That Thing of Shreds and Patches: an Archaeological Narrative of the Bliss Islands Thoroughfare, Quoddy Region, New Brunswick, Canada

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The Quoddy region is a mosaic of inshore marine, littoral and nearshore terrestrial biogeographic patches. Local configurations of patches are in constant flux as the high water line, driven by rising sea levels, advances toward and over particular places. Human groups have intersected this dynamic mosaic to take advantage of particular patch configurations at particular points in time. However, human habitations also set precedents in the landscape that conditioned subsequent occupations. Here I present a narrative of archaeological sites and the people who inhabited them, based on evidence from the Bliss Islands thoroughfare. I conclude that this narrative, like most interpretations developed by archaeologists, belongs to a subset of that complex of narratives that compose natural history.

I vividly remember, as an undergraduate, hearing culture described as a 'thing of shreds and patches'. Robert Lowie's (1920:441) eminently quotable catch-phrase struck me as astute at the time, although, over the years, I have adopted a more organic perception of culture, and now have less patience with the historical particularist and diffusionist concomitants of his view. Nevertheless, while I was pondering a title for this paper, it occurred to me that the archaeological record I have been most closely involved in interpreting for the past dozen years-- that of the Bliss Islands-- is, in a sense, a 'thing of shreds and patches'. With apologies to devotees of Lowie, for ripping his words out of context and twisting their meaning, let me explain what I mean.

The two most powerful processes that have conditioned the archaeological record of the Bliss Islands are, on one hand, changing configurations of biogeographic patches and other environmental parameters that make particular places more or less attractive as human habitation sites, and, on the other, the shredding of significant portions of the archaeological record, which constrains what we are able to learn, using archaeological methods, about the people who chose particular places for habitation. Both of these processes, changing patch configurations and the progressive destruction of the archaeological record, have been driven by the same overriding environmental process: relative sea level rise.

In this paper, I present a narrative (and some of the evidence underlying the narrative) about the development of the Bliss Islands thoroughfare and about people who have lived in the landscape in which the thoroughfare is situated. I frame this interpretation within attempts to explain why particular habitation sites were chosen, were abandoned, have been preserved, and are being destroyed. In conclusion, I discuss, briefly, the relationships I see between the narrative and current conceptions of archaeology and history, in particular, the notion of 'archaeology as long-term history' (e.g., Hodder 1987).

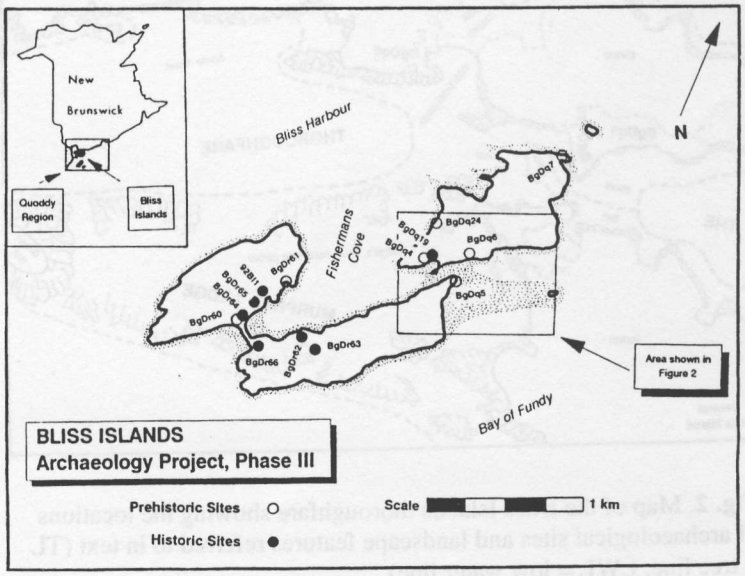

Fig. 1. A map of the Bliss Islands showing the archaeological site inventory and the location of the thoroughfare.

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The Bliss Islands Archaeological Record

The Bliss Islands are located in the Quoddy region of southern New Brunswick; since 1983, I have conducted investigations into the past of the islands (Black 1985, 1988, 1992; Black and Turnbull 1986). The archaeological record, as it is presently understood, consists of seven historic period Euro-Canadian sites, and six prehistoric Native sites (Figure 1). These sites were occupied during the Late Archaic (3000-1000 BC), Maritime Woodland (1000 BC-AD 1400), protohistoric (AD 1400-1600) and historic (AD 1600 to present) periods.

