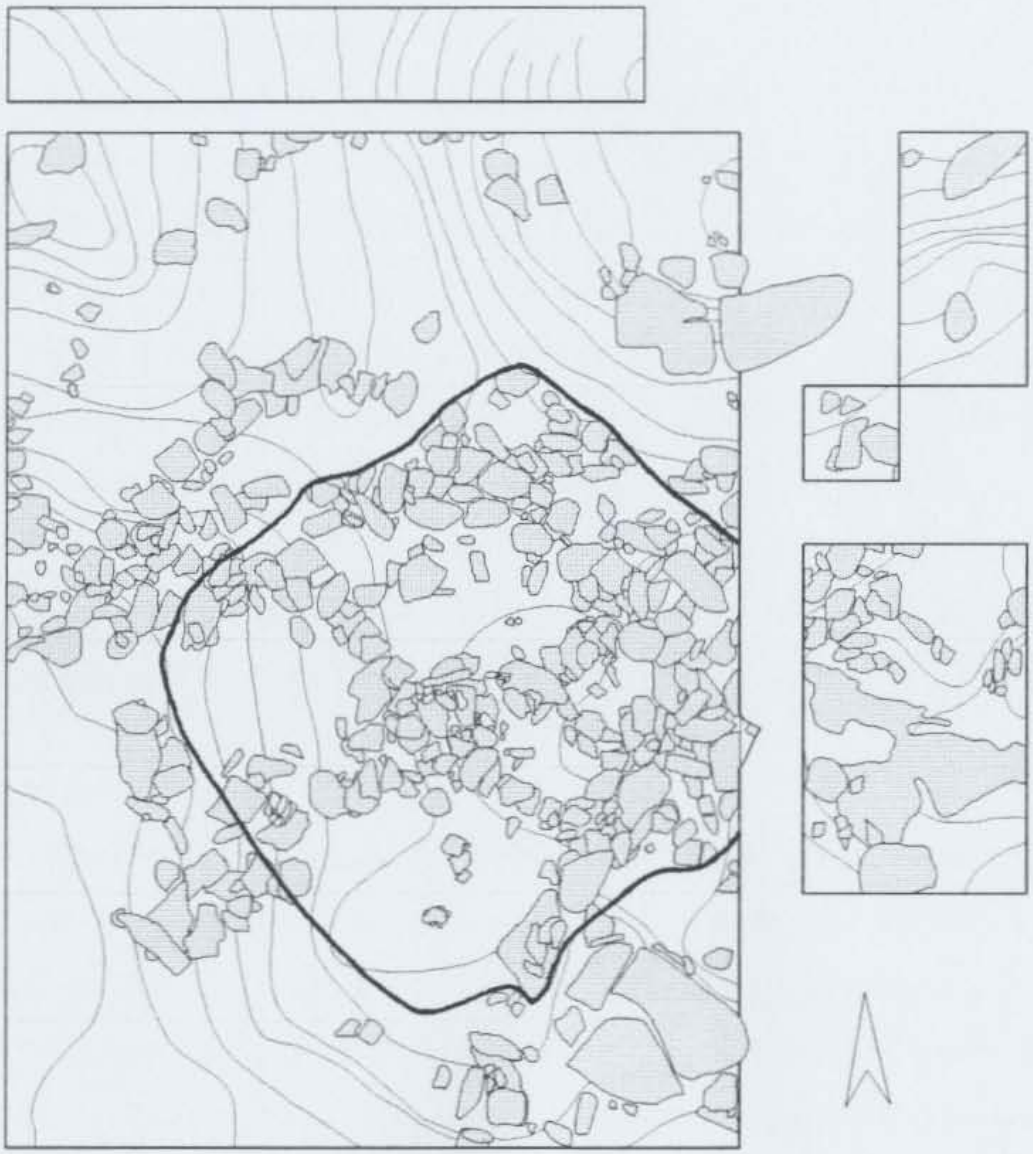


Figure 2.12: The Dwelling's Approximate Boundary.

By the end of the fourth week we had uncovered more than enough material for analysis. The next two weeks were spent continuing the artifact processing in the basement "lab" of the interpretation centre (cleaning, labelling, cataloguing), conducting resource interviews in the nearby village of Cape Ray, mapping features, drawing profiles, and excavating the north-south baulk. Depths were taken from 62 points along the living floor so that we could later reconstruct the dwelling's topography. This served as a back-up and counterpart to the unit measurements for the microtopography of the cultural layer.

Some 761 rocks were classified in Area C excavation. In addition to being mapped, for each rock we recorded its type (granite, sandstone, schist, conglomerate, slate, natural bedrock conglomerate), width, and indicated if it had been burnt, pedestaled, stacked upon other rocks, and if it rested on an angle.

2.4 The Artifacts

Over 2300 artifacts were recovered from Level 2, the cultural layer, the majority of which were lithics. The overwhelming choice of material was chert (78% of the assemblage) followed by quartz crystal (11%), soapstone (7%), slate (3%) and other (1%). Chert was probably obtained (either through trade or direct recovery) from the Port au Port and Cow Head regions. Quartz crystal was probably recovered in the immediate area of Cape Ray where large veins of quartz can be found. The hexagonal quartz crystals were probably obtained from weathered quartz veins.

As is common on Dorset sites, microblades were the most prevalent artifact, accounting for 37% of the assemblage. This was followed by endblades (12%), retouched flakes (10%), endscrapers (9%), vessel fragments (7%), core fragments (6%), tip flute spalls (5%), ground slate (3%), bifaces (3%), and utilised flakes (3%). These ten artifact classes account for 95% of the total artifact assemblage.

By comparison to other Dorset sites in the High Arctic and in Newfoundland and Labrador, Cape Ray has an unusually large amount of soapstone in its assemblage. In Newfoundland, high quality soapstone can be found at the Dorset soapstone quarry at Fleur de Lys, approximately 940 km from the site. While it is possible that soapstone was obtained from Fleur de Lys, quarries closer to the site were more likely to have been procurement areas, as discussed in Chapter Four.

Small patches of fur and hide were recovered, most of them from the wet boggy midden area. Also recovered was a fragment of a small toy soapstone vessel, and a ground slate implement, shaped like a needle, with binding material still lodged in a side-notch. Scanning and transmission electron microscopy was performed on this material by Carolyn Emerson from the Biology Department at Memorial University of Newfoundland. The analysis of the internal and surface structures of this material provided good evidence that it is sinew from animal tendon fibres.

A DNA sequencing analysis was attempted by Sylvia Bartlett from the Biochemistry Department at Memorial University of Newfoundland, to determine to what species the tendon fibres belonged. Unfortunately, this proved to be unsuccessful due to the inability to amplify the DNA for the complete analysis.

Organic material such as wood, fur, hide, and sinew was preserved due to the acidity of the peat which rested on top of the cultural layer. The acid would have prevented bacterial growth, which is what destroys soft tissues. On the other hand, the acid dissolved any bone remains so that we do not have a record of the rich bone technology associated with land and sea hunting (shafts, foreshafts, harpoon heads, lance heads, arrows, spears, prongs, sled shoes, etc.), or with food processing and personal items (wooden handles, awls, needles, needle cases, effigies, daggers, pendants, etc.).

2.5 Summary of Chapter 2

After nine weeks of fieldwork we had determined the spatial limits and concentration of the prehistoric occupation at Cape Ray, discovered a Dorset dwelling, and recovered over 3000 artifacts from Area C, which includes the dwelling, midden, and outside of the dwelling.

The dwelling was situated on the plateau of a knoll and surrounded by a midden located in a lower trench area. Dorset groups probably selected the site of the dwelling for two reasons: it is a raised, flat and dry area which was suitable for living, and the inhabitants were interested in the natural bedrock outcrops which could have been used, both practically and symbolically, in the construction of the dwelling.

There is evidence that the dwelling was re-occupied over many years, indicated by the large number of artifacts, the discard rocks in the midden, and the presence of rocks which have been placed on a pre-existing cultural layer.

While a lot of information concerning the dwelling can already be determined from the features within it, it now becomes a matter of expanding our interpretations with other evidence. In the next chapter, I will describe the Cape Ray Dorset dwelling through an analysis of artifact distributions, and through comparisons with other Palaeoeskimo dwellings in Newfoundland and beyond.

CHAPTER 3

MAKING SENSE OF THE DWELLING

3.1 Introduction

When I was an undergraduate student and first saw the plans for a Dorset dwelling I was sceptical. How could something so small and meagre have housed an entire family? In my typical emic view of the world I saw dwellings as large, sturdy structures which, if torn down, would resemble an enormous pile of scattered debris from the walls, floors, and the roof.

The grim reality of Dorset dwellings is that in most cases, they are only slim scatters of evidence, and of these scatters, few are bold indicators of a particular feature, with most of them providing only subtle clues as to their function. Nonetheless, patterns do exist in Dorset dwellings, just as they exist in the dwellings of other cultural groups in the Arctic. In fact, an interesting avenue for interpreting these Arctic and Sub-Arctic cultures is through the dwelling analysis, where patterns, overlaps in styles, and variations can be observed and interpreted.

In this chapter, I will briefly list the patterns in dwelling type among the prehistoric Arctic and Sub-Arctic hunter-gatherer groups which include Independence I and Sarqaq, Pre-Dorset, Independence II, Groswater, and Dorset. Following this, I will examine the evidence for Dorset dwellings in Newfoundland, and finally, I will focus specifically on the Dorset dwelling at Cape Ray in terms of artifactual distributions, structural attributes, superstructure, and occupancy. The Cape Ray dwelling will then be placed in the context of other Dorset dwellings in Newfoundland and the Arctic.

3.2 Understanding the Cape Ray Dorset Dwelling

3.2.1 Prehistoric Cold-Climate Dwellings

The prehistoric cultures under review include those within the categories of Early Palaeoeskimo (Independence I, Sarqaq, Pre-Dorset, Independence II, and Groswater), and Late Palaeoeskimo (Dorset). For simplification, I have summarised the dwelling descriptions, by archaeological culture, in Tables 3.1-3.6.

One thing becomes apparent after reviewing these descriptions: no generic dwelling type exists within each culture. It is also clear that despite the variation that exists amongst the dwellings of these prehistoric Arctic and Sub-Arctic hunter-gatherers, there are common features in dwelling construction which have persisted throughout the approximately 4000 years of Palaeoeskimo prehistory.

Perhaps the most characteristic symbol of these dwellings is the axial (or mid-passage) feature, which is usually the site of one or more hearths. This feature was first recorded in the Independence I dwellings of Greenland (Knuth 1954). An eighteenth-century drawing of a Saami dwelling from northern Scandinavia shows an axial feature and central hearth being used by individuals on either side (Leem 1767). Therefore, it appears that the Palaeoeskimos used techniques originating in the Old World: production of a small tool technology; and dwelling construction using an axial hearth feature (McGhee 1996).

In addition to the axial hearth feature, other characteristics which appear to have persisted throughout the approximately 4000 years of Palaeoeskimo prehistory, as indicated by both archaeological and ethnographic evidence, include the following: tents and shallow pit structures; dwellings that are marked by a boundary of hold-down rocks or gravel; and, dwellings that have a superstructure composed of a framework of wood and/or bone, covered with skins, and insulated with sod and snow.

Table 3.1: Independence I Dwelling Characteristics: circa 4500 - 3000 B.P.

Geographical Distribution: Eastern High Arctic (Canada and Greenland).

Appearance	Axial Feature	Hearth	Boundary	Semi-sub or Surface	Size	Suggested Superstructure	Other Features
amorphous and defined	yes and no when yes: double line of vertically placed stone slabs	yes and no when yes: one central or multiple along axial feature	yes and no when yes: oval ring of stones and boulders recorded	surface tent and shallow pit houses	recorded: 3X3 metres 3X4 metres	frame of driftwood, willow branches, musk-ox bones lashed together with musk-ox skin covering, possibly insulated with snow blocks	recorded: sleeping platform

References: Knuth (1954) (1967a), McGhee (1976) (1979), Helmer (1991), Schledermann (1990).

Table 3.2: Sarqaq Dwelling Characteristics: circa 4000 - 3000 B.P.

Geographical Distribution: Eastern High Arctic (Canada and Greenland).

Appearance	Axial Feature	Hearth	Boundary	Semi-sub or Surface	Size	Suggested Superstructure	Other Features
defined	yes and no when yes: double line of vertically placed stone slabs	yes and no when yes: one central recorded: box hearths	yes recorded: boulder pavement	surface tent and shallow pit houses	recorded: 8m diametre 3.5X4 metres	hypothesised wood and/or bone frame with skins, sod, and snow	n/a

References: Larsen and Meldgaard (1958), Meldgaard (1961), Schledermann (1990).

Table 3.3: Pre-Dorset Dwelling Characteristics: circa 3500-2600 B.P.

Geographical Distribution: Eastern Canada Arctic, High Arctic (Canada and Greenland), Labrador.

Appearance	Axial Feature	Hearth	Boundary	Semi-sub or Surface	Size	Suggested Superstructure	Other Features
amorphous and defined amorphous: patches of vegetation or scatters of rocks	yes and no recorded: line of boulders, double line of vertically placed stone slabs some axial features are ill-defined	yes and no one or more recorded: box hearths	yes and no	surface tent and semi-subterranean	recorded: 2X1.5 metres 4.5X 4 metres	hypothesised wood and/or bone frame with skins, sod, and snow	n/a

References: Dekin (1976), Meldgaard (1962), Cox (1978), McGhee (1979), Helmer (1991), Schledermann (1990)

Table 3.4: Independence II Dwelling Characteristics: circa 3000-2600 B.P.

Geographical Distribution: High Arctic (Canada and Greenland).

Appearance	Axial Feature	Hearth	Boundary	Semi-sub or Surface	Size	Suggested Superstructure	Other Features
amorphous and defined	yes and no recorded: double line of vertically placed stone slabs	yes and no recorded: one or two box hearths	yes and no	surface tent	recorded: 3X4 metres	hypothesised wood and/or bone frame with skins, sod, and snow	n/a

References: Knuth (1967a,b) (1968), McGhee (1981), Sutherland (1981), Schledermann (1990).

Table 3.5: Groswater Dwelling Characteristics: circa 2800-2100 B.P.

Geographical Distribution: Labrador and Newfoundland.

