Analysis of Endblades from Phillip's Garden

Ainslie Cogswell
University of Manitoba

Introduction
This paper is based on a metric analysis of endblades from the Dorset site of Phillip's Garden (EeBi-1), Newfoundland. The purpose is to determine whether a wide size-range of endblades exists at the site for hunting purposes or if the smaller endblades recovered from the site represent children's toys or ritual paraphernalia. Metric analysis will produce either a bimodal distribution, which would indicate that two distinct endblade sizes exist at the site, or a continuum, which would indicate that the Dorset used a wide range of endblade sizes for hunting.

Recent work by Park (1998) and Park and Mousseau (2003) indicates that miniature material culture is often interpreted as children's toys or ritual paraphernalia. Park and Mousseau (2003) conducted metric analyses on several collections of Dorset harpoon heads and concluded that the Dorset likely used harpoon heads of all sizes as hunting implements. Their conclusion is based on the observation that harpoon heads fell into a continuum of sizes rather than a bimodal distribution. Had their findings resulted in a bimodal distribution, it would have indicated that the Dorset made two distinct harpoon head sizes: one for hunting and the other used by children or within a ritual context.

The analysis conducted was similar to that of Park and Mousseau (2003) on a collection of endblades from Phillip's Garden. Using existing information from the Port au Choix Archaeology Project database concerning Dorset endblade size, it could be determined whether or not the small endblades from the collection represented a distinct class of miniature artifacts in the collection. It was hypothesized that if there was a distinct class of miniature endblades then it was possible that these miniatures could have been used by children or within a ritual context. However, if there was no significant difference between miniatures and full-sized endblades, then this may represent an artifact class in which a wide array of sizes may have served a functional purpose.

This paper will begin with an introduction to the Dorset culture, the site of Phillip's Garden (EeBi-1), and the previous research into miniature material culture of the Dorset. This will be followed by an outline of the methodology used and the presentation of the results. The paper will conclude with a discussion of the results, the existence of a continuum of endblade sizes, and the implications of this research.

The Dorset
The Dorset Palaeoeskimo were the descendants of a Siberian hunting population that crossed the Bering Strait between 5000 and 4000 years ago (Renouf 1999). Many groups of Palaeoeskimos occupied the arctic during this time, with the Dorset culture emerging as a distinct cultural entity around 500 BC (McGhee 1996). The Dorset lived throughout much of
the Canadian Arctic, Greenland, and as far south as Newfoundland and Labrador and the French Islands of St. Pierre and Miquelon until about AD 1000 (Park and Mousseau 2003, LeBlanc 2000). The emergence of the Dorset culture is reflected in changing artifact styles and the development of a more sedentary way of life.

The Dorset lived in semi-subterranean houses that sometimes were clustered together, forming small villages that were occupied during the winter. These houses were rectangular in shape, with stone walls and platforms and an axial feature constructed through the centre of the house (McGhee 1996). The axial feature served to delineate space within the dwelling and it was the primary area where food was prepared (Odgaard 2003). Dorset houses were kept warm through the use of soapstone lamps, which also served as the primary source of light. These lamps burned oil derived from seal blubber. It is likely that the structure was roofed in skins and insulated with sod or turf blocks and snow (McGhee 1996).

The Dorset tool-kit consisted of small, finely flaked objects including endblades, knives, microblades, and many organic tools. The Dorset are also well known for their artwork, which flourished during the later stages of the culture. One aspect of Dorset material culture that is of particular interest is the prevalence of miniature versions of Dorset artifacts. It has been suggested that these miniatures may have been toys for the amusement of children (Mary-Rousselière 2002, McGhee 1996, Park 1998, Park and Mousseau 2003) or part of a magico-religious tradition (Brown 1988, McGhee 1996).

Phillip’s Garden (EeBi-1)
Phillip’s Garden (EeBi-1) is located on the Point Riche peninsula on the Great Northern Peninsula of the island of Newfoundland.