The Native sites were occupied by ancestors of the Passamaquoddy people of southern New Brunswick and northern Maine, who practised littoral and marine resource-focused foraging economies before European contact, and well into the historic period. The Euro-Canadian sites were occupied by Loyalists and their successors, most of whom also have practised economies focused on littoral and marine resources. The Bliss Islands site inventory is representative of the archaeological site inventory of the Quoddy region as a whole (Black 1992:62), and is similar to the site inventories of adjacent areas, especially the central Maine coast (e.g., Bourque 1992; Kellogg 1994; Sanger 1988).

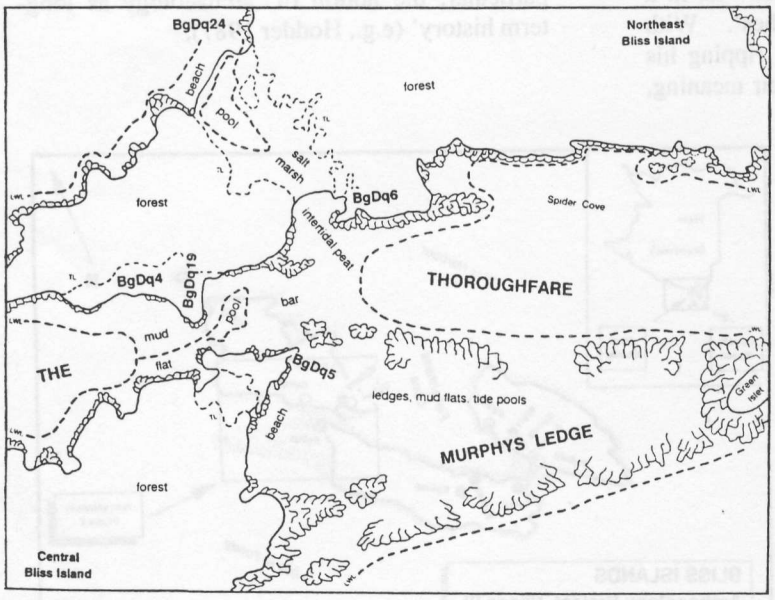

Fig. 2. Map of the Bliss Islands thoroughfare showing the locations of archaeological sites and landscape features referred to in text (TL = tree line; LWL = low water line).

Archaeological and Geoarchaeological Background

To understand and interpret an archaeological record like that of the Bliss Islands, one must operate in the contexts of environmental processes and historical events that are both linear and cyclical in form, and that operate at several temporal scales. In the following sections, I present some background on sea level changes, tidal regimes, geoarchaeological and settlement pattern studies relevant to the Bliss Islands example.

A Vexing Environmental Process

There have been dramatic changes in sea level relative to the lands edge on the Northeast coast since the end of the last glaciation; in particular, sea level has risen steadily since about 9000 years ago. Sea level curves for the Gulf of Maine (e.g., Young, Belknap and Sanger 1992:213) show a rise of about 3.2 m over the past 4000 years, the period of concern in this paper. This trend is more extreme in the Quoddy region, where sea level rise has been exacerbated by tidal amplification in the Bay of Fundy, and local crustal downwarping in southern New Brunswick. On the Bliss Islands, there is evidence for a rise of at least 2.8 m over the past 2800 years (ca. 10 cm per century). Average rate of rise over the past 4000 years probably exceeds 15 cm per century. The results of sea level rise are gradual (and sometimes catastrophic) modifications of local shorelines and biogeographic patches, that modern residents of the region constantly cope with, and that must have affected the lives of people in the past as well.

Biogeographic Patches and Patch Mobility

The Quoddy region is a complex, diverse and highly productive mosaic of inshore marine, littoral and nearshore terrestrial biogeographic patches (Thomas 1983). The tidal range averages 5.5 m, with extremes to about 8.0 m, allowing the development of extensive intertidal zones dominated by rocky and muddy substrates (e.g., Black 1993:17-21). The tides force sea water through narrow passages

among the islands, creating currents that bring nutrients to the surface and stimulate primary biological productivity. Abundant lower-trophic level marine plants and animals support substantial populations of higher-trophic level organisms, in the sea, in the air, and on land.