Appearance	Axial Feature	Hearth	Boundary	Semi-sub or Surface	Size	Suggested Superstructure	Other Features
amorphous and defined	yes and no recorded: paved feature	yes and no recorded: box hearth	yes and no	surface tent and shallow semi-sub	recorded: 2.5X4 metres 5m diametre	hypothesised wood and/or bone frame with skins, sod, and snow	evidence for low wall foundation and rear platform

References: Cox (1978), Renouf (1993b), Auger (1982), Loring and Cox (1986).

Table 3.6: Dorset Dwelling Characteristics: circa 2500-600 B.P.

Geographical Distribution: Eastern Canadian Arctic, Greenland, Labrador, and Newfoundland.

Appearance	Axial Feature	Hearth	Boundary	Semi-sub or Surface	Size	Suggested Superstructure	Other Features
amorphous and defined amorphous: patches of vegetation and/or scatters of rock	yes and no recorded: line of pits, line of small boulders, flat pavement, long trench, double line of vertically placed stone slabs	one central or multiple along axial feature recorded: box hearth	yes and no	surface tent and semisubterranean	recorded: 8m diametre 45 square m longhouses: some over 200 square m	hypothesised wood and/or bone frame with skins, sod and snow	recorded: entrance passages, rear platforms

References: Maxwell (1980), Cox (1978), Harp (1976), Renouf (1993b), Mary-Rousseliere (1976), Schledermann (1981)(1990), Helmer (1991)(1995), Hood (1986).

3.2.2 Seasonality and Dwellings

Determining seasonality from dwelling type alone is not a reliable process. The *a priori* hypothesis seems to be that the more substantial the dwelling is, the more likely it is to be associated with a cold season occupation. Reinhardt (1986) referred to the substantial nature of dwellings in terms of its "technounits", or layers of features within each dwelling. According to Reinhardt, the more technounits a dwelling has, the more complex it is, and the more likely it is to be occupied during the winter. Apart from being overly simplistic, his theory is immediately problematic when one considers the snowhouse, a dwelling with perhaps the fewest technounits, that was occupied during the coldest months of the year.

In addition to considering the quantity of artifacts per dwelling, Harp (1964) also distinguishes seasonality in dwelling type according to its level of complexity, linking the more substantial House 2 at the Phillip's Garden site, Port au Choix, northern Newfoundland, with a winter occupation, and the less substantial House 5 at the same site, with a summer occupation. This is especially common with archaeologists researching Thule dwellings, which are presumed to have been substantial structures due to the large amount of whalebone, and sod within their dwellings. Given that the connection between complexity and cold-season occupation is overly simplistic, the number of Thule dwellings that have been classified as winter habitations may be inflated.

Some archaeologists reason that the amount of effort expended in the construction of a complex dwelling, such as the Thule "winter" house, would only be worthwhile if it was lived in for months at a time. There is also the supposed problem of the putrid odour that would accompany a semi-subterranean dwelling during the warmer months. However, in the former case, Park (1988) argues that the expended effort would only be required in the first season of occupation, given that the occupants most likely re-occupied

the same dwelling for many years. Furthermore, Nagy (1994) has noted in the oral history of the Inuvialuit, that substantial semi-subterranean dwellings were occupied during the summer months.

Perhaps the most convincing reason to question the *a priori* assumption that a link exists between substantial dwellings and cold seasons, and between insubstantial dwellings and warm seasons, is the evidence from Independence I sites in the Canadian and Greenlandic High Arctic. The relatively simple construction of the majority of Independence I dwellings, often with the double line of vertically-placed slabs forming the axial feature and box hearth, and occasionally with a periphery of boulders, indicates that they were small, insubstantial, surface structures. Therefore, these hunter-gatherers survived the most extreme northerly conditions living in structures that were much less substantial than the Thule "winter" dwelling.

Furthermore, Park (1988) argues that the qarmat, which has been defined as a transitional-season tent structure built within an abandoned house depression, need not be relegated to fall and spring use only. According to Park (1998:171), Thule winter houses and qarmats are "not qualitatively different," and in all likelihood, qarmats could have been occupied throughout the entire winter.

When investigating the connection between seasonality and dwelling type, other things, such as available construction materials, artifactual and faunal evidence (or in addition to this, resource analyses and interviews), and location, must be examined. Obviously, an Independence I hunter-gatherer was not be able to construct the same kind of whalebone structure as the Thule did, when whalebone is unavailable because of permanent ice. However, the point of this discussion has been to indicate that there is no clear association between substantial dwellings and cold weather occupations, and between relatively insubstantial dwellings and warm weather occupations.

3.2.3 Palaeoeskimo Dwellings in Newfoundland

The study of Palaeoeskimo dwellings in Newfoundland has been accomplished, almost entirely, through the efforts of Dr. Elmer Harp Jr. and Dr M.A.P. Renouf from their work at Port au Choix on the northwest coast of Newfoundland (see Figure 2.1). The only other researchers to encounter Dorset structures were Helen Devereux (1966), Clifford Evans (1981), and Douglas Robbins (1985). Current work by Sylvie LeBlanc (1996 personal communication) on Dildo Island is also focused on Dorset house structures.

Devereux excavated a shallow, rectangular depression measuring 4 by 5 m at the interior site Pope's Point (on the Exploits River), and discovered disturbed layers containing both Dorset and historic components.

Evans conducted fieldwork at Frenchman's Island in Trinity Bay. He noticed a linear pattern of stones which he believes could have been the remains of a Dorset structure. Unfortunately, this was not excavated.

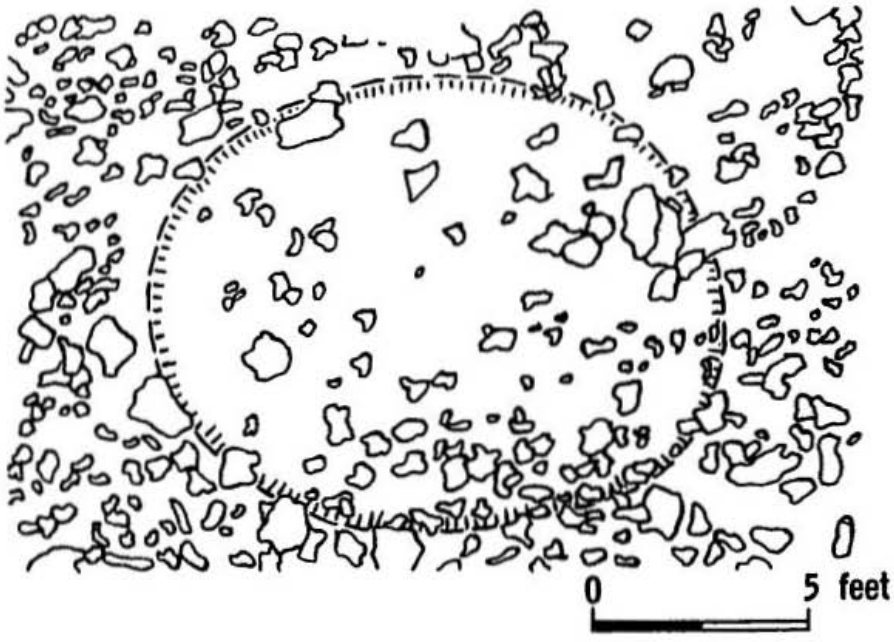
During fieldwork in Stock Cove, near Trinity Bay, Robbins unearthed what appeared to be a large and permanent house structure, occupied sometime during the terminal Dorset period in Newfoundland. According to Robbins, time constraints prohibited further analysis and the dwelling was not described in detail.

Between 1961 and 1964, Harp (1964) became the first person to take a comprehensive look at the Palaeoeskimo presence on the island. He concentrated his efforts at Port au Choix, where he tested and excavated (some partially) 20 out of the observed 36 Dorset dwelling depressions at the Phillip's Garden site. Harp (1976) suggested that two distinct dwelling types were found at Phillip's Garden, namely winter and summer dwellings. Although it is not explicitly stated, seasonality appears to be assigned to a dwelling based on whether it is a substantial construction (winter) or an insubstantial construction (summer). The idea was that a cold-weather occupation would be required to be sturdier in order to withstand harsher elements, and may contain internal features which reflect a reliance on indoor activities, such as an axial hearth or pits.

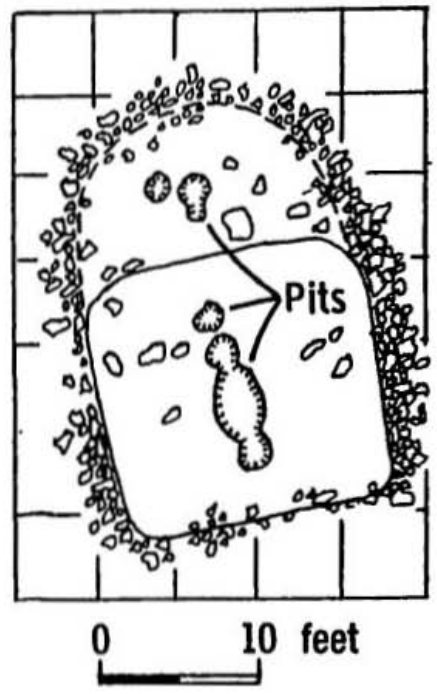
Harp (1976, 130) uses House 5 at Port au Choix as a model for a summer dwelling (see Figure 3.1). It is characterised by a shallow depression that is oval in shape, and has a dimension of 3 by 5.5 m. A thin distribution of artifacts was observed and a brief occupation is suggested.

House 2 at Port au Choix is selected as a model for a winter dwelling (see Figure 3.1). The internal dimensions of this house are around 5 by 5 m. However, Renouf (1986:15) noted that this does not include the rear platform, which extends the length of house to 8.2 m. The main floor was cleared of the naturally-occurring limestone beach rock, and dug out purposefully by the inhabitants. They placed the cleared-away beach rock on either side of the living area, thus forming a wall measuring between 31 and 46 cm above the floor level. However, Renouf (1986:16) noted that the beach rocks do not appear to have been stacked to a height which significantly differs from the surrounding floor. Instead, the elevation of the walls is caused more by the depression of the internal living area, resulting from the removal of beach rocks. A series of stone-lined pits runs through the centre of the dwelling and represents an axial feature. According to Harp, these pits may have comprised a central hearth area, despite the absence of significant amounts of charcoal within them. A semi-circular area, 26 to 31 cm higher than the main floor, is located at the back of the house and possibly represents the rear sleeping platform. In contrast to other sleeping platforms, this one is clear of rocks. Three storage pits are located in this area.

According to Harp, an exact dwelling boundary is impossible to determine. While a raised perimeter of stone is evident, he states that this does not necessarily mark the interior boundary of the dwelling, even with the presence of artifacts on this perimeter. However, Renouf (1993) later came across a dwelling (Feature 55) with a similar raised stone feature along its edges, and discovered that post-moulds marking a whale-rib



House 5



House 2

Figure 3.1: Harp's Houses 5 (Summer) and 2 (Winter)at Phillip's Garden.

Adapted from: Harp (1976)

superstructure were located on the *outside* of this feature. The feature was, in all likelihood, a sitting and sleeping platform which lined the inside of the dwelling, and not a wall upon which a superstructure rested. This may have served a similar function for House 2, excavated by Harp.

In describing this house, Harp (1976, 132) takes note of a complex architecture and a "careful construction of a culturally standardised design." And yet, his observation that this specific house form was representative of the winter house at Port au Choix was too generalised. In fact, as Renouf would discover during the six seasons she spent at Port au Choix, the level of variability in house style at the site is such that no two houses are alike (Renouf 1994). This indicates that dwelling construction was based on flexible, as opposed to static, cultural and cognitive blueprints. This large amount of intra-site variability in dwelling design may be influenced by a number of variables, including site function, seasonality, chronology, available materials, and individual/familial preferences.

Apart from House 5 and House 2 described above, there is little published information detailing the remaining eighteen dwellings which were either partially or fully excavated by Harp. Since he uses House 5 and House 2 as models of summer and winter occupations, one assumes that the remainder of the houses more or less conform to these models. Apart from looking at Harp's field notes, or observing the remains of his excavation, there is no way to substantiate his observation of generic summer and winter houses at the site. Renouf (1986) thinks that this idea of a generic dwelling over-simplifies the case, and that while House 2 may be an "ideal" winter dwelling, it is not representative of most of the dwellings at Port au Choix. More accurately, the Dorset dwellings at Port au Choix indicate the flexible and dynamic decision-making of their inhabitants.