The site is situated on a series of three raised beaches in a grassy meadow four acres in size (Renouf 1999). The remains of at least 68 dwellings have been identified at the site, which was occupied by the Dorset for about 800 years between approximately 2000-1200 BP. This period of occupation is divided into three phases, 1950-1550 cal BP, 1550-1350 cal BP, and 1350-1170 cal BP (Renouf 2006).

The Dorset occupied Phillip’s Garden primarily to hunt migrating herds of harp seals in the early winter and late spring (Renouf 1999). Thus, much of the material culture recovered from the site is associated with harp seal hunting. Endblades, which make up a portion of the harpoon, represent a large percentage of the artifacts recovered from the site.

Archaeological research at the site has been ongoing since excavations began in the 1920’s (Wintemberg 1939). Since that time, twenty-four houses have been excavated or extensively tested (Harp 1976; Renouf 2002). Results of this research indicate changes in dwelling structures and subsistence strategies over time (Harp 1976; Hodgetts et al 2003; and Renouf 2006).

Miniature material culture has been found at Phillip’s Garden and at other
Dorset sites in Port au Choix (Brown 1988). Some endblades that were catalogued and recorded in the site's database have been noted as miniatures, while “symbolic-functional” (Brown 1988:96) artifacts such as models of harpoon heads have been found at the site and within burial contexts. Miniature harpoon heads were recovered from the burials at Gargamelle Rock shelter and Back Arm, and a miniature sled runner was found at Crow Head Cave in 1968 (Brown 1988).

Two of the miniature harpoon heads recovered from the Gargamelle Rockshelter were Newfoundland Closed types. This harpoon head type has a deeply concave base and rectangular socket with a single, gouged line hole in the centre of the head and a blade slot in the tip (Harp 1964). According to Brown (1988), some may have been functional while others may have been amulets or buttons, since some of the harpoon heads lack a blade slot or a functional socket. A miniature harpoon head with transverse line holes was found in a house feature at the Point Riche site and closely resembles Dorset Parallel harpoon heads from other areas of the arctic. This artifact has a functional socket and blade slot (Brown 1988). Brown (1988) hypothesizes that the miniatures found in burial contexts may be replicas of full-sized artifacts owned by the deceased that may have been given to group members.

**Previous Research**

Over the past few years, children have become a focus of archaeological research (Lillehammer 2000). One way of looking for children archaeologically is through the careful study of miniature material culture. Park (1998) examines miniature material culture from Thule archaeological sites and demonstrates that when two distinct size classes of artifacts exist, full-sized and miniature, this difference could be explained by the presence of children at these sites. Park (1998) bases this conclusion on ethnographic analogy. It is known that many games played by Inuit children mimicked the activities carried out by adults, and that these games were played using miniature or toy versions of adult material culture. These games included playing house, playing with dolls, and playing hunting games. When playing house, girls often had toy lamps over which they cooked small pieces of meat to share with friends. Boys had toy bows and arrows for pretending to hunt caribou and toy harpoon heads for pretending to hunt seals and other sea mammals. According to ethnographic accounts, children also played with toy sledges, kayaks, umiaks, cooking pots, snow knives, and platform mattresses (Park 1998). It is important to note that not all miniatures were used as toys, as miniatures were often used as grave goods and the ritual paraphernalia of shamans (Park 1998).

Park (1998) suggests that miniatures used by children should be distinguishable from burial or shamanic miniatures. Items of miniature material culture found in adult burials are likely not toys, whereas it has been noted ethnographically that a child’s grave will contain toys. Shamans’ miniatures
may be found in houses, but they should not be very common or found in all houses, as there would normally only be a small number of shamans in a community. It is also possible that shamans' miniatures may have been buried with them or passed on and used by other shamans.

A more recent paper by Park and Mousseau (2003) addresses the nature of miniature harpoon heads from Dorset sites in the Canadian Arctic. Miniature harpoon heads from Dorset sites have been identified as toys, art, or ritual paraphernalia. The authors hypothesize that if full-sized harpoon heads and miniature harpoon heads fell into distinct conceptual categories, and if full-sized harpoon heads needed to be of a minimum size to function successfully, this may be manifested as a bimodal distribution in a histogram of harpoon head length, or as distinct clustering on a scatter plot of the same data.