As sea level rises in relation to the land, the biogeographic mosaic surrounding each part of the shoreline is altered. Erosion, salt water incursion, and changes in wave, current and spray patterns transform individual patches and overall patch configurations, making particular places more or less attractive as habitation sites.

The formation of the Bliss Islands thoroughfare (Figure 2) exemplifies these processes. The thoroughfare itself is a relatively recent phenomenon: a middle-aged fisherman, who I met when I first worked on the islands, recalled his grandfather saying that grass grew across what is now the narrowest part of the thoroughfare when he (the grandfather) was a child. However, the gradual formation of the thoroughfare can be traced over a period of almost 4000 years.

Coastal Erosion and the Archaeological Record

The effects of coastal erosion on the archaeological record have long been recognised (Black 1993:45-51; Sanger 1988:81-84). However, detailed geoarchaeological studies of these effects (Young, Belknap and Sanger 1992) have been conducted only recently on the Northeast coast. Several variables, including foreshore angle, exposure to or shelter from wind and open water, the nature of the substrate on which a site rests, vegetation cover and degree of disturbance by recent construction or habitation, mitigate or exacerbate the effects of erosion on particular sites. In the Quoddy region, the coastal archaeological record is truncated chronologically at about 500 BC; sites dating 500-1000 BC have been identified occasionally (e.g., Davis 1982; Black 1994) as intertidal lithic scatters, and evidence of earlier human habitation has been recovered from the ocean floor (e.g., Black 1996b; Turnbull and Black 1988).

Settlement Patterns of Coastal Foragers

Similarly, archaeologists have long speculated about the factors that determine where people choose to live on the Northeast coast. Recent studies (e.g., Black 1992:52-61; Kellogg 1994; Sanger 1982) have developed empirical models of ideal coastal habitation locations for Woodland period Native people. The criteria usually cited include level or gently-sloping, well-drained terrain, shelter from northwest winds (and, perhaps, exposure to the south), proximity to freshwater sources, proximity to mud flats or other highly productive intertidal substrates, and protection from wave action and salt spray. Kellogg's (1994) study indicates a much stronger orientation toward the marine environment than has usually been attributed to Woodland period coastal foragers in the Maine/Maritimes area, and suggests that proximity to beaches where small boats could be landed conveniently, and access to open water from sheltered locations, outweighed other factors when these people selected habitation sites.

Similar factors can be assumed to influence the habitation choices of Euro-Canadians oriented toward marine resource exploitation. This assumption is substantiated by the fact that most Native habitation sites in the Quoddy region have been disturbed by Euro-Canadian habitation activities.

The Shredding of the Archaeological Record

Five of the Bliss Islands sites, four Native and one Euro-Canadian, cluster around the Bliss Islands thoroughfare, which separates the central and northeastern Bliss Islands (Figure 2): the Rum Beach site (BgDq24), the Weir site (BgDq6), the Camp site (BgDq4), the Ledge site (BgDq5), and the Murchie's Camp site (BgDq19). Figure 3 shows how these five sites relate to one another in time.

The Rum Beach site (Black 1994, 1996a) is being destroyed as the high water line migrates across the salt marsh that bisects the northeastern Bliss Island. Diagnostic artifacts suggest that it was occupied by people of the Susquehanna tradition at about 1800 BC. The intertidal peat and marsh deposits postdate the Native occupation at Rum Beach.

The Weir site (Black 1992:35-38) consists of several mounds of cultural material located on a rock outcrop at the Spider Cove end of the thoroughfare. The site is a large, deep, stratified, shell-bearing deposit capped by a thick layer of peat. It represents intermittent occupations by people during the Maritime Woodland period over a span of about 1400 years, beginning about 400 BC and ending about AD 1000. The intact parts of the site are well preserved, but the high water line has recently reached the top of the rock outcrop, and the shoreward edges of the site have been damaged extensively.