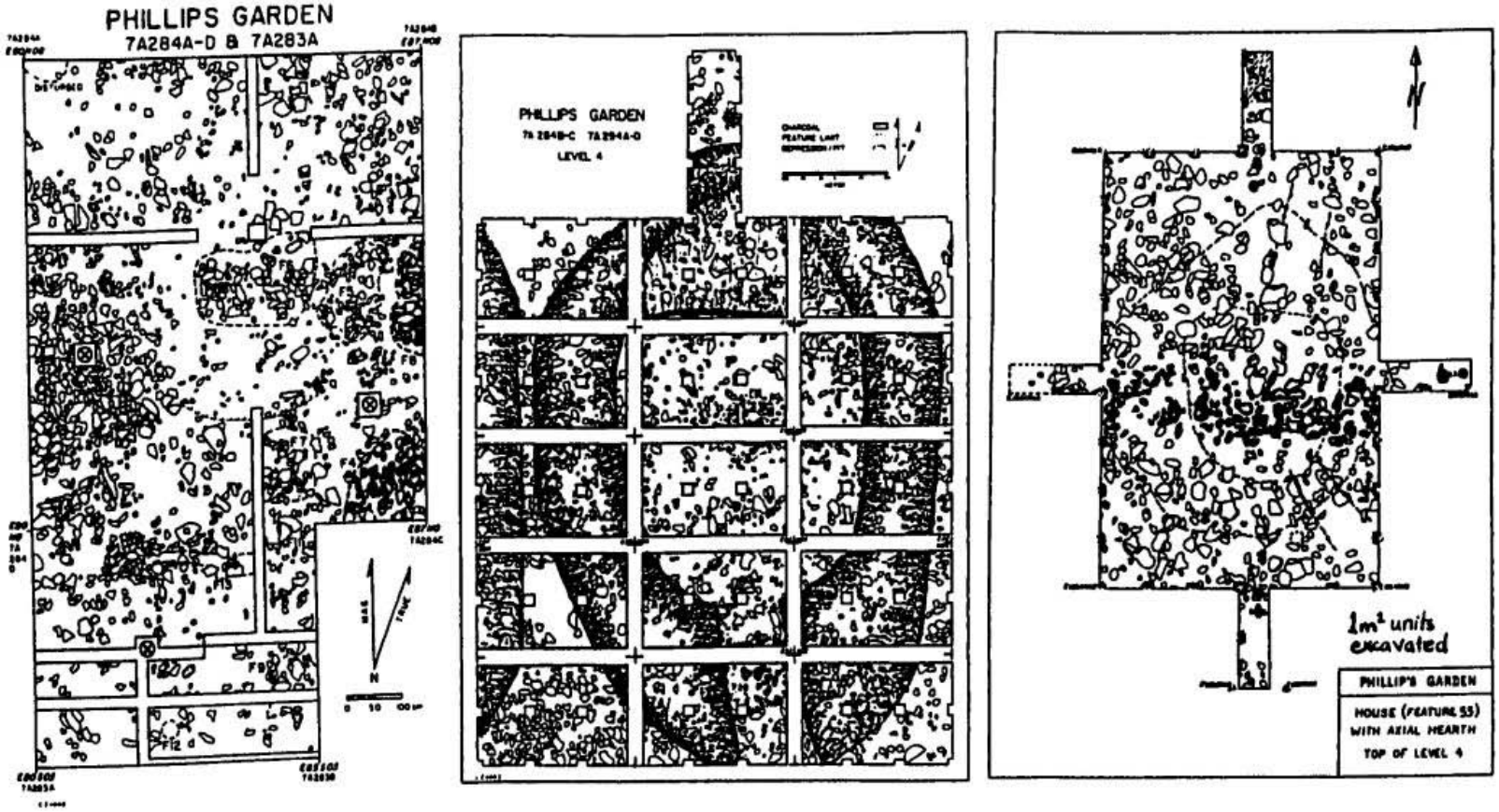
The Port au Choix Archaeology Project was established by Renouf and implemented during the six summers between 1984 and 1986, and 1990 and 1992. Her

goal was to investigate the variety of dwelling types at the site - ones which did not appear to conform to Harp's models. In doing so, the life-history of the site could be more accurately represented. In the six seasons of fieldwork, three new Palaeoeskimo sites were discovered, including two Groswater (Phillip's Garden East and West), and one Dorset (Point Riche) (Renouf 1985-1987, 1990-1993). At Phillip's Garden, three dwellings were excavated (Features 1, 14, and 55), and an axial feature with possible post-moulds was discovered and has been interpreted as a summer windbreak structure (Feature 42). At Point Riche, two dwellings were excavated (Features 1 and 8), and an exterior axial feature was found extending from Feature 8.

In total, eight Dorset dwellings (including the two described by Harp) have been comprehensively examined at Port au Choix. The following section describes the six dwellings excavated by Renouf. With the exception of the axial feature/windbreak, all dwellings were observed as depressions, and represent varying degrees of semi-subterranean construction.

3.2.4 The Dorset Dwellings at Phillip's Garden

Feature 1 (see Figure 3.2) at Phillip's Garden has a central depression measuring 4 by 4 m, which makes up the majority of the interior of the dwelling (Renouf 1986). It has been cleared of beach rocks, and is surrounded by a slightly raised perimeter of beach cobbles (25-35 cm above main floor) which makes up the walls of the dwelling. These walls are not distinct, making it difficult to trace the boundary of the dwelling. A slightly raised platform of rocks (28-35 cm above main floor) measuring four metres north-south and two metres east-west, is located on the western edge of the excavation and probably represents a sleeping platform. Interior bone-filled pits were found in the dwelling, but did not line up as they did in House 2. A break in the northern wall may indicate an entrance way. Peat intermixed with cultural layer was found in small amounts within one unit



Feature 1 Feature 14 Feature 55

Figure 3.2: Renouf's Features 1, 14, and 55 at Phillip's Garden.

Adapted from: Renouf (1986, 1987, 1993).

adjacent to the proposed wall. Its presence may indicate that sod was used in the construction of the dwelling's superstructure.

The overall impression of Feature 1 is that it is not clearly defined, and difficult to interpret. While a north-south orientation of the dwelling was initially indicated, the features suggest an east-west orientation, with the sleeping platform at the rear, and with Features 5 and 6 comprising a line of rocks representing the axial feature and bisecting the house. This is strengthened by the discovery of a box hearth located along this possible axial feature and, according to Murray (1992), from the distribution of faunal material within the house.

According to Renouf, Feature 1 more closely resembles House 2 than House 5 in terms of its depth and internal features, and a cold-weather occupation of the dwelling is inferred. Following an analysis of the faunal material from Feature 1, Murray (1992) favours a fall-early winter occupation of the dwelling. However, the best time for hunter-gatherers to catch seals in large numbers would have been in the spring months when whelping seals travel along pack ice up the coastline off Port au Choix. A late winter-early spring occupation is much more likely, and is supported by faunal evidence from middens adjacent to the dwelling and throughout the site (Renouf 1991 and Harp 1976).

Feature 14 (see Figure 3.2), a larger and deeper depression than Feature 1, was excavated the following year (Renouf 1987). The dwelling was large, oval, and had dimensions of 11.5 by 7.5 m. The border of the dwelling is indicated by a perimeter of built-up limestone beach rocks, which was not often easily discernible. As with Feature 1, it appeared that the interior floor of Feature 14 was cleared of beach rocks. Buried sod was noticed in one wall, and may have been part of the dwelling's superstructure. Whalebone pieces were found throughout the dwelling and may also have been part of the superstructure.

A rear platform consisting of few beach rocks but many large flat rocks, was raised 20-25 cm above the central floor. South of this was a central depression, measuring three metres north-south, and four metres east-west. Another raised platform was found at the front of the house. At the very front of the dwelling was a narrow, linear depression two metres wide and two to three metres long which may have been an entrance-passage. While seen in Dorset dwellings in Labrador, entrance-passages are rare, and had not been found in Newfoundland. Furthermore, while most of the entrances at Port au Choix face north (away from the Gulf of St. Lawrence), this one was facing south (towards the Gulf). Finally, three bone-filled pits formed a line down the central axis of the dwelling, and represent the axial feature.

Renouf describes Feature 14 as a more clearly defined dwelling than Feature 1 due to its size and the presence of more formalised features such as the axial arrangement of pits.

Feature 55 (see Figure 3.2) was the last Dorset dwelling to be excavated at Phillip's Garden. Its internal dimensions are 6 by 6 m and the depression extends 25 cm down into a limestone rock and sand beach (Renouf 1993). As with Feature 1, this dwelling has an east-west orientation, with an axial hearth feature of rocks dividing the internal living area in half. The hearth feature was a limestone slab pavement between 75-100 cm wide and extending along the dwellings interior.

Unlike Features 1 and 14, no rear sleeping platform was located in Feature 55. Instead, the perimeter of the house consisted of built-up limestone beach rocks, typical of both Features 1 and 14. One of the most interesting discoveries at the site was made when twelve post-holes were found on the outside of this perimeter. The bottom of some of these post-holes was slanted inwards towards the dwelling. Through experimentation, it was hypothesised that the superstructure of this dwelling consisted of a whale rib dome,

with the ribs fitting snugly into the post-holes and propped on either sides with rocks for support. Since this superstructure enclosed the built-up perimeter of beach rocks, it became clear that this perimeter was not a wall upon which a superstructure rested, but was most likely a sitting and sleeping platform. Because the same sort of perimeters occur in Features 1 and 14, it is possible that they served the same function in those houses (Renouf 1993).

Features 1, 14, and 55 were considered to be winter occupations because they were semi-subterranean, and in some ways resembled Harp's ideal winter house. During the 1990 field season, an axial hearth feature (Feature 42) was discovered which may have been a summer windbreak structure (Renouf 1991). The feature is made up of large limestone slabs lying on a gravel bed, and smaller slabs resting on an angle which may have been pot supports. Feature 42 has an east-west orientation. This is interesting because the axial feature in Feature 55, and the possible axial feature in Feature 1 are also oriented east-west. Surrounding the Feature 42 hearth is a living area free of rocks, two bone-filled pits, and one or possibly two post-holes on the northwest side. The absence of both a depression and a boundary of hold-down rocks indicated that this feature was not part of an enclosed cold-weather dwelling. However, a windbreak structure indicating a warm-weather occupation is possible and is supported by the post-hole evidence.

3.2.5 The Dorset Dwellings at Point Riche

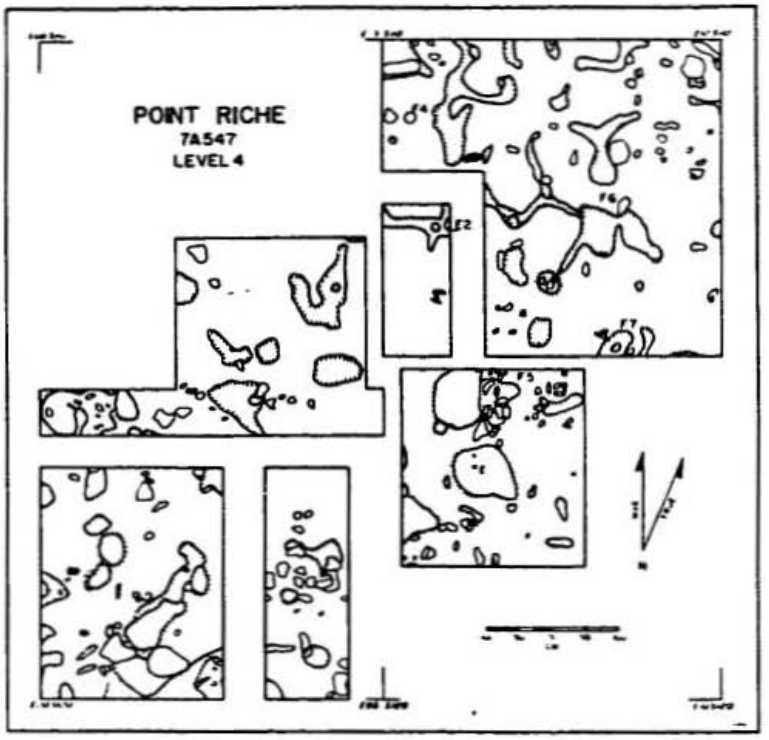
One of Renouf's goals was to investigate the relationship between the two Dorset sites at Port au Choix: Phillip's Garden and Point Riche. Both sites are residential base camps, with Point Riche on a much smaller scale. Radiocarbon dates from the sites overlap for a minimum 370 years (1840 to 1466 B.P.), indicating that both were occupied during the same time period. While some differences have been noted in the material

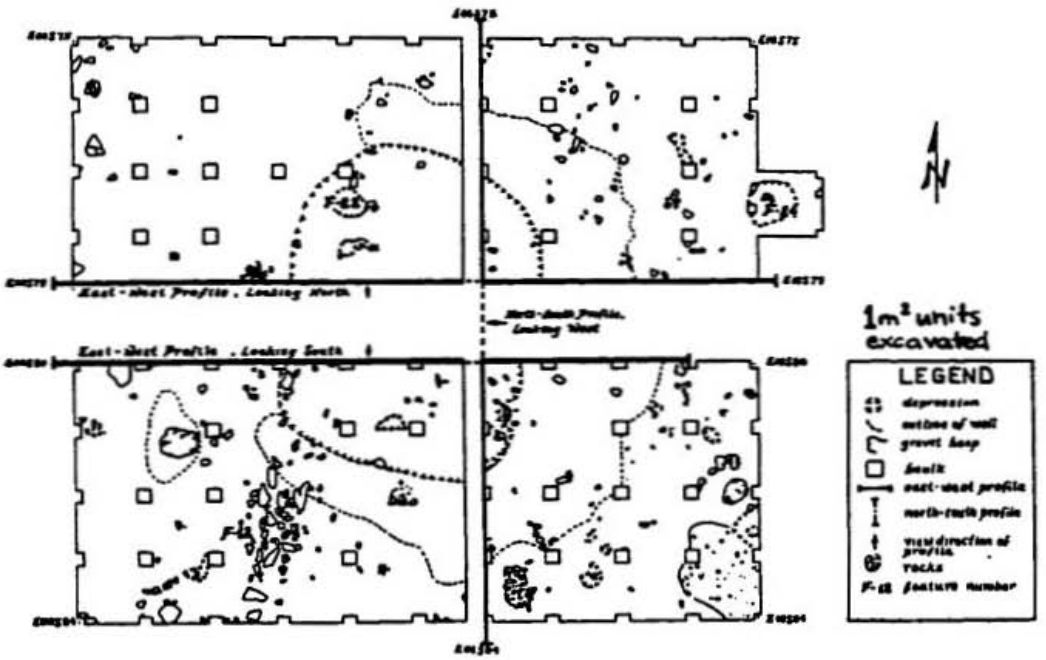
culture of both sites (see Renouf 1992:70), the most noticeable difference is seen in their micro-environments.

Point Riche is a forty-five minute walk away from Phillip's Garden, and located on an exposed point of land. This contrasts with Phillip's Garden which is located within a sheltered meadow. As a result, during the summer months, Point Riche is a windy place with few flies to deal with, whereas Phillip's Garden is infested with flies (Renouf 1986:33). Furthermore, the spring ice conditions differ between the sites, such that when Phillip's Garden is jammed with ice, making it difficult to get to the seals, Point Riche is ice-free (Renouf 1997, personal communication). Based on this, Renouf hypothesised a seasonal round for Dorset hunter-gatherers at Port au Choix, with Phillip's Garden representing their cold-weather home and Point Riche representing their summer home. This is supported by resource interviews, and by the evidence from one of the dwellings at Point Riche (Feature 8).

Feature 1 (see Figure 3.3) at Point Riche first appeared as a depression on the surface. As the excavation proceeded it became difficult to see this depression because it was so shallow, and Renouf was only able to identify it through the profile diagrams (Renouf 1996, personal communication). Once excavated, there was no sign of walls, platforms, or an axial feature. Renouf (1986) suggested that the lack of walls could be a result of the lack of limestone beach rocks in the area. At Phillip's Garden this beach rock was cleared from the centre of the house in order to make the living area comfortable. But, at Point Riche the site is situated upon limestone bedrock which was shattered into gravel, thus providing a fairly even and comfortable surface to begin with. Another feature of this dwelling is the large number of naturally occurring holes throughout the living floor. While it does not seem practical that families would situate themselves upon such a precarious surface, it is possible that they dealt with this by covering the floor with skins or some kind of vegetation (Renouf 1986). The interpretation of this feature as a dwelling is

Feature 1





Feature 8

Figure 3.3: Renouf's Features 1 and 8 at Point Riche.