To determine if miniature harpoon heads represent a distinct conceptual category for the Dorset, the authors studied harpoon heads from various Dorset sites. They concluded that there is no reason to believe that small harpoon heads are a unique category that can be determined solely from metric analysis (Park and Mousseau 2003). Many of the small harpoon heads examined in the study show signs that they were used for hunting small prey species, and would have been mounted on larger harpoons.

**Methodology**
The purpose of this research is to further test Park and Mousseau's (2003) hypothesis about the existence of distinct conceptual categories of miniature and full-sized Dorset artifacts. Specifically, it is hoped that this research will determine if such distinct conceptual categories exist within the endblades recovered from the Dorset site of Phillip's Garden (EeBi-1). Endblades have been chosen because they are designed to fit into harpoon heads and thus the results can be compared to Park and Mousseau's (2003) data.

It should be expected that if the Dorset population that occupied Phillip's Garden made endblades of two distinct size categories, then this should appear as a bimodal distribution in a histogram of endblade length or should be visible as distinct clusters in a scatter plot, as discussed above. A visual analysis of endblades excavated from Phillip's Garden indicates that distinct size categories may be present. However, after the data analysis was complete, this was not the case.

Approximately 2100 endblades have been excavated and catalogued from Phillip's Garden. Of these, approximately 600 are complete specimens. It is necessary to work with complete specimens in order to accurately record the true length of the endblade. The length measurements, along with other measurements, for all of the endblades from Phillip's Garden have been recorded in the Port au Choix Archaeology Project database. For the purposes of this paper, only the data concerning the 600 complete endblades from the site were used to construct the histogram (Figure 4). The histogram was constructed by
creating 5 mm size categories and counting the number of endblades that fell within each category. The size categories ranged between 0 mm and 60.0 mm.

Results
Figure 1 and Table 1 show the endblade lengths from Phillip's Garden. The histogram lacks distinct bimodal distribution, indicating that two size categories do not exist in this collection of endblades. The histogram takes the shape of a Bell curve, which indicates that a continuum of endblade sizes is present at the site. Several interesting observations can be made about this distribution and will be discussed at length below.

![Endblade Size Range at Phillip's Garden (EeBi-1)](image)

Figure 1: Histogram Illustrating Endblade Size Range
Table 1: Percentage of Endblades per Length Category

<table>
<thead>
<tr>
<th>Endblade Length Category</th>
<th>Number of Endblades</th>
<th>% of Assemblage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0-5.0 mm</td>
<td>1</td>
<td>0.17</td>
</tr>
<tr>
<td>5.01-10.0 mm</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10.01-15.0 mm</td>
<td>4</td>
<td>0.66</td>
</tr>
<tr>
<td>15.01-20.0 mm</td>
<td>50</td>
<td>8</td>
</tr>
<tr>
<td>20.01-25.0 mm</td>
<td>126</td>
<td>21</td>
</tr>
<tr>
<td>25.01-30.0 mm</td>
<td>197</td>
<td>33</td>
</tr>
<tr>
<td>30.01-35.0 mm</td>
<td>156</td>
<td>2</td>
</tr>
<tr>
<td>35.01-40.0 mm</td>
<td>49</td>
<td>8</td>
</tr>
<tr>
<td>40.01-45.0 mm</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>45.01-50.0 mm</td>
<td>2</td>
<td>0.33</td>
</tr>
<tr>
<td>50.01-55.0 mm</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>55.01-60.0 mm</td>
<td>1</td>
<td>0.17</td>
</tr>
</tbody>
</table>