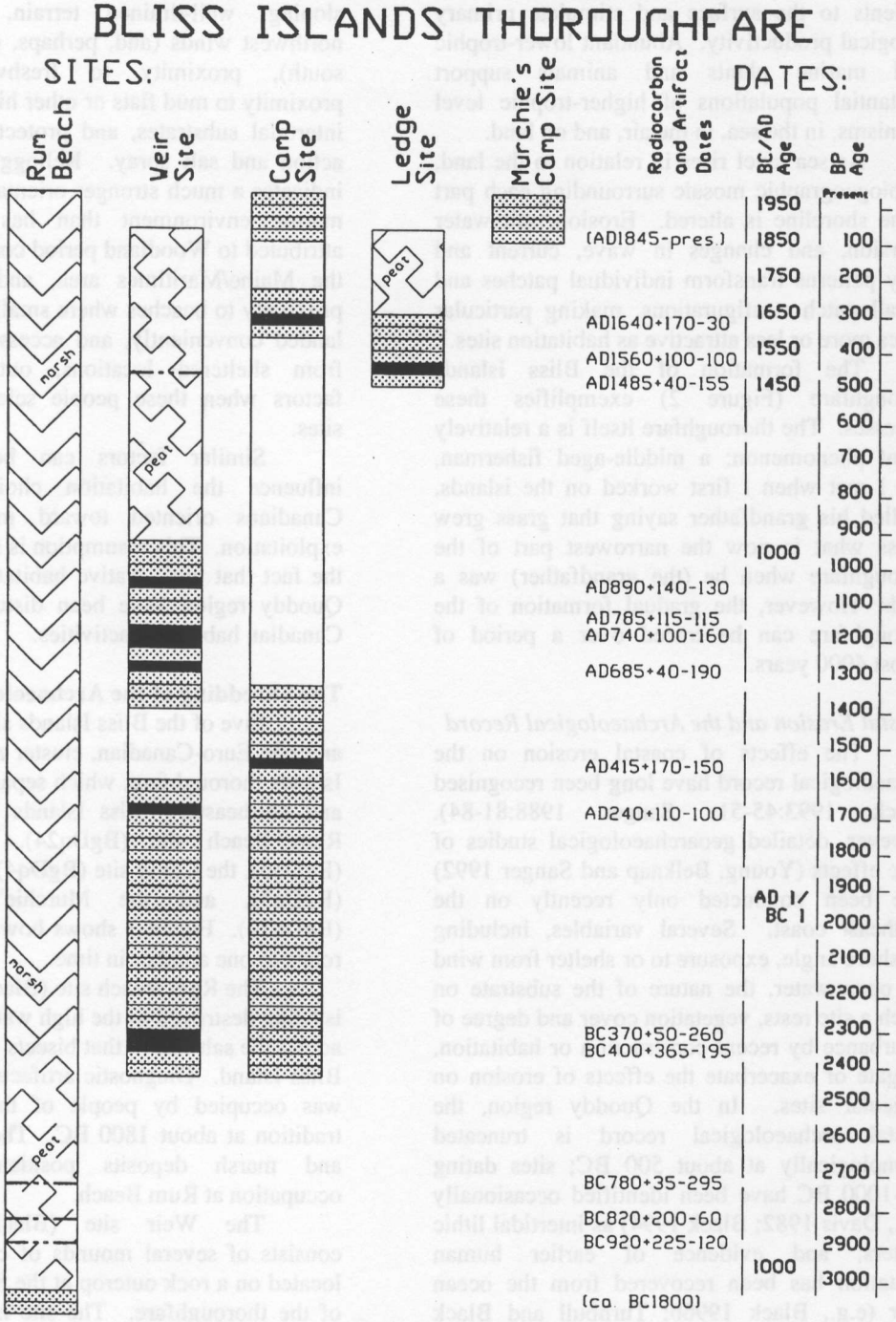

Fig. 3. A diagram showing chronological relationships among archaeological sites located around the Bliss Islands thoroughfare. Solid black bars show periods of occupation that are radiocarbon-dated; stippled bars show periods of occupation inferred from diagnostic artifacts and other cultural evidence. The radiocarbon dates were converted from BP to AD/BC dates using the program Calib 3.0.1 (Stuiver and Reimer 1993) and offsets for isotopic fractionation and marine reservoir effects developed for the Quoddy region (Black 1995).