Adapted from Renouf (1986, 1992).

based on its location within a shallow pit, the presence of two bone-filled pits, and the large number of artifacts which it contains.

From the surface, Feature 8 (see Figure 3.3) appeared to be a distinct square-shaped depression. It is interesting that this depression is a natural formation of the beach bedrock, with similar formations seen in the present day (Renouf 1992). It is assumed that the house floor consists of the same shattered limestone bedrock as in Feature 1, with few or no beach rocks to clear. Once excavated, its internal dimensions measured 3.4 by 5 m. Including a wall area the dimensions are 5.5 by 7 m. The built-up wall surrounds two-thirds of the dwelling and consists of gravel resting on soil. While it is possible that this built-up wall of gravel was created as a foundation upon which the dwelling's superstructure lay, it is also possible it represented a sitting or sleeping platform, which was the case in Feature 55.

One of the unique features of this dwelling is that an external axial hearth feature (F-12 on the drawing of Feature 8) is connected to it. While few artifacts were found within the dwelling, a relatively large number of artifacts were found surrounding the axial feature, including three soapstone fragments which verify its use as a hearth or cooking area. This external hearth feature supports the hypothesis that Feature 8, and Point Riche in general, was occupied during the summer months.

3.2.6 Superstructure

One of the most difficult things to reconstruct, apart from a dwelling's boundary, is its superstructure. When a dwelling is abandoned its superstructure will eventually collapse and scatter onto the ground. It is often difficult to find evidence of a superstructure, which leads me to suspect that at least in some cases, the materials used in its construction are scavenged and used to build other dwellings. In other cases these materials, such as skin and wood, end up decomposing. Nonetheless, from archaeological

evidence and ethnographic analogy, a superstructure consisting of a frame of whalebone ribs, and/or wooden poles, draped with walrus and/or seal skins, sod and other vegetation, is inferred for Dorset dwellings. At Port au Choix, it is possible that this superstructure rested upon a levelled wall of stones or beach rock. However, the exterior post-holes from Feature 55 indicate that this "wall" was more likely a sitting and sleeping platform.

Feature 55 provides the best evidence for a superstructure at Port au Choix. Twelve large post-holes, some of which were curved at the base, appear to have been the remnants of a whale-rib frame. Based on the archaeological evidence, Renouf (1993:33-34) offers a scenario for superstructure construction. Three measures were used to set the ribs in place: a flat stone or cobbles were placed at the bottom of the post-hole; sand and/or small pebbles were then used to fill the holes; and finally, the points at which the ribs entered the ground were lined with stacked stones. The ribs curved towards the centre of the dwelling, and were linked using additional wood or bone pieces, to form a spacious dwelling similar in shape to a yurt. The frame was then covered with skins, and may have been additionally supported using whale bone as horizontal struts.

3.2.7 Summary

Port au Choix is one of the largest and most extensively studied Dorset areas known. Therefore, it is extremely significant that an intra-site analysis indicates highly flexible architectural designs in Dorset dwellings. For the eight dwellings summarised above, it is indeed clear that no two are exactly alike. Although Dorset dwellings are identified based on specific architectural features (shape, size, axial feature, rear platform, semi-subterranean, etc.), the presence, absence, and alteration of these features is what accounts for the variability in dwelling type. The dwellings described above exhibit this variability: they have oval, square, or rectangular shapes, depressions are shallow, deep, or non-existent; internal dimensions range from 36 m2 (Feature 55) to 80 m2 (Feature 14); some have axial features, some have aligned pits which represent axial features, and some

do not have anything which demarcates space within the dwelling; four dwellings have either walls or sitting and sleeping platforms, while the others have no indications of a wall or platform perimeter; some have rear platforms, while others do not; some are oriented north-south, while others (all appearing to have axial features) are east-west; some are cold-weather occupations, while others are warm-weather occupations; the materials used in the dwelling's superstructure may have included wooden poles, walrus or seal skins, peat and sod, whalebones, and stone wall foundations; and finally, these hunter-gatherers did not just create depressions (either by clearing away internal rocks and/or digging into the ground), they also used naturally occurring depressions for their dwellings.

In general, variability can be attributed to cultural affiliation, site function, seasonality, location, and available construction materials. Yet, it is also possible that chronology, and both personal and group styles and preferences may have also influenced dwelling construction. Apart from location and available construction materials, any of these factors may play a role in intra-site variability.

In the next section, I will continue with my discussion of the Dorset dwelling at Cape Ray which began in Chapter Two, by examining artifact distributions and structural attributes, and by placing this dwelling in the context of the dwellings discussed above.

3.2.8 Depositional Context of the Cape Ray Dwelling

The depositional context of the artifacts in the cultural layer of Area C excavation, which includes the dwelling and the midden, must first be understood in order to proceed with the artifact analysis. The following interpretations of the artifact distribution throughout Area C excavation are based on the assumption that the artifacts are roughly contemporaneous: they are associated with the same set of activities and thus, can be related to each other.

Occupation layers can be determined from changes in the colour, content, and/or composition of the stratigraphy. While the dwelling at Cape Ray may have been occupied

repeatedly for many years, there was no indication of isolated occupations in the stratigraphy of the cultural layer. Nonetheless, the large number of artifacts retrieved from the cultural layer, in addition to its thickness, indicates that the assemblage is not representative of a single occupation of the dwelling. For the most part, artifacts would have been collected or swept up from the dwelling, leaving it relatively clean after each occupation. However, it is unlikely that the floors remained artifact-free from one year to the next. Furthermore, a thin cultural layer would have developed from each occupation of the dwelling, accumulating above the previous layer. Therefore, the artifact assemblage that was collected from the dwelling most likely represents the repeated occupations of the dwelling over a period of time, perhaps for around twenty-five years or more based on estimates for dwelling longevity provided by Helskog and Schweder (1989) for northern stone age houses.

For the purpose of my research, the differentiation of artifacts based on separate occupations is inconsequential as long as these artifacts are consistently associated with the same set of activities within the dwelling. This assumption is necessary in order to interpret the spatial distribution of artifacts throughout the dwelling in a meaningful way. This analysis can be accomplished with the Cape Ray Dorset dwelling for three reasons. First, there is no indication of any significant disruption in the stratigraphy throughout the cultural layer. Second, with the exception of a series of rocks in the midden/dwelling area (see Figure 2.7), there is no stratigraphic separation of any of the architectural features associated with the dwelling (main and secondary axial features, rear platform, etc.), and no evidence which indicates that these features were constructed at different times. This is important because the cultural layer, and the artifact distributions in general, become meaningful when placed in the context of particular architectural features throughout the dwelling. And finally, there is no evidence of any substantial post-secondary disturbance

throughout Area C excavation. In other words, the cultural layer only represents the activities associated with the occupation of the dwelling. For these reasons, it is possible to provide a meaningful analysis of the artifact distributions, which includes architectural and structural attributes, throughout Area C excavation.

3.2.9 The Cape Ray Dwelling: Artifact Distributions

Figure 3.4 illustrates the artifact density in Area C excavation. An analysis of the distribution of artifacts was undertaken in order to determine four things: differences in the density of artifacts between the midden, dwelling, and outside of the dwelling; differences in the density of artifacts between the open spaces and the dwelling as a whole; differences in the proportion of artifact-types (percentage of endblades, scrapers, microblades, etc.) between the midden, dwelling, outside the dwelling, open spaces, rear platform, and entrance-passage; and, differences in the proportion of broken and complete artifacts between the midden and dwelling. From this analysis, the following observations were made: the artifact density is greater in the midden than in the dwelling; the artifact density is greater in the dwelling than outside of the dwelling; there is, arguably, no significant difference in the density of artifacts in the open spaces versus other areas of the dwelling; there is no significant difference in the proportion of various artifact-types between the midden and dwelling; and, there is no significant difference in the proportion of broken and complete artifacts between the midden and dwelling. Furthermore, it was noted that the "centrepiece" intersecting the main and secondary axial features is virtually artifact-free, with a concentration of artifacts located adjacent to the centrepiece.

An artifact density analysis indicates that the midden contains the largest number of artifacts per unit when compared to the dwelling and outside of the dwelling (see Figure 3.5). This supports the *a priori* hypothesis that the density of artifacts will be greatest within the midden area, which by definition, is a refuse area that was formed from repeated

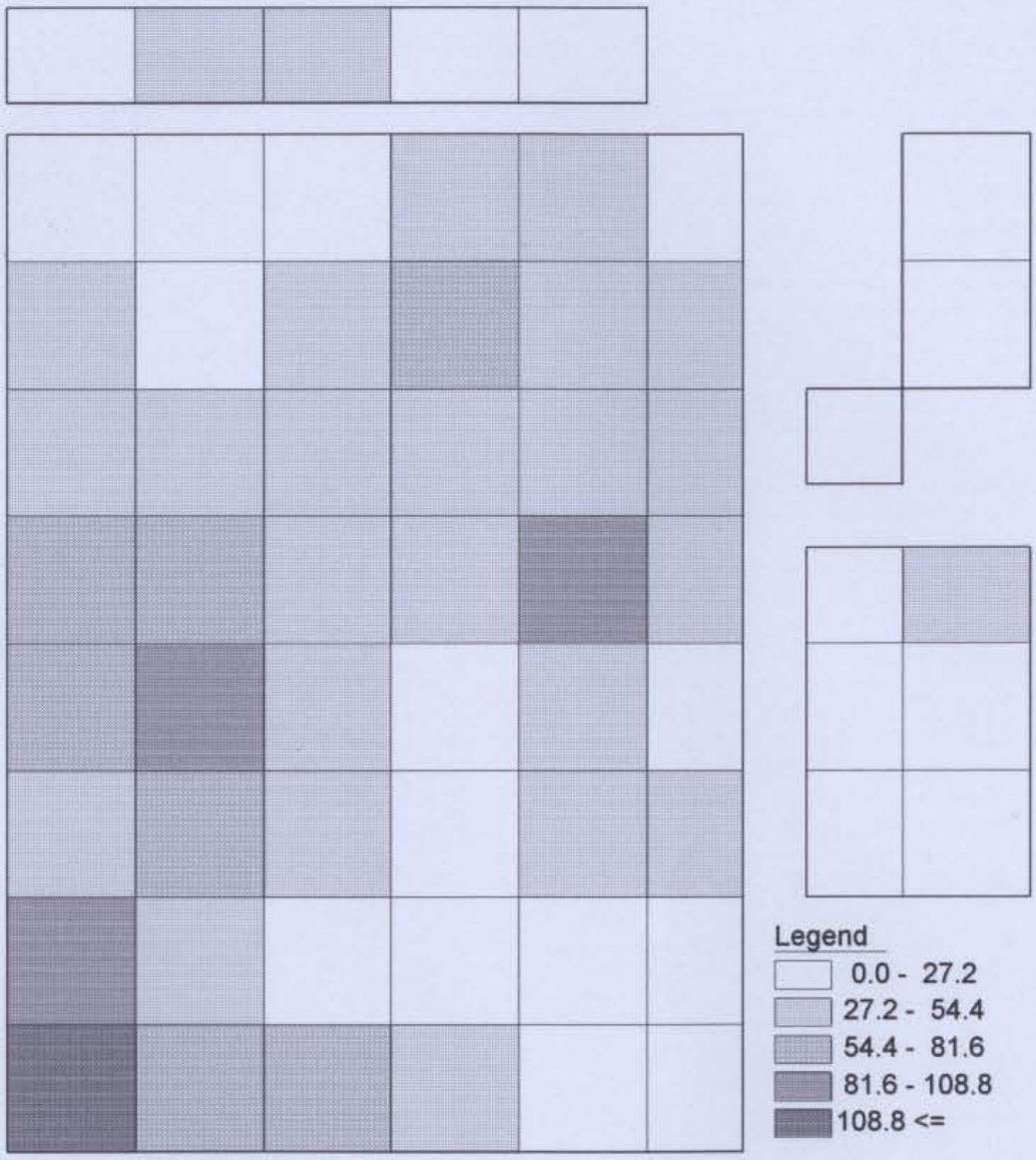
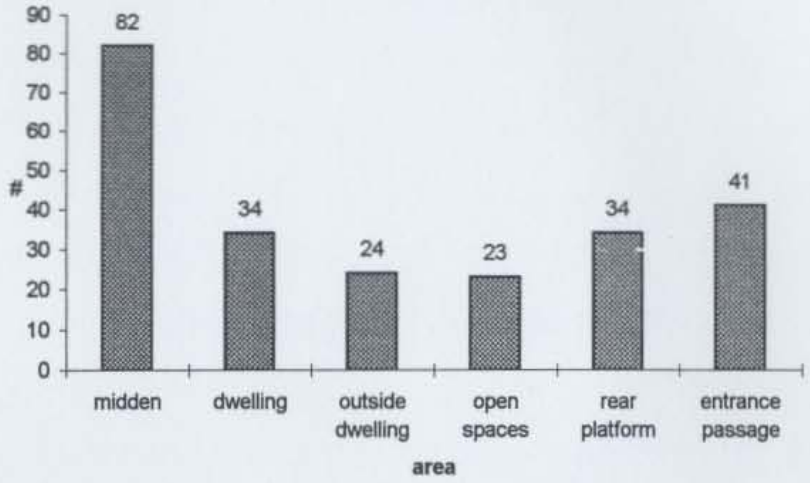


Figure 3.4: Artifact Density in Area C Excavation.

Figure 3.5: Average Number of Artifacts Per Unit By Area in Area C Excavation.



dumping episodes. The inhabitants would have swept-up or collected used, broken, or undesirable artifacts, as well as flake debitage from artifact production, and discarded these into the midden located just outside the dwelling. A statistical analysis did not reject this hypothesis. A t-test was undertaken using the mean number of artifacts per unit from two data sets, the midden and dwelling, in order to determine the probability of these means being equal. The probability of the means being equal was .000702 or less than 1%. Therefore, the means are significantly different using a rejection criterion of .05 (5%). In other words, it is highly unlikely that the difference in artifact density between the midden and dwelling is due to chance.