Discussion

In general, the trend displayed in the histogram indicates a continuum of endblade sizes used at Phillip’s Garden. Park and Mousseau (2003) argue that a continuum of harpoon head sizes means that the Dorset used harpoon heads of many sizes to hunt different prey species. It is known ethnographically that harpoons were used to hunt seals and walruses and that they were sometimes used to hunt fish and birds (Park and Mousseau 2003). Following this line of reasoning it would seem plausible that endblades could have been made in a range of sizes so that they would fit into harpoon heads of various sizes for hunting prey species of different sizes. Thus, a large harpoon head would require a large endblade for hunting sea mammals and a small harpoon head would require a small endblade for hunting smaller species, possibly birds or fish. It should be noted that ethnographic accounts only indicate that a particular species could be hunted with harpoons (Park and Mousseau 2003). This simply means that the Dorset could have hunted these species with harpoons but we do not know for certain that they did. Of particular note about this assemblage is that 80 percent of the endblades from Phillip’s Garden fall within three size classes: 126 endblades are between 20.01 mm and 25.0 mm in length, 197 are between 25.01 mm and 30.0 mm in length, and 156 are between 30.01 mm and 35.0 mm in length. In total, 479 of 604 endblades are between 20.01 mm and 35.0 mm in length. This concentration seems to indicate that Dorset endblades had to be a specific size or within a specific range of sizes for the
end blade to be functional for hunting a particular species. Since the primary species hunted at the site was the harp seal, it is plausible that much of the harpoon technology may have been designed specifically for hunting this species. Since the Dorset were focused on hunting harp seals – over 90 percent of the faunal collection from the site is comprised of seal remains (Hodgetts 2005) – then it is not surprising that 80 percent of the endblades fall within such a limited range. Examining collections of endblades from other Dorset seal hunting sites could further test this hypothesis.

Harp seals were not the only seal species hunted at the site. Small quantities of bearded, grey, harbour, and hooded seal remains have been identified in faunal collections from Phillip’s Garden (Hodgetts 2005). Endblades that fall into larger size categories may have been used to hunt larger species of seals, such as bearded and hooded seals. Since smaller quantities of these species were exploited, it would be reasonable to expect fewer large endblades to be recovered from the site. According to the results of the analysis, only 11 percent of the endblades fall into the larger size categories. This supports the hypothesis that fewer large endblades would be needed to exploit a resource that is only used in small amounts, i.e. bearded or hooded seals. In addition to exploiting seals, the Dorset at Phillip’s Garden fished and hunted birds and small mammals. The remains of Atlantic cod and eider and gulls have been identified at the site (Hodgetts et al 2003). According to ethnographic accounts, these species can be hunted using harpoon technology (Park and Mousseau 2003). It is possible that the small, functional harpoon heads identified from the site (Brown 1988) may have been used to hunt birds or for procuring fish. Fish and bird remains are found in very small quantities at Phillip’s Garden (Hodgetts et al 2003) and if these species were taken with harpoon technology, then a limited quantity of small endblades should be present. According to the results this is the case, as only 8.83% of the endblades in the assemblage fall within the three smallest size categories.

One final observation can be made about the assemblage. There are two possibly anomalous endblades in the assemblage. The first is found in the smallest size category, between 0 mm and 5 mm. This endblade, 7A324D0159, measures 3.7 mm in length. This seemed suspiciously small and, after looking through the collection, it was determined that the recording of such a small measurement was the result of a typing error. The second anomalous endblade in the assemblage measures 56 mm in length and is made of Ramah chert. It is the largest end blade in the assemblage and one of only seventeen endblades made of Ramah chert. It is possible that this end blade was used to hunt very large seals or possibly walrus.

Conclusions
While the metric analysis did not reveal the existence of two distinct size categories of endblades at Phillip’s Garden, it did reveal an interesting trend: the existence of a
continuum of endblade sizes. The initial hypothesis concerning bimodal distribution and the possibility of such a distribution representing children or ritual activity in the archaeological record has not been demonstrated. This does not mean that children were not present at the site or that ritual activities were not occurring, it simply means that these questions can not be answered through the analysis of harpoon endblades. If evidence of children and ritual activity are to be found in the archaeological record at Phillip’s Garden, then more research must be undertaken. It may be possible to conduct similar metric analyses on more classes of artifacts.

References