The Camp site (Black 1992:38-40) is a shallow, shell-bearing site located in front of a group of fishing camps at the Fishermans Cove end of the thoroughfare. This site is also adjacent to an extensive intertidal zone, and has been eroded more severely than the Weir site because it rests on unconsolidated sediments. It represents intermittent occupations over a span of about 2000 years during the Maritime Woodland, protohistoric and historic periods, but the occupation most strongly represented at Camp coincides with a time, about AD 300-500, when there is a gap in occupation evidence at the Weir site.

The Ledge site (Black 1992:41), located along the northwestern edge of Murphys Ledge across the thoroughfare from the Camp site, consists of small patches of shell-bearing deposits and hearth features dating very late in the Woodland, or in the protohistoric period. Most of the site probably was destroyed before its discovery. In fact, it may represent a remnant of the southern edge of a Camp site that extended around the head of Fishermans Cove until it was destroyed by the formation of the thoroughfare. There is evidence for Native occupation of the Bliss Islands during the period from AD 1000 to AD 1400, but it is found at the opposite end of the islands from the thoroughfare (Figure 1).

Finally, the Murchie's Camp site consists of a depression, representing an historic period cellar hole, beneath a modern fishing camp. It probably marks the location of a house built by John Pentelow, who bought the northeastern Bliss Island about 1850 and owned it until 1878. The site has not been excavated, but historic artifacts from its occupation are mixed with Native material in the adjacent Camp site.

An Archaeological Narrative

Four thousand years ago, the Bliss Islands were a single land mass; the average high water line then was located about where the average low water line is now (Figure 2). The thoroughfare did not exist, nor did Murphys Ledge. Instead, two deep, narrow, sheltered coves abutted an isthmus joining two parts of what was then a single island. The shoreline at Rum Beach also had a cove-like configuration. The area between Weir and Rum Beach (where the salt marsh is now) was a well-drained meadow sheltered by surrounding rock outcrops and forest.

People of the Susquehanna tradition lived in this meadow. Why they chose this location, and how long they lived there, are unknown (and perhaps unknowable, since the marsh cannot be excavated with our current technical capabilities). Rum Beach is unlike typical habitation locations of later Native groups in the region. Evidence from elsewhere on the Northeast coast (e.g., Bourque 1995:145) suggests that Susquehanna tradition people had a more terrestrially-oriented subsistence economy than Maritime Woodland period people, and their artifacts are frequently found in places not subsequently occupied by later Native groups or by Euro-Canadians. Both ecological and cultural considerations, for which modern ecological conditions and historic period descriptions of Native life in the Maine/Maritimes area do not provide reliable analogues, may have played roles in their selection of the Rum Beach habitation site.

As the high water line encroached, the meadow became boggy and, by about 1000 BC, began to fill with a deposit of subaerial and freshwater peat. Further rise in sea level drowned the area, saturating the peat and converting it to a salt marsh. Today, it is effectively part of the intertidal zone, especially during high water events in the winter months. At the Rum Beach end, the shore became more exposed, and wave action began to destroy the peat deposit, bringing Native artifacts up onto the beach; this is the process that allowed the discovery of the Rum Beach site. At the other end of the marsh, until recently the area that is now Murphys Ledge protected the shore from wave action, and the peat deposit was gradually submerged without being destroyed.

Beginning about 400 BC, Native people of Maritime Woodland cultural affiliation established habitation sites at the heads of the two coves. The earlier version of Spider Cove must have been a particularly attractive place to live, because the people established their camp in an unusual and unpromising place: on top of a bare bedrock outcrop near the shore. They did so because there was no more suitable terrain elsewhere around the head of this cove. At that time, the area where Murphys Ledge is now was a forested extension of what is now the central island. Intertidal ledges similar to the present ones existed further to the south and the east. This earlier version of Spider Cove provided Native people with a sheltered harbour, a low-gradient shoreline (the intertidal peat deposit) ideal for landing their canoes, abundant littoral resources and easy access to open water.