The artifact distribution analysis indicates that the artifact density within the dwelling is greater than outside the dwelling (see Figure 3.5). The *a priori* hypothesis is that a cold season occupation will result in a greater number of artifacts within the dwelling than outside of the dwelling, with individuals spending more time in the house performing activities (manufacturing tools, cooking, sewing, etc.), than outside in the cold. This hypothesis was not rejected statistically. The mean artifact densities from the units within and outside of the dwelling were tested for probability using a t-test. The probability of the means being equal was .046808, or less than 5%. Therefore, the artifact density means between the units within and outside of the dwelling are significantly different, using the rejection criterion of .05 or 5%.

The artifact density figures also indicate that the open spaces within the dwelling contain fewer artifacts per unit compared to the dwelling as a whole (see Figure 3.5). The *a priori* hypothesis is that the open spaces in the dwelling will contain fewer artifacts than in other areas of the dwelling because these are areas upon which the inhabitants lived. The open spaces would have been kept clear of obstructions to maintain a comfortable living area. Artifacts, debitage, and other waste would have been swept or collected from

the living floors to keep these areas clean. This hypothesis was statistically rejected at the .05 confidence level, using a t-test statistical analysis. The probability that the data sets representing the open spaces and the dwelling as a whole were equal was .055767. Therefore, the hypothesis is rejected, but *barely* rejected, and the statistical analysis may be affected by the small sample size of the data set representing the open spaces within the dwelling.

The proportion of artifact-types in the midden, dwelling, open spaces, rear platform, entrance-passage, and outside of the dwelling, is indicated in Table 3.7. The proportions for ten artifact categories, representing 95% of the total assemblage, are remarkably consistent between each area. The value produced from of a G-test was compared to a theoretical chi-square distribution with nine degrees of freedom. Significance at the .05 confidence level (and even as high as the .99 confidence level) was strongly rejected, which vehemently supports the null hypothesis that there is no significant difference in artifact-type proportions between the midden and dwelling. By looking at the proportion of artifact-types between the various areas of Area C excavation, I was attempting to discern if specific activity areas could be located based on proportional differences. Since no significant differences exist, specific activity areas cannot be determined based on the proportion of artifact-types in the various areas of Area C excavation.

The proportion of broken and unbroken artifacts in the midden and dwelling was also measured, with the *a priori* assumption that more broken artifacts would be found in the midden than in the dwelling, since the midden is an area of refuse. However, there is a remarkable similarity in the proportion of broken and unbroken artifacts between the midden (82% broken, 18% unbroken) and dwelling (84% broken, 16% unbroken). Therefore, the proportional analysis of both artifacts and of broken and unbroken artifacts

Table 3.7:Proportion of Artifact-Types in the Dwelling, Midden, and Outside of the Dwelling
Figures are percentages.

	midden	dwelling	outside dwelling	open spaces	rear platform	entrance passage
bif	3	3	1	1	4	1
core	8	4	6	6	3	4
endb	11	12	11	10	13	17
endscr	8	11	10	14	11	12
grslate	4	3	2	3	3	5
microb	33	42	36	37	39	38
retflake	12	9	11	11	11	5
tfspall	6	5	4	9	3	7
utflake	2	3	3	0	5	4
vessel frag	7	4	10	8	3	0
misc.	6	4	6	1	5	7
total %	100	100	100	100	100	100
total artifacts	906	578	450	113	205	82

These 10 artifacts account for 95% of the total assemblage.

between the midden and dwelling indicates that the artifact composition of the midden mimics the artifact composition of the dwelling. This challenges the *a priori* assumption that middens contain more unbroken artifacts than the dwelling.

The artifact distributions also indicate that the area in which the main and secondary axial features intersect, the "centrepiece", contains very few artifacts. Previously, I described the centrepiece as the focus of activity within the dwelling. Three soapstone shatters, two charcoal concentrations, two flake concentrations, and a large number of burnt rocks are associated with the centrepiece. The two flake concentrations were located directly east of the centrepiece in a rock-free area. However, the rocks forming the centrepiece are almost entirely artifact-free. Because of the soapstone, charcoal, and the large number of burnt rocks, I think the centrepiece was a hearth or cooking area. The absence of tools in this region may then be explained by two points. First, it is likely that tools were not manufactured directly above the hearth, but rather, beside it. Also, it is likely that artifacts were not placed or tossed within the hearth. Therefore, the interpretation of the centrepiece as a hearth is supported by the artifact distributions.

While there are virtually no artifacts located on the centrepiece, a concentration of artifacts was found directly east of it. This is also the exact location where two flake concentrations were found. Therefore, there is good reason to suggest that someone was manufacturing tools in this area, perhaps even the same person who was tending to the hearth. Assuming that this person was right-handed, she/he most likely sat somewhere within either open space #2 or #4 (see Figure 2.10). Almost all of the artifacts comprising this concentration are microblades, indicating that this area was also a site for skin and food processing. The concentration also includes endblades, soapstone fragments, and bifaces, indicating tool manufacturing, cooking and food processing activities respectively.

3.2.10 Structural Attributes

Figure 3.6 illustrates the rock types within Area C excavation. Each rock was classified by its type (conglomerate, granite, natural bedrock conglomerate, quartz or quartzite, sandstone, schist, shale, slate, and unknown) to determine if patterns in the use of one particular rock type occurred throughout the dwelling. I see three patterns from the distribution map of rock types: 1) the large majority of rocks making up the dwelling are conglomerate and granite; 2) the centrepiece or hearth is composed of a variety of rocks, most notably granite, schist, conglomerate, and sandstone; and 3) a relatively large number of schist rocks are located on the centrepiece. This last point is interesting because schist is heat-refractive and would have been less likely to shatter against a heat source. Therefore, schist rocks would have been good pot supports or platforms for soapstone vessels in this area which has been defined as a hearth, and may account for their presence here. Schist rocks also surround the hearth feature on the secondary axial feature.

Figure 3.7 illustrates the distribution of burnt rocks within the dwelling. The only distinctive pattern visible is the concentration of burnt rocks along the main axial feature. This would be expected, since this axial feature contains two hearth features and would have been the site of cooking activities. Therefore, the evidence for the distribution of burnt rocks supports the interpretation of this set of rocks as an axial hearth feature. Burnt rocks are also located on the secondary axial feature where another hearth was located. Therefore, the hearths on the main and secondary axial feature are similar in that they comprise a soapstone shatter, surrounded by charcoal, schist and burnt rocks.

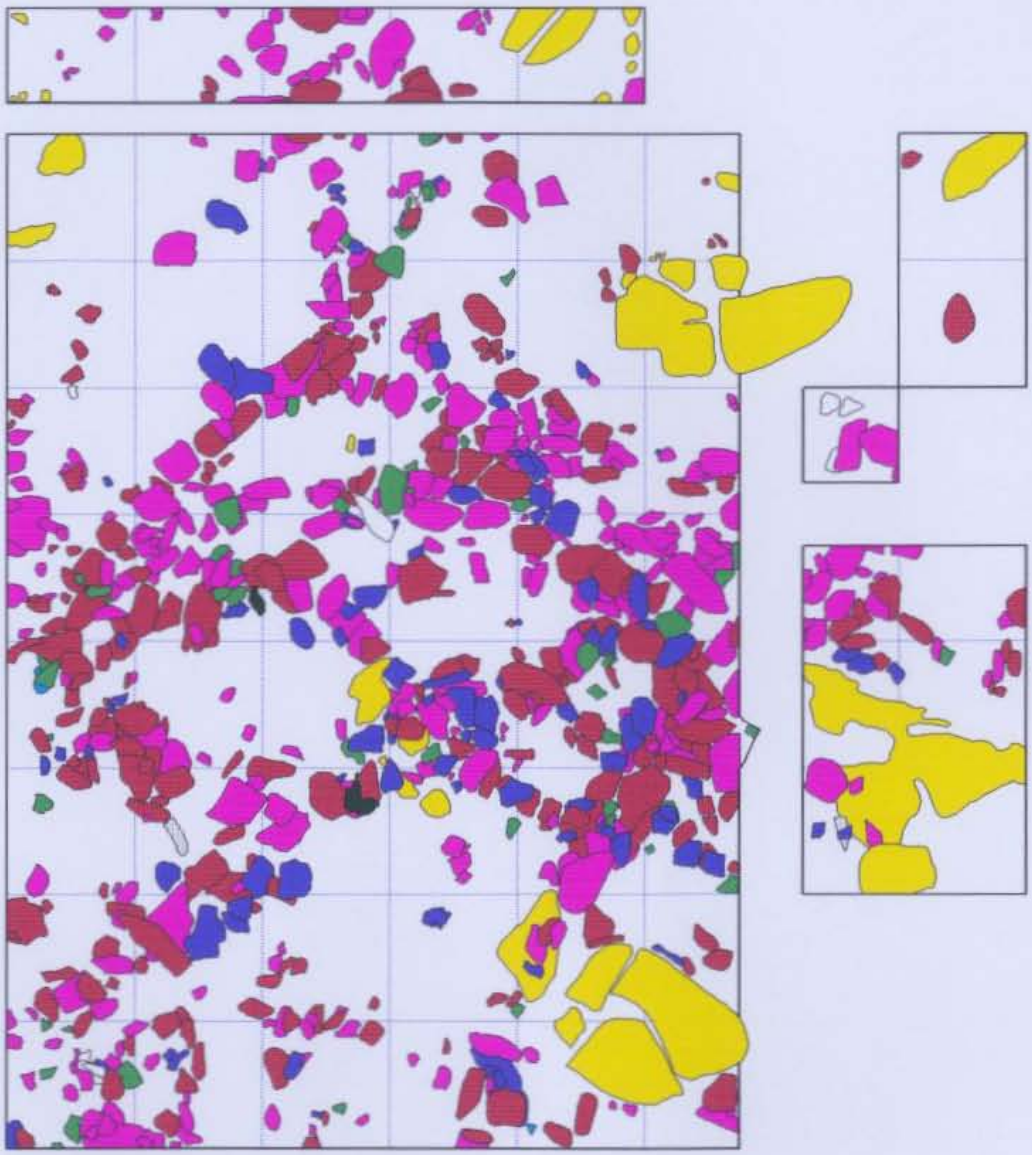


Figure 3.6: Rock Types Within Area C Excavation.

Yellow = Natural Bedrock Conglomerate
Brown = Conglomerate
Pink = Granite
Purple = Schist
Green = Sandstone
Blue = Quartzite
Grey = Slate
Black = Shale
White = Unknown

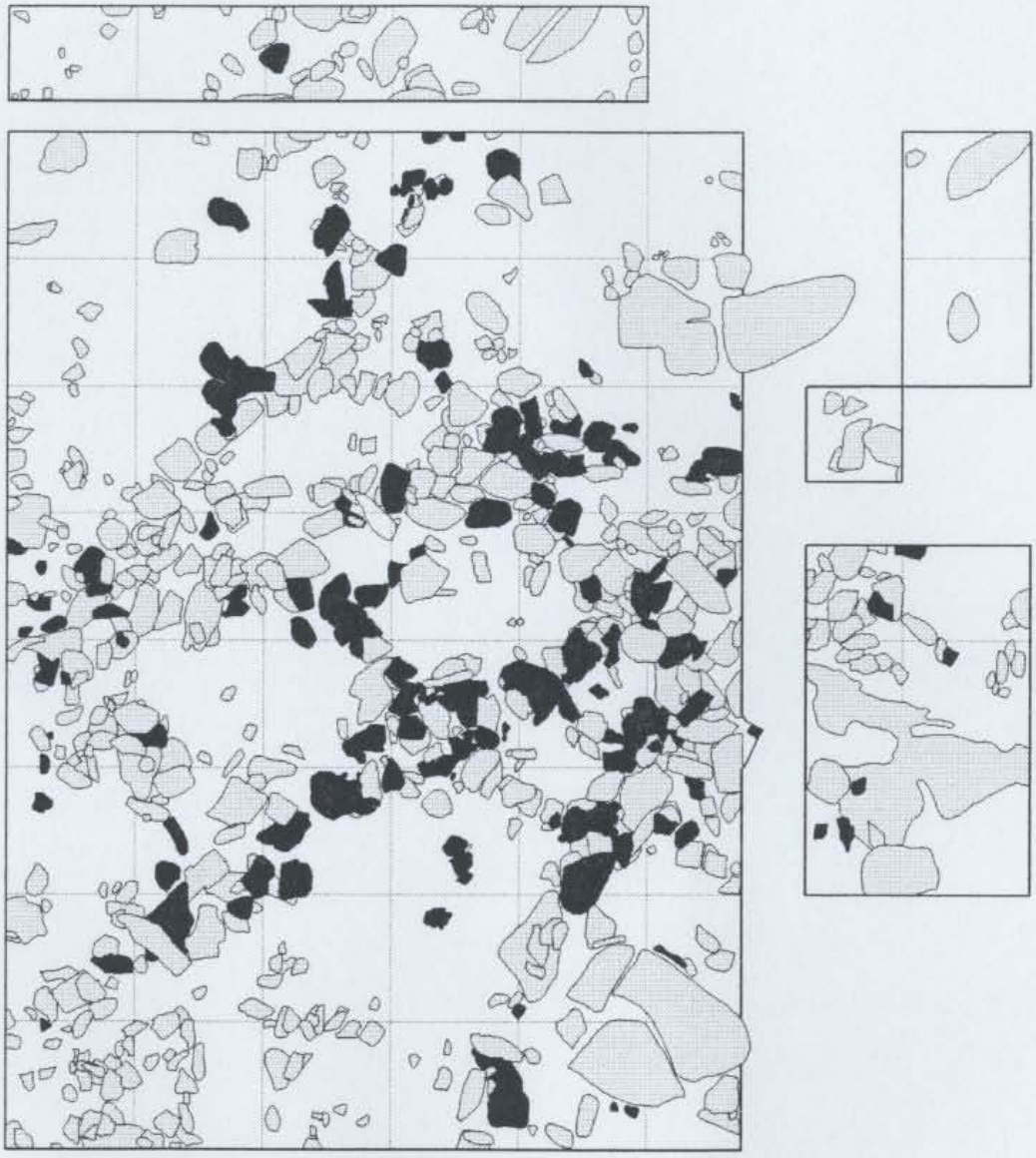


Figure 3.7: Distribution of Burnt Rocks in Area C Excavation.

Black = Burnt

3.2.11 Summary

An analysis of artifact distributions was undertaken in order to test hypotheses related to particular architectural features within the dwelling and the artifacts associated with them.

Artifact density was greatest in the midden, followed by the entrance-passage, dwelling as a whole, rear platform, outside of the dwelling, and open spaces. Statistical analyses supported the *a priori* hypothesis that the artifact density is significantly greater in the midden area than in the dwelling, and significantly greater in the dwelling than outside the dwelling. A statistical analysis barely rejected the *a priori* hypothesis that the artifact density in the open spaces of the dwelling is significantly less than the artifact density in the dwelling as a whole.

The proportional percentage of artifact-types between all of the areas in Area C excavation is not significantly different. The midden and dwelling, which exhibit the greatest variability in artifact-type proportions, were statistically tested in order to determine if this variability was significant. The results of this test strongly indicate that there is no significant difference in artifact-type proportions between these two areas. Therefore, activity areas within Area C excavation cannot be determined from artifact-type proportions. Furthermore, the proportion of broken and unbroken artifacts was not significantly different between the midden and dwelling. These results do not conform to an archaeologist's typical view of artifact distributions within a dwelling: that activity areas will be located based on these distributions. Three reasons to explain why this analysis did not pinpoint activity areas are that a) this is not a dwelling, b) the methodology used to determine differences in artifact-type proportions within this dwelling was insufficient, and c) this is a dwelling and no activity areas can be located within it based on artifact-type proportions.

The first option does not apply because morphological, stratigraphic, and other artifactual evidence strongly indicates that this is a dwelling. The second option, that the methodology used was not conducive to locating activity areas, has some validity. For instance, the activity area directly east of the centrepiece was located by looking at the artifact distribution specifically in that area, or on a much smaller scale. The distribution in this area was also noted because an obvious concentration of artifact-types was apparent from visual interpretation of the data alone. Although there are no other obvious visual concentrations of artifact-types on a smaller scale within the dwelling, it is possible that they exist, and a statistical analysis of the dwelling using more fine-grained areas may assist in locating activity areas. However, the selection of these areas would be arbitrary and the process time consuming.

Of the three options, the third has the most validity. As mentioned, morphological characteristics, in addition to other evidence, strongly indicate that this is a dwelling. Furthermore, the grouping of artifact-types based on certain areas (sleeping platform, open areas, midden) is a valid attempt to determine if activity areas could be found based on these general groupings. The statistical analysis has indicated that activity areas cannot be found based on these general groupings. Kent (1984) encountered similar results when she attempted to locate activity areas within Navajo hogans (dwellings) based on artifact distributions. In her case, a statistical analysis also indicated that no activity areas could be located within the dwellings based on the distribution of artifact-types and their associated economic function. In this case, and in the case of the Dorset dwelling at Cape Ray, the conclusion is that activity areas cannot be located within the dwelling based on general groupings of artifact distributions.

It was also noted that the artifact-free centrepiece supports its use as a hearth, and a tool manufacturing, skin and food processing area is located directly east of the hearth.

Finally, an analysis of the structural attributes within the dwelling indicates that most of the dwelling was constructed using conglomerate and granite rocks. The hearths on the main and secondary axial features are surrounded by schist rocks, which are heat-refractive and possibly associated with cooking. The distribution of burnt rocks defines the axial hearth features even further.

3.2.12 Superstructure

Based on ethnographic evidence, Harp hypothesised that the dwellings at Port au Choix had a ridged or peaked superstructure of wooden poles, covered with skins and held down by blocks of sod along the edges (Harp 1976). Both a skin and sod covering is also possible, with the skins resting on the frame, and the sod resting on the skins. However, the only direct evidence for the superstructure was produced from Feature 55 at Phillip's Garden, where Renouf (1993) found post-holes suitable for accommodating a whale bone frame.

The Cape Ray dwelling was probably a tent with a superstructure of either whale bone or wooden poles converging towards the centre, which may have been supported by additional internal beams. The frame would have been covered with skins (caribou, seal) and possibly sod blocks and/or snow for insulation. The hardest thing to determine is what held down the edges of the tent, since the borders of the dwelling are inconsistently defined. The sleeping platform defines the dwelling's boundary on the northeast side, while on the northwest and southeast side the boundary is defined by what appears to be rock walls. There is little evidence pointing to a dwelling perimeter on the southwest side where the entrance-passage is located.

I can think of two ways in which the tent skins and frame could have been held down along the edges. In the first scenario, posts were wedged into the perimeter of rocks along the northwest and southeast sides, and into the rocks of the sleeping platform. On

the southwest side, the posts were either wedged into rocks, which have since fallen into the midden, or were resting on the bare raised ground. Surrounding the tent and holding it down were blocks of sod and/or snow.

In the second scenario, the rocks of the northwest and southeast perimeter were the hold-down rocks, with the posts of the frame resting on the inside of them. Rocks on the edge of the sleeping platform were also hold-down rocks, as were rocks along the southwest side which have since rolled down into the midden.

Of the two scenarios, I favour the first one, with the tent being held down by blocks of sod and/or snow, and the rocks being used along the edges to wedge the wooden frame into place. This would have increased the internal area of the dwelling.

3.2.13 Occupancy

That the dwelling was probably occupied by more than a single nuclear family is indicated by the internal dimensions (17 m2), and the evidence for the delineation of space in the form of two axial features. The occupants probably comprise a generationally extended family group, as observed ethnographically among the historic Inuit. For instance, among the Central and McKenzie Delta Eskimos, it is common for extended families to either share a dwelling, or to link dwellings together (Smith 1984, Mary-Rousseliere 1984, Balikci 1984, Arima 1984). Gender division in the dwelling, identified archaeologically by way of activity areas, cannot be determined from artifact distributions.

In the Cape Ray dwelling a central hearth was located, but there is evidence for a second, smaller hearth on one end of the main axial feature and a third hearth on the secondary axial feature, which further supports the hypothesis that more than a single nuclear family lived in the dwelling. Ethnographic studies of historic Central and MacKenzie Delta Eskimos have shown that each hearth or cooking area within a dwelling was maintained by a female representing one family unit (Smith 1984, Damas 1984). Also,

the bilateral symmetry of the dwelling, created by the main and secondary axial features, strongly suggests a construction plan intended for two family units (within an extended family).

According to Harp (1976:134) artifact density directly correlates with the length of time a dwelling is occupied, or with the number of times it was successively occupied. The large number of artifacts in the cultural layer of Area C excavation (over 2300), which includes the dwelling and its associated midden, indicates that families were returning to this dwelling for many years.

3.2.14 Comparing the Cape Ray Dwelling With Other Dorset Dwellings

Perhaps the only thing that is consistent, upon comparing the Cape Ray dwelling with other Dorset dwellings, is that it continues to defy the idea that a standardised Dorset dwelling exists. While the Cape Ray dwelling has features which are typically associated with Dorset dwellings, such as the axial hearth feature, rear sleeping platform, open living spaces, and some evidence for a rock wall perimeter, it also has atypical characteristics including: its location on raised ground, the presence of what appears to be a secondary axial feature, and its association with the surrounding natural bedrock conglomerate, into which the dwelling appears to be keyed. In Chapter Two, I explained that the dwelling was located on raised ground because the lower regions of the site are wet and boggy, while this raised ground is dry and liveable. I also described how the dwelling was situated in-between two large bedrock outcrops, with the axial features intersecting on four much smaller bedrock outcrops. The impression is that the presence of these bedrock outcrops at least partially influenced the hunter-gatherer's decision to locate their dwelling here.

The presence of the secondary axial feature is very curious, since there appear to be no other recorded cases of it in a Dorset dwelling. Because of its symmetry (it runs through the main axial feature on a roughly ninety degree angle), it is possible that this

feature served to divide space within the dwelling, to identify familial and/or functional areas.

The Dorset dwelling at Cape Ray has very little in common with any of the Dorset dwellings at Phillip's Garden or Point Riche. With the exception of the windbreak, all of these are semi-subterranean, while at Cape Ray the dwelling is on raised ground. The Cape Ray dwelling does not appear to have anything in common with House 2 at Phillip's Garden and Feature 1 at Point Riche. Apart from having a perimeter of rocks, there is little else similar between the Cape Ray dwelling and Feature 8 at Point Riche, or with Feature 14 at Phillip's Garden. In terms of shape, it most closely resembles Feature 55 at Phillip's Garden. Feature 55 also has an axial hearth feature and a perimeter of rocks. However, it is lacking a rear platform and is semi-subterranean. The Cape Ray dwelling also shares common traits with Feature 1 and House 2 at Phillip's Garden. In Feature 1 these traits include a rear platform and a possible axial feature. Although House 2 is much bigger than the Cape Ray dwelling, it contains a perimeter of rocks and a rear platform.

To conclude, identifying the similarities between the Cape Ray dwelling and the dwellings at Phillip's Garden and Point Riche may overstate the case, since a considerable amount of variation exists between the two sites. Furthermore, the description of dwellings from other prehistoric Arctic and Sub-Arctic hunter-gatherer groups indicates that variation in dwelling type and construction, even within the same culture, is common. The Cape Ray dwelling is uniquely characterised by its location on raised ground, its association with naturally occurring bedrock outcrops, and its two axial features intersecting at a central hearth. None of these characteristics is found in the Dorset dwellings at Port au Choix, nor are they typical in the prehistoric dwellings of Arctic hunter-gatherers. The dwellings at Port au Choix are semi-subterranean for heat retention, while at Cape Ray, the dwelling is on raised ground in order to keep dry and thus, warm.

Despite this variation, it is important to keep in mind that most Palaeoeskimo dwellings are first and foremost, defined by the presence of characteristic morphological features, which include some of all of the following: the axial hearth feature, rear platform, open living spaces, entrance-passage, dwelling boundary, and associated midden.

3.3 Summary of Chapter 3

In this chapter, I have placed the Cape Ray Dorset dwelling in the context of other prehistoric dwellings in the Arctic and Sub-Arctic, and with Dorset dwellings in Newfoundland. The Dorset dwellings from Phillip's Garden and Point Riche have been described, indicating a high degree of variability in dwelling type.

The artifact distributions of the Cape Ray dwelling were illustrated, and the midden, dwelling, and areas inside and outside of the dwelling were analysed based on artifact density, and artifact-type proportions.

An analysis of structural attributes indicated that conglomerate and granite rocks were favoured construction materials, and the distribution of burnt rocks and schist supported the interpretation of the axial hearth features. Additional issues, including the dwelling's superstructure and occupancy, were addressed.

The Cape Ray dwelling has been compared to the Dorset dwellings from Phillip's Garden and Point Riche. To conclude, a high amount of variability in Dorset dwellings exists both within and between Dorset sites.

CHAPTER 4

MAKING SENSE OF THE SITE

4.1 Introduction

Now that the dwelling has been described and understood on its own, it is necessary to place it in the context of site function. Site function is defined as the purpose for the occupation of a particular site, and is associated with the time of the year, or season(s) that a site was occupied. In this chapter, I will reconstruct the seasonal round of the Dorset groups at Cape Ray, and in particular, discuss the use of Cape Ray as a prehistoric spring harp seal hunting site.

4.2 Biogeography and Geology: General Characteristics

Cape Ray was glaciated during the last advance of the Wisconsin ice sheet, around 14,300 years B.P. The southwest coast is comprised of low lying bedrock headlands, barren outcrop or lichen covered rock, thin bog cover, deeply incised river valleys containing glaciofluvial and alluvial deposits formed through post-glacial erosional and sedimentary processes, and numerous sandy beaches (Shaw et al. 1994 and S. Fudge and Associates 1988). Although the sea-level has risen at an average rate of 30 cm every century, the coastline immediately off Cape Ray has not been significantly altered since its prehistoric occupation due to the steep inclination of the bedrock shore (Bell 1997, personal communication).

The area of Cape Ray has been classified within the Maritime Barrens ecoregion on the island of Newfoundland (Damman 1983). According to Damman, the region is characterised by extensive barrens consisting mainly of dwarf shrub heaths, bogs, areas of low tuckamore, and shallow fens. In comparison with the other ecoregions on the island, the summers are cold, winters are relatively mild, and fog frequency and precipitation is high.

4.3 Resource Analysis: Determining Season of Occupation at Cape Ray

4.3.1 The Seasonal Round

A resource analysis of Cape Ray and its vicinity provides good evidence that the Dorset occupied the site repeatedly between the early spring and possibly summer months. The site was a base camp, occupied on a yearly basis for the main purpose of hunting harp seals off the coast. This is consistent with the initial interpretation of site function provided by Linnamae following her excavation of the site almost thirty years ago (1975:28).

There are four key lines of evidence leading to this conclusion, and they include: knowledge that Dorset groups are primarily sea mammal hunters, knowledge that harp seals can be found migrating directly off the coastline at Cape Ray in the spring, knowledge of additional resources in the vicinity of Cape Ray, namely fish and caribou, and archaeological evidence which supports the use of the site as a spring seal hunting camp.

4.3.2 Spring Seal Hunting

Dorset Palaeoeskimos were primarily sea mammal hunters. The evidence for this is found in the faunal and artifact assemblages of Dorset sites, which are indicative of a sophisticated sea mammal hunting technology, as well as in the location of these sites: the largest and longest occupied are found in areas which presently support large populations of sea mammals (McGhee 1996).

Seal hunting was the most important activity at Cape Ray, and the reason why Dorset groups settled at the site. Evidence that harp seals were present in significant numbers along the southwest coast comes in the form of resource interviews from the local inhabitants of Cape Ray, comprising questions related to the flora and fauna

resources in the vicinity, research reports on the past and present ecology and physical oceanography of the Gulf of St. Lawrence region, and archaeological evidence.

Annual harp seal migrations into the Gulf of St. Lawrence take place around February, with the seals travelling south from their wintering grounds in Labrador. Ice is at its thickest during this time, and ideal for the seals which require it to be around 50 cm thick in order to support the baby pups (Sergeant 1991:39). There are two main herds: the Front herd, which is situated at the northern tip of Newfoundland, and the Gulf herd, which is located within the Gulf of St. Lawrence. The seals will stay in these areas for a period of approximately six weeks, during which time they will whelp, mate, and moult. Following this, they will return north to the waters of Labrador and make their way across the northern Atlantic. The cycle is repeated every year, and the Gulf of St. Lawrence is one of only three places in the world where harp seals go for the whelping mating and moulting season, the other two herds being the Jan Mayan and the White Sea.