The first occupation at Weir set a precedent, and with each subsequent occupation,

as cultural material accumulated on the bedrock outcrop, the place became more and more comfortable as a habitation site. At the same time, however, rising sea levels were gradually denuding Murphys Ledge of forest and soil. Finally, about AD 1000, the tides began to sweep completely over the ledge. The Weir site was exposed to the open ocean, and Spider Cove no longer provided shelter. People no longer camped at the Weir site; the focus for subsequent occupations (both Native and Euro-Canadian) shifted to Fishermans Cove.

Peat soil accumulated over the Weir site, and eventually forest grew on it. When the tides reached the top of the rock outcrop a few decades ago, the surface of the site was subjected to salt spray. After the island was cleared in the 1940s, spray prevented trees from regrowing, and brambles covered the site. The edges of the site began to erode, and much of the remaining site will be destroyed during the next few decades. The irony is that the same process, the formation of Murphys Ledge, that brought Native occupation of the Weir site to an end and is now destroying the site, also made the site so inhospitable that Euro-Canadians never occupied it. As a result, Weir is the best preserved Woodland period site in the Quoddy region (Figure 4).

The Camp site was used by Native people over much the same time span as the Weir site. It was located at the head of an earlier version of Fishermans Cove and extended over much of the area where the intertidal mud flat now exists. This cove offered the same advantages, in terms of boat landing and access to open water, as Spider Cove.

When first occupied, the Camp site was located in a small natural meadow on glacial deposits lodged between the rock outcrops on either side. This meadow expanded over time as human activities changed the soil characteristics of the site, deflecting the surrounding vegetation from coniferous forest to shrubs, herbs and grasses. Rising sea levels eventually eroded much of the area available for habitation at the head of Fishermans Cove, and the location of the Camp site gradually shifted from the head of the cove to its north side. However, until high water events began to sweep completely over the isthmus separating the two coves, and this may first have occurred as recently as two centuries ago, the Camp site remained sheltered from prevailing winds and open water. In fact, as erosion progressed, the Camp site may have become a more desirable habitation site, because of the development of the intertidal mud flat in front of it.

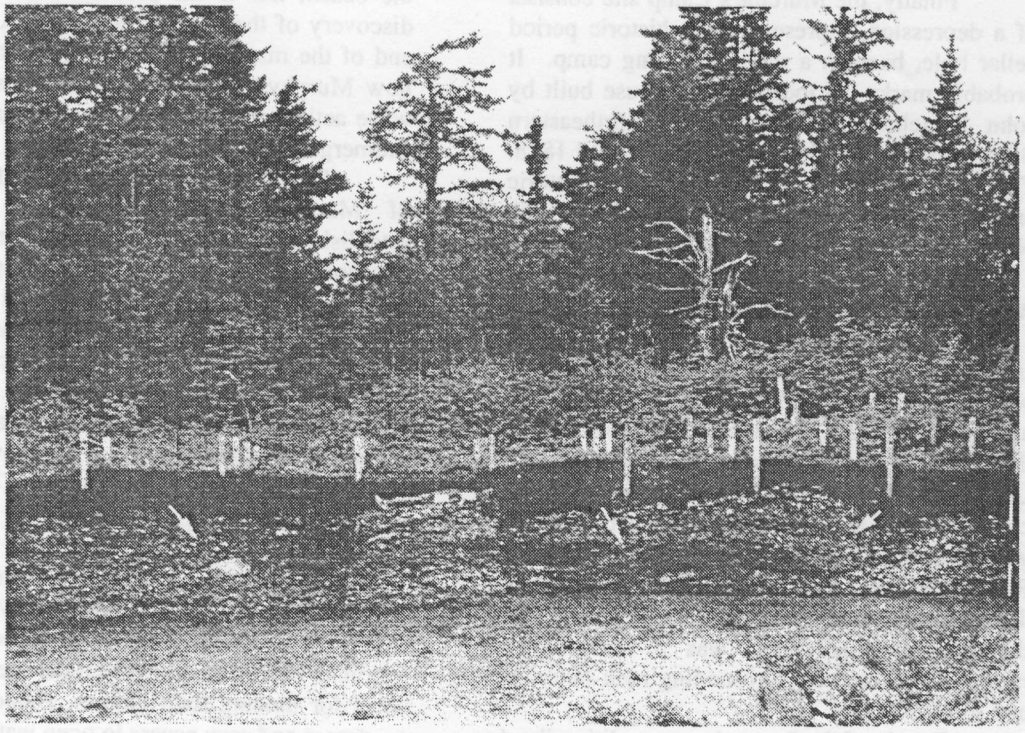

Fig. 4. A photograph of stratification in the central mound of the Weir site. The view is to the north; the vertical photo rod is 1 m in length, and the grid stakes are 1 m apart. The arrows point to the upper surface of the layer referred to in the vignette presented in the text.