While the general movements of harp seals into the Gulf of St. Lawrence is well known, documented information on the presence of harp seals specifically in the vicinity of Cape Ray is scarce. Most of the reports of the actual movements of these seals within the Gulf are documented by the seal hunters who focus their interests on the harp seal concentrations near the Quebec north shore, and the Magdelan Islands. Therefore, the best source of information on the harp seal manifestation off the coast of Cape Ray has come from the residents of Cape Ray, as recorded in the resource interviews.

Resource interviews were conducted in the community of Cape Ray during the 1996 field season. In total, 43 people were interviewed, 38 of whom were men currently exploiting the resources in and around Cape Ray. All the people interviewed stated that harp seals could be found along the coasts of Cape Ray. The vast majority of people

indicated that hooded and grey seals could also be found. A few people also mentioned the presence of ringed seal.

Most respondents also mention that the area is a good place to kill seals during the month of March. Therefore, harp seals have found suitable living conditions in this region. Since harp seals require ice and food, both of these must be present around Cape Ray. The following observations were made on a repeated basis:

1. Harp seals arrived on pack ice travelling south down the western coastline in March for the whelping season.
2. A large number of "white coats" or baby seals are present each year.
3. The ice is usually land-locked, and seals can be accessed by walking out on the ice from the shore.
4. Ice breaks-up in April, and seals continue their migration exiting the Gulf of St. Lawrence via the Cabot Strait, or journey north towards the Strait of Belle Isle.

Variations in the pattern of harp seal migrations into this area are observed in the extent of pack ice, and in the time of arrival and dispersal of seals. However, residents report that the harp seal presence in the area is fairly consistent from year to year.

The interviews also indicate that pack ice can be found along the coast of Cape Ray every year, but that its presence is entirely dependent upon wind conditions. My crew members from Cape Ray explained to me that present seal hunters use the expression "the wind is on the land" when the wind has pushed the ice into the land and the hunters are able to walk directly onto the ice in order to reach the seals. According to my crew, changes in wind direction can occur on a daily basis, with the pack ice being present one day and not the next. From an archaeological perspective, this land-locked ice is important to consider, since Dorset seal hunters would have also found it advantageous to simply walk out onto the ice to obtain the seals. The vast expanse of rugged coastline in front of the site precludes the launching of a boat. Therefore, this rugged coastline did not hinder the hunting endeavours of the Dorset people, who would have been able to walk onto the pack ice from many points along the shore. If an open lead separated the hunters from the seals, it is possible that the Dorset possessed a small boating technology, such as kayaks,

and paddled out to the pack ice to reach the seals. There is one small cobble beach area at the site which would have been suitable for this activity.

As for food, the coast off Cape Ray and the southwest region in general has one feature which makes it ideal for seal feeding: deep water. Immediately off the coast at Cape Ray the waters fall to two hundred metres deep. This is important because seals require food that is produced from the upwelling of nutrients from these deep waters. For archaeological purposes, I am specifically interested in the deep water that can be found close to shore, where seals would have fed and where prehistoric hunters would have had access to them. As Figure 4.1 illustrates, this occurs in two places along the western coast of Newfoundland: Port au Choix and Cape Ray. These are also the locations of the two largest Dorset base camps along this coast. Therefore, a correlation may exist between the proximity of these deep waters to the shore, and the presence of large prehistoric seal hunting communities. LeBlanc (1997b) has noted this occurrence at Port au Choix, and the same situation appears to exist at Cape Ray. These areas appear to be ideal seal hunting territories for Dorset groups for two reasons. First, seals are found in these areas because they provide the necessary resources to sustain them, namely pack ice, and deep waters where nutrient upwelling provides food for the seals. The coast directly off Cape Ray in particular has been noted for its upwelling community (El-Sabh and Silverberg 1990). And second, these are the only two places where these conditions can be found close enough to shore so that hunter-gatherers would have been able to obtain the seals in large numbers.

Furthermore, while the deep waters are located near many of the coastal areas north and just south of the site, hunter-gatherers most likely situated themselves at Cape Ray because it is located on a peninsula, which would have enabled hunters to see a larger expanse of ocean to monitor the movements of the seals. This kind of site selection process is observed at many Dorset sites.

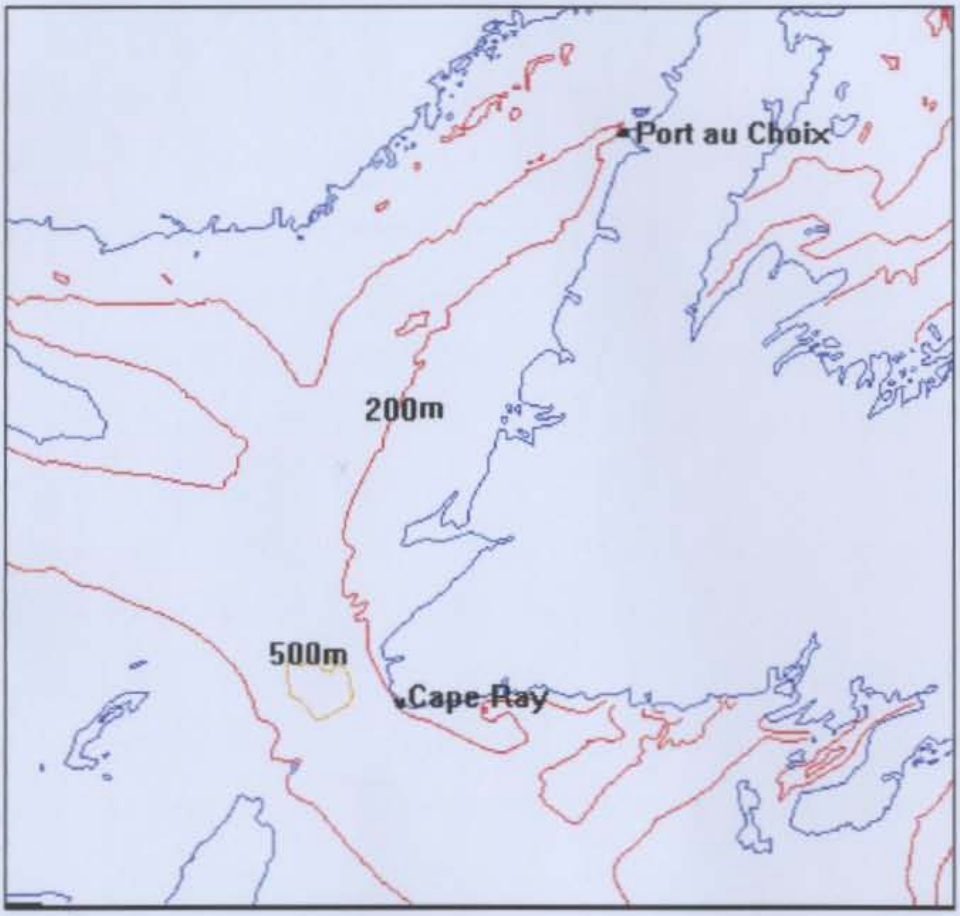


Figure 4.1: Deep water located immediately off the shores of Cape Ray and Port au Choix, Newfoundland.

4.3.3 Reconstructing the Resources of the Past

Interpreting the recent seal movements along the western coast of Newfoundland is necessary to attempt to understand what prehistoric conditions may have been like. The resource interviews provide evidence that Cape Ray was occupied prehistorically for the purpose of hunting harp seals, and perhaps to a lesser extent, hooded and grey seals. Although informants indicate that the largest populations of harp seals are present around March, their arrival into the waters of Cape Ray occurs in February. The seals arrive on the pack ice during whelping season, feed off the nutrient-rich waters just off the coast, and then continue on their journey back to Labrador via the Strait of Belle Isle and the Cabot Strait around April. Therefore, it is likely that Cape Ray was occupied prehistorically between the months of February and April.

According to Sergeant (1991), the geographical distribution of harp seals in the northwest Atlantic has not changed significantly since the end of the Wisconsin Ice Age, almost ten thousand years ago. Evidence in the form of sub-fossil harp seal found in marine mud indicates that the harp seal migrations extended even further south than the Gulf of St. Lawrence into Maine during the early and mid Post-Pleistocene (Sergeant 1991:4).

While the geographical distribution of harp seals in the northwest Atlantic seems to have remained relatively constant, the abundance of seals into the area has probably been affected by changing climatic conditions. During the time that Dorset groups occupied Cape Ray, there was a gradual warming trend that has been referred to as the Medieval Warm Period (Mayewski and Weiss in review). During this period, the warmest temperatures are reached at around 1200 years ago, which coincides with the period of abandonment at Cape Ray. At that time, temperatures were warmer than they are today, and it is possible that seal migrations into the Gulf were affected by poor ice conditions

owing to the warmer temperatures. According to Mayewski (personal communication 1997), ice conditions are extremely sensitive to temperature changes and can be altered by a change of even a tenth of a degree in centigrade.

Although the Medieval Warm Period has been looked upon as a general phenomenon which occurred on a world-wide scale, researchers are now tending to examine how this period manifested itself regionally and in the short-term. Mayewski (1994, 1993) has been able to reconstruct short-term temperature fluctuations on the scale of decades, and even on an inter-annual basis, from Greenland ice cores. Research from these ice cores has demonstrated that major climatic events do not necessarily occur gradually, as commonly presumed. In fact, significant climatic events, such as the end of the Wisconsin, can occur in a period of a few years or less (Mayewski 1993). From a cultural perspective, these short-term temperature fluctuations could have significantly affected the Dorset groups at Cape Ray, as well as hunter-gatherers elsewhere. McGhee (1996:107) has noted that Arctic hunter-gatherers in particular are at risk from changes in climate, stating that there would be "little technological insulation between themselves and their environment." Such dramatic short-term climatic fluctuations would necessitate immediate adaptations in response to the affected resource base.

In the case of Cape Ray, one can view the Medieval Warm Period as a general phenomenon which climaxed during the years surrounding 1200 B.P., and which significantly affected Dorset groups in the short-term, or on the inter-annual level, when harp seal hunting became less predictable. Predictability is an extremely important concept when applied to these groups, since the difference between survival and starvation could be the product of the presence or absence of a resource upon which they depended during specific months of the year. Cape Ray would have served Dorset groups as a spring seal hunting site, and they would have depended on the availability of this resource on a

seasonal basis. Therefore, the absence of this resource during any given year could have had disastrous effects on the hunter-gatherers, especially at the end of the winter season when cached food was likely depleted. If the seals did not appear at Cape Ray for a few years in a row, it is possible that the site simply became a poor place to hunt seals. In all likelihood, Cape Ray was abandoned at around 1200 B.P. when the availability of seals became too unpredictable, owing to the dramatic oscillations in temperature at that time.

4.3.4 Archaeological Evidence for Spring Seal Hunting Activities

While variations in temperature, wind patterns, ice movement and seal migrations varied from year to year, overall, Cape Ray was probably a good place to hunt seals before the maximum temperatures of the Medieval Warm Period were reached. The archaeological evidence attests to this. The site itself is a relatively large one, and the large amount of cultural material suggests a permanent seasonal occupation, which is defined as a site that was occupied seasonally over a consecutive number of years. Also, there is a large number of artifacts that can be associated with seal hunting in the assemblage, namely microblades and scrapers (all types) for food and skin processing (37% and 12% of total assemblage respectively), endblades for hunting (12% of assemblage) and soapstone for cooking (7% of assemblage).

As indicated earlier, the dwelling itself supports the use of this site as a seal hunting settlement: the dwelling was a substantial structure that was meant to be occupied for months at a time. Finally, there is a direct correlation between hunter-gatherer access to seals and the location of Dorset base camps: the two areas where hunter-gatherers would have had the easiest access to the migrating seals are areas which contain the largest Dorset base camps on the west coast.

4.3.5 The Rest of the Seasonal Round: Summer

A summer occupation of Cape Ray is also possible. Salmon and capelin were probably the most important summer resources, and these will be discussed shortly. Other resources pertinent to a seasonal analysis include large game, such as caribou, small game and edible plants. Later, I will discuss why caribou were most likely hunted during the fall months.

Residents report that red fox, Arctic hare, beaver, otter, ermine, muskrat, mink, rock ptarmigan, and a number of seabird and waterfowl species, can be found in the region of Cape Ray during the summer months.

Edible plants in Cape Ray include the following: strawberries, squashberries, marshberries, blackcurrent berries, jude berries, cranberries, goose berries, dog berries, partridgeberries, raspberries, velvet leaf blueberries, wineberries, dandelions, bakeapples, milk roots, sweetgale, caraway seed, Labrador tea, balsam fir, boletus mushrooms, and unidentified mushrooms. In addition to being edible, balsam fir sap can be used as a sealer and binder (Brown 1996, personal communication). Other technologically useful plants include Canada yew, reindeer moss, sphagnum moss, screber's moss, and various grasses and sedges. These could have been used as diapers (Linname 1998, personal communication), insulation material for dwelling construction, or as bedding within the house (Brown 1996, personal communication).

Salmon rivers that are near Cape Ray include Bear Cove Brook, Little Codroy, Grand Codroy, Isles aux Morts, northwest Brook, and Grand River. Residents of Cape Ray currently fish for salmon at Bear Cove Brook, Grand Codroy, Little Codroy, and Isle aux Morts rivers, during the spawning season between June and July.

Capelin can also be harvested close to the site at Cape Ray. Residents report that capelin season is between June and July, with the fish spawning in large numbers up on the

nearby beaches. The two popular capelin sites are at Cape Ray Cove, approximately two kilometres south of the site, and Wreckhouse, approximately eight kilometres north of the site.

With hunter-gatherer mobility strategies in mind, there are two possible scenarios for exploiting these resources. In the first scenario, the Dorset families move together or as separate units to areas which are closer to the salmon and capelin spawning areas. Therefore, in the summer, the Dorset group at Cape Ray would move to another base camp. In the second scenario, the Dorset families remain in Cape Ray during these summer months and send task groups to procure the salmon and capelin for a few days or weeks. These teams would set-up a secondary camp and then return to their base camp at Cape Ray.