That the Camp site remained one of the most attractive habitation sites on the islands, throughout the historic period, is shown by the Pentelow habitation last century, and by the series of fishing camps built around the site during this century. However, Camp is poorly preserved as compared to the Weir site. One reason for this is that the Pentelow family discovered that an abandoned Native habitation site is among the most fertile places on the Quoddy shores. They tilled the site and planted it as a garden, mixing the Native material, and incorporating debris from their own activities. The current landowners maintain the surface of the site as a lawn.

The Ledge site was occupied when the shoreline configuration at the head of Murphys Ledge was more cove-like, and the isthmus between the two islands allowed easy access to the Camp site. As the rock outcrops at the corners of Murphys Ledge were denuded, and the storm beach formed at its head, the site became exposed to open water and was abandoned. These processes have now destroyed it.

As Murphys Ledge continues to expand westward, the Camp site will suffer the same fate as the Weir site. It will become increasingly exposed to open water, and less and less attractive as a habitation site. Indeed, to some extent, this has already happened: only one of the six fishing camps located around the site has been rebuilt since the 1970s; the others are abandoned and in various stages of collapse. Modern habitation has shifted to the opposite end of the islands.

An Archaeological Vignette

Where archaeological deposits are well-preserved, as at the Weir site, a different scale of archaeological narrative can be constructed: a vignette of a specific past habitation event. The vignette I present here is based on a single, salient layer that extends over much of the central mound at the Weir site (Figure 4). The layer consists of a living-floor (similar to features described by Davis [1978] and Sanger [1987] as semi-subterranean hut floors) surrounded by a distinctive shell midden deposit.

The vignette can be summarized as follows: About AD 300, a group of Native people, accompanied by their dogs, spent the winter months on the Bliss Islands. The people cleared the site and stabilized part of its surface by paving it with basket-loads of pea-gravel brought up from nearby beaches. On this surface, they erected a structure, perhaps similar to a historic-period wigwam, with an interior hearth, and used rocks to anchor the edges of the material covering the structure. They accumulated a dense midden, composed of debris resulting from their food-gathering and other activities, around their house. The people were motivated to spend the winter months at the Weir site by the proximity of ledges where grey seals hauled out; they hunted, butchered and ate the seals.

The midden around the house these people built is composed mainly of the shells of soft-shelled clams dug from the mud flats, and horse mussels collected from rocky ledges at low tide. (It is the horse mussel shells that give this archaeological layer its distinctive, mauve-grey colour). Season of death of soft-shelled clams can be estimated by examining the growth rings in the chondrophores of populations of the clams (e.g., Spiess and Hedden 1983:201-206). Analyses of clams from this midden suggest they were harvested during the period from January to June (Black 1992:138-144).

Bones from several grey seals, including most of the skeleton of an immature seal (2-3 years old), are present in the midden. Some skeletal elements exhibit cut marks produced by stone tools when the seals were butchered. Most extremity bones have ravaged ends as a result of being gnawed, and the cortex of one seal humerus exhibits a circular crushing impact made by a dog's canine tooth. Thus, although no bones of domestic dogs were found in the layer, at least one dog was present during this occupation; dogs were fed, at least in part, on seal meat and bones.

Season of death of seals can be determined by examining the growth rings of well-preserved teeth (e.g., Spiess and Hedden 1983:196-199). One tooth from the layer has analyzable growth rings; it indicates a January-February kill. Seasonality determinations from this and other sites in the Quoddy region suggest grey seal bones are associated most often with winter occupations (Black 1992:124-125). This is the moulting and pupping season for these seals, when they are most often hauled out on intertidal ledges (Banfield 1974:367-369). Thus, the winter months present the optimal opportunity for littoral foragers, who depended on sea mammals to some extent for subsistence, but who did not have the specialized technology necessary to take sea mammals from open water, to hunt grey seals. These observations are supported by ethnohistoric accounts of mid-

winter grey sealing by Mi'kmaq people (e.g., Christianson 1979:95-96).

The people who inhabited Weir at this time decorated their pottery with the dentate rocker-stamped designs typical of Middle Maritime Woodland (Ceramic Period 3) vessels (Petersen and Sanger 1991:137-140). Several pottery shards have carbonized encrustations, presumably the remains of meals cooked in the pots, adhering to their interiors. Stable carbon and nitrogen isotopic values of such encrustations can be used to determine the types of food cooked (e.g., Morton and Schwarcz 1988). The isotopic values from these shards fall in the ranges typical of sea mammal meat (Black 1992:112-117). The people used the pottery vessel these shards represent to cook seal meat, or to render seal fat.

Archaeology is Natural History

During the past several decades, the theoretical pundits in the discipline have cast archaeology in various guises: as social science (Deetz 1972), as behavioural science (Schiffer 1975), as natural science (Butzer 1982), as anthropology (Binford 1962), as history (Hodder 1987), and so on. Occasionally, archaeology has been conceived as a discipline unto itself (e.g., Gummerman and Phillips 1978; Wiseman 1980), albeit an interdisciplinary discipline. In concluding this paper, I want to consider, briefly, not what archaeology 'should be', nor what it can be 'seen as', but what, as a matter of practice, the discipline is.

Archaeology is a historical science. Most archaeological models, interpretations and theories take the form of narratives about the past. Constructing a narrative is the act of framing evidence and ideas (whether scientific, documentary or imaginative) in the form of a connected sequence of events: that is, as a story (see Terrell [1990] for a recent discussion of the use of narrative in prehistoric archaeology). I believe the 'archaeological narrative' I have presented here is a form of 'long-term history', but I see no reason to adopt Hodder's rubric, or to create my own, to describe this form of history, because a serviceable rubric, with a long and distinguished pedigree, already exists: natural history.

Natural history is composed of a complex of narratives, based in scientific evidence, describing the pasts of the life-forms that inhabit or once inhabited the Earth, and accounting for how those life-forms came to be as they are or were. Biophysical environments are the backdrops of natural history narratives. Their plots focus on the causes, consequences and mechanisms of biological change. Evolutionary theory (about which there has been a recent resurgence of interest in archaeology [Maschner 1996; O'Brien 1996]) provides the continuity in these narratives; historical events provide the surprises, and, frequently, the drama. Archaeological interpretations are a subset of natural history narratives focused on human populations, and on cultural change.

Now, natural history is the history that dares not speak its name, at least not in most social science faculties. Perhaps this is because it is associated with nineteenth-century antiquarianism and arm-chair evolutionism, or with classification rather than theory. One must look long and hard for any reference to natural history in archaeological text books. Certainly, it is rarely considered in discussions of archaeological theory or interpretation.

This is unfortunate, because the discipline in which natural history is most alive and well, palaeontology, is the one that most closely parallels archaeology in terms of the subject matter that it addresses, the methods its practitioners employ, and the types of interpretations they attempt. Paleontologists also struggle to construct 'long-term history' from 'shreds and patches'. Archaeology encompasses a fair share of what Gould (1985:14) refers to as 'the particulars that fascinate and the generalities that instruct'; thus, it is not surprising that natural historians (e.g., Ward 1995:194-244) incorporate archaeological information into their narratives.

Over the past several decades, natural historians have struggled with many of the same issues as archaeologists: uniformitarianism and gradualism versus catastrophism and contingency, mind-first versus algorithmic understandings of change, the role of analogy in interpretation, idiosyncratic and cultural biases in investigation and interpretation, the dynamic tension between scientific rigour and popular presentation, the place of narrative in scientific discourse (see, for example, Bakker 1988; Dennett 1995; Gould 1985, 1989). Gould (1985:13-20, 1989:280-281), as one example, has dedicated a significant part of his career to reconciling history with a generalizing natural science. Archaeologists ignore these parallels at their own peril.

Acknowledgements

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