While both scenarios are possible, I think the first scenario is more probable. Hunter-gatherers are mobile groups and I do not think it would be a great effort for the families to situate themselves at a camp closer to the salmon and capelin grounds. Furthermore, while there are other resources which could be exploited near Cape Ray, such as small game and edible plants, these could probably also be obtained at or near the rivers and beaches which support the salmon and capelin, perhaps even more so than at Cape Ray, since birds and other animals would themselves be interested in the fish, and would thus be available to hunter-gatherers.

4.3.6 The Rest of the Seasonal Round: Fall and Winter

It seems unlikely that Dorset groups stayed in Cape Ray during the fall and winter months. Following the summer fishing harvests, there would be few resources in the immediate vicinity of Cape Ray to sustain them. This is probably the time when Dorset groups moved from either Cape Ray, or the fishing camps, into the Table Mountains to hunt the caribou. Although caribou can currently be found in the Table Mountains all year

long, Dorset groups were probably interested in them during the fall and winter months due to the absence of other major resources for exploitation. Furthermore, this is the time of year when the caribou are fattened from a summer's worth of feeding, and their hides are not ridden with larvae.

It is approximately 12 km from the site to the base of the Table Mountains (see Figure 2.1), and it takes about three hours to climb them. Once on the plateau, the region is characterised by barrens consisting of grasses, dwarf shrub heaths, bogs, and river valleys. Again, it would not have been difficult for the Dorset groups to move from their summer camp(s) to the nearby Table Mountains to set up a new base camp. Therefore, it is likely that Dorset groups from Cape Ray, or the inner coasts and rivers of the southwest region, moved to the interior Table Mountains or towards La Poile, near Burgeo, to hunt caribou during the fall and winter months. The seasonal cycle would begin again with the groups coalescing at Cape Ray for the spring seal hunt. Little or no archaeological reconnaissance has taken place along the salmon rivers near Cape Ray or in the Table Mountains. However, Palaeoeskimo sites have been recorded around the Burgeo region (Rast 1997, personal communication).

4.4 Summary of Chapter 4

In order to understand what prehistoric resources were like at Cape Ray, I have used resource interviews, information on past and present harp seal migrations into the Gulf of St. Lawrence, and information on the physical oceanography of the waters surrounding the site. This information indicates that harp seals are found in abundance around Cape Ray, and can be retrieved close to the shoreline of the site.

Archaeological evidence in the form of the numerous artifacts that can be associated with seal hunting, and the dwelling itself, which was occupied for months at a time, also support the use of Cape Ray as a spring seal hunting site.

Information from the ice cores in Greenland demonstrates that a warming trend, referred to as the Medieval Warm Period, was in effect during the time that Dorset groups occupied Cape Ray. However, this warming period may not have significantly affected ice conditions, and in turn, the abundance of harp seals, until about 1200 B.P. when the maximum temperatures were reached. Dorset groups abandoned Cape Ray around this time and this probably occurred when the availability of harp seals in the area became too unpredictable.

To conclude, it is probable that Cape Ray served as a base camp that was occupied for a few months every year during the spring harp seal hunting season. In the summer, either the entire group moved to the inner coastal rivers to be closer to the salmon and capelin spawning grounds, or parts of the group established secondary camps to exploit these resources and then returned to the base camp at Cape Ray. While an analysis of the resource base supports both hypotheses, the extrapolated behavioural patterns of hunter-gatherer groups makes the first hypothesis more probable.

CHAPTER 5
CONCLUSIONS

5.1 Introduction

The 1996 phase of the Cape Ray Archaeology Project resulted in the discovery of a Dorset dwelling, and the recovery of over 3000 artifacts within and surrounding the dwelling. The purpose of this thesis has been to describe this dwelling, and to place it in the context of other Palaeoeskimo cold-climate dwellings, and site function.

In Chapter Two, the methodology used in the survey and excavation of the site was discussed, and the Dorset dwelling was described in terms of its size, internal features, elevation, orientation, artifactual content, position within the site, and relationship with the adjacent midden.

In Chapter Three, the dwelling was compared with other Palaeoeskimo cold-climate dwellings, and more specifically, with the Dorset dwellings at Port au Choix in Newfoundland. The dwelling was also examined in detail with the analysis of the artifact distributions and structural attributes.

Finally, in Chapter Four, the dwelling was placed in the context of site function. The seasonal round for the occupants of the dwelling at Cape Ray was extrapolated based on an analysis of the past and present harp seal migrations into the Gulf of St. Lawrence, resource interviews, artifactual evidence, and hunter-gatherer behaviour.

5.2 The Cape Ray Dorset Dwelling: Description

Before we discovered the dwelling at Cape Ray, the only sites in Newfoundland to produce detailed information on Dorset dwellings were Phillip's Garden and Point Riche, at Port au Choix. Comparative analyses of Dorset dwelling types in Newfoundland were, by default, non-existent. Therefore, the first thesis question to be addressed was: what does a Dorset dwelling look like at Cape Ray? It is a simple yet important question, and forms the foundation of this thesis.

The dwelling at Cape Ray possesses characteristics which are typical of Dorset dwellings, and cold-climate dwellings in general, including an axial hearth feature, rear platform, and open spaces. Some evidence for an entrance-passage, and a boundary of hold-down rocks, is also indicated. A secondary axial feature traverses the main one, and appears to divide space within the dwelling. The dwelling has an area of 17 m2, and is oriented to the north-east.

The dwelling is situated on raised, dry land, which is uncommon terrain at Cape Ray, and may partly explain why the inhabitants constructed their dwelling at this particular location. Furthermore, the dwelling appears to be keyed into outcrops of naturally occurring bedrock, which may have had either functional and/or symbolic significance.

5.3 The Cape Ray Dorset Dwelling: Under the Microscope

An analysis of the artifact distributions within the dwelling indicated significant differences in artifact density between the dwelling and midden, and between the dwelling and areas outside of the dwelling. These findings support the *a priori* assumptions that the midden will contain a higher artifact density than the dwelling, and conversely, that the dwelling will contain a higher artifact density than its surrounding area.

There was no significant difference in the artifact density between the open spaces in the dwelling and the dwelling as a whole, and the proportion of broken and unbroken artifacts within the dwelling and midden was virtually identical. These findings do not support the *a priori* assumptions that the open spaces will contain a lower artifact density than the dwelling as a whole, and that the proportion of broken artifacts in the midden will be higher than in the dwelling.

Furthermore, specific activity areas within the dwelling could not be identified from an analysis of the proportions of artifact-types from various areas in Area C excavation.

The artifact distribution revealed that the centrepiece was relatively clear of artifacts, with an artifact concentration located directly to its east. This supports the

interpretation of the centrepiece as a hearth, and an adjacent tool manufacturing, skin and food processing area was located.

An analysis of the structural attributes indicated that the features were constructed mainly of conglomerate and granite rocks. Furthermore, the identification of hearth features is supported by the distribution of schist rocks, which tend to be associated with the hearth features, and which are heat-refractive and, thus, potentially good pot supports. In addition, the identification of the main axial hearth feature is supported by the distribution of burnt rocks, which are concentrated along this feature.

The superstructure of the dwelling was most likely composed of a framework of wood and/or bone, covered with caribou skins and possibly sod and snow. Rocks along the edges of the dwelling may have served to wedge the framework into place. In all likelihood, the dwelling was held-down along the edges by blocks of sod and/or snow.

The architectural and artifactual evidence indicates that the dwelling was most likely a substantial tent structure, that was re-occupied on a seasonal basis, perhaps for a period extending twenty-five years. The internal area of the dwelling, in addition to its bilateral symmetry and the presence of multiple hearths, indicates that the dwelling was probably occupied by an extended family.

The Dorset dwelling at Cape Ray has very little in common with any of the dwellings at Port au Choix, and continues to defy the notion of a standardised Dorset dwelling. There appears to be a high level of variability in dwelling type both within and between Dorset sites, and Palaeoeskimo sites as a whole. Even when factors are constant between sites, variation still exists. For example, although both Cape Ray and Port au Choix were spring seal hunting sites, there is very little in common between the dwellings of the two sites. Therefore, the factors influencing dwelling type between these sites appear to be associated with location, available construction materials, and perhaps, stylistic variation.

5.4 The Cape Ray Dorset Dwelling: Site Function

An analysis of the past and present harp seal migrations into the Gulf of St. Lawrence, combined with the resource interviews, archaeological evidence, and knowledge of hunter-gatherer behaviour, strongly points to the use of Cape Ray as a prehistoric spring seal hunting camp.

Residents of Cape Ray report that harp seals can be obtained directly off the coast of Cape Ray between the months of March and April. This coincides with the annual harp seal migrations into the Gulf of St. Lawrence, for the whelping, mating, and moulting season, which begins in late February and ends in April. Since Dorset groups were primarily sea mammal hunters, it is likely that these annual migrations attracted the hunter-gatherers to the site.

There is evidence that the harp seal migration into the Gulf of St. Lawrence began as early as the end of the Wisconsin Ice Age, almost 10,000 years ago (Sergeant 1991). Therefore, the seals would have been available during the period that Dorset groups occupied Cape Ray. However, while this migration appears to have remained constant, the abundance of harp seals into the area has most likely been affected by changing climatic conditions. During the period that Dorset groups occupied Cape Ray, a warming trend was in effect, which has been called the Medieval Warm Period. The warmest temperatures of this period were reached around 1200 years ago, which coincides with the abandonment of Cape Ray. Since harp seals are dependent upon appropriate ice conditions for the whelping period, a deterioration in ice precipitated by warmer temperatures could have drastically reduced the number of harp seals entering the Gulf of St. Lawrence. Therefore, it is likely that Cape Ray was abandoned due to unpredictable harp seal availability during the climax of a warming period, around 1200 years ago.

While other resources were probably exploited at Cape Ray, it appears that seal hunting was the most important activity at the site, and the reason why Dorset groups returned to the site each spring for hundreds of years. The archaeological evidence from the dwelling supports this interpretation, with the vast majority of artifacts representing a seal hunting and processing technology. Furthermore, the dwelling itself supports the use

of the site as a spring seal hunting camp: it is a substantial tent structure, that was meant to be lived in for a few months every year.

APPENDIX

Acquisition of Other Resources: Technological Materials

The settlement and subsistence pattern of hunter-gatherer groups is dependent upon an appropriate tool assemblage. For example, harp seals could not be killed without a proper hunting kit which includes endblades, or processed without knives (bifaces, retouched and utilised flakes), scrapers and microblades. It was also useful to have soapstone vessels to cook the meat. The large amounts of chert, quartz crystal and soapstone in the artifact assemblage attest to this. However, while quartz crystal can be found in nearby quartz veins, there has so far been no evidence of a chert or soapstone quarry in the area of the southwest coast. In order to make chert stone tools and soapstone vessels they must have acquired these materials elsewhere. It is very likely that the fine-grained chert present in the assemblage originated in either the Port au Port and possibly Cow Head regions of the west coast. However, radiolaria (marine plankton), which are visible on chert from the Cow Head peninsula, have not been seen on chert from Cape Ray.

Soapstone may have been obtained from sites along the northern peninsula, or at Fleur de Lys, which contains high quality material, but has the disadvantage of being approximately 940 km away from the site. Assuming that Dorset people had a small boating technology, it is possible that soapstone was obtained by travelling through the rivers and tributaries to Fleur de Lys, or up the coast of the Gulf of St. Lawrence to the northern peninsula. However, according to O'Driscoll (1997, personal communication) geologists have recorded the presence of soapstone in the Table Mountains and along the Port au Port peninsula, areas that are much closer to the site. The quality of this soapstone is as yet, unknown. While it is more likely that the Dorset groups from Cape Ray obtained their soapstone from these areas, rather than from Fleur de Lys, issues of accessibility and

the quality of material may have influenced its procurement. For instance, although soapstone in these areas is known to exist, it may be inaccessible by foot. Furthermore, even if it were accessible, it could be of poor quality and unworkable to hunter-gathers. If this were the case, Fleur de Lys may still have been the best option for obtaining this material.

It is also possible that Dorset groups along the southwest coast, between Cape Ray and Burgeo, traded materials. However, in recent fieldwork, Rast (1997, personal communication) does not believe that trade occurred between Dorset groups from Cape Ray and Burgeo. He notes differences in the material culture, namely, in soapstone, endblade styles, and the absence of tip flute spalls from the Burgeo sites.

It is difficult to pinpoint when and under what circumstances chert and soapstone may have been acquired from the sites further north. It is possible that at some point in the seasonal round, the entire group, or members of the group made their way to Port au Port and Cow Head for these transactions. The corollary of this is that members from those regions made their way down to the southwest coast. If this was the case, their arrival in Cape Ray may have coincided with the spring seal hunt. A third possibility is that the exchange of materials involved the fluid movement of people along the west (and perhaps south) coasts, as people visited relatives (Renouf 1997, personal communication).

While these scenarios for the acquisition of resources are speculative, it is nonetheless important to question how chert and soapstone appeared at Cape Ray in such abundant numbers. The acquisition of these resources, in turn, has implications for the settlement and subsistence pattern of the Dorset who occupied Cape Ray.

Recommended Future Research

Future research at Cape Ray should focus on three things: a) the artifact assemblage and the question of the acquisition of materials such as chert, soapstone and quartz crystal, b) the search for sites along nearby salmon rivers and in the Table Mountains, and c) the continued search of Dorset dwellings at Cape Ray.

A detailed search for radiolaria on the chert from Cape Ray should be conducted in order to determine if the chert came from the Cow Head peninsula. Chert from Cape Ray should also be compared with chert from other areas around Cow Head, and from the Port au Port peninsula. O'Driscoll (1997, personal communication) is currently investigating where soapstone from Cape Ray may have been obtained. Continued research into the quarrying or trading of this soapstone, with emphasis on the nearby Table Mountains as a possible source, is recommended.

The search for Dorset sites along nearby salmon rivers and in the Table Mountains may help to determine the seasonal round of Dorset groups at Cape Ray and in the southwest coast region in general, and support or refute the hypothesised seasonal round of the Cape Ray Dorset suggested in this thesis.

Finally, the continued search of Dorset dwellings at Cape Ray may aid in determining the site's population size during the spring seal hunt, and provide an intra-site comparison of dwellings.

